

samtec

THE CATALOG



DISCOVER THE SAMTEC ADVANTAGE

Samtec, the service leader in the electronic interconnect industry, was founded in 1976 and is headquartered in New Albany, Indiana. We are committed to providing exceptional service, quality products, innovative technologies and convenient design tools.

#1 CONNECTOR MANUFACTURER
BISHOP & ASSOCIATES

SOLUTION BLOCKS

From standard cataloged products to unique high-performance design, Samtec's solution blocks are designed to support any interconnectivity need, regardless of application, performance requirements or environment.

Silicon-to-Silicon

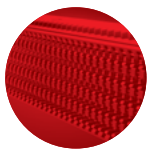
Core Board-to-Board



HIGH-SPEED BOARD-TO-BOARD | **HIGH-SPEED CABLE** | **OPTICS** | **RF** | **MICRO/RUGGED** | **FLEXIBLE STACKING**

TECHNOLOGY CENTERS | www.samtec.com/tech-centers

Our Technology Centers are comprised of industry-leading experts who provide effective strategies, technical support and advanced product solutions for optimizing the entire signal path of a system.



ADVANCED INTERCONNECTS

High precision stamping, plating, molding and automated assembly



HIGH-SPEED CABLE

In-house R&D and manufacturing of precision extruded cable and assemblies



OPTICS

R&D, design, development and support of micro optical engines and assemblies



SYSTEM SIGNAL INTEGRITY

Full channel signal and power integrity analysis, testing and validation services



PRECISION RF

RF interconnect design and development expertise, with testing to 65 GHz

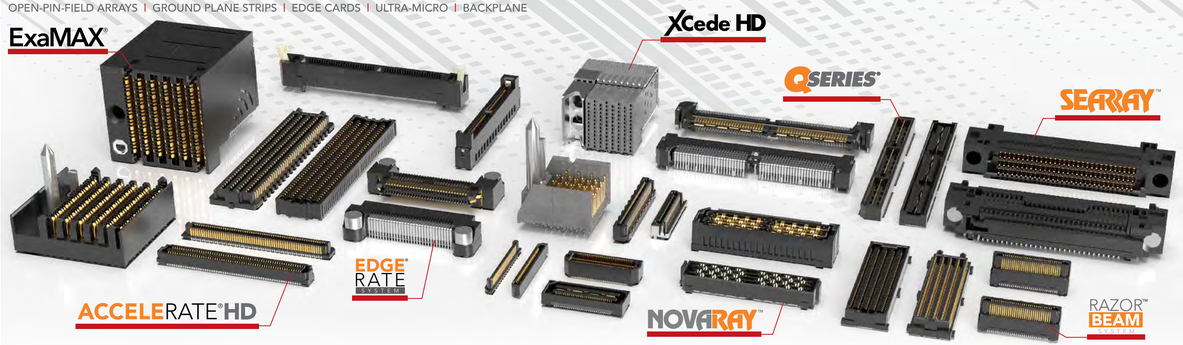


MICROELECTRONICS

Advanced IC packaging design, support and manufacturing capabilities

HIGH-SPEED BOARD-TO-BOARD

OPEN-PIN-FIELD ARRAYS | GROUND PLANE STRIPS | EDGE CARDS | ULTRA-MICRO | BACKPLANE



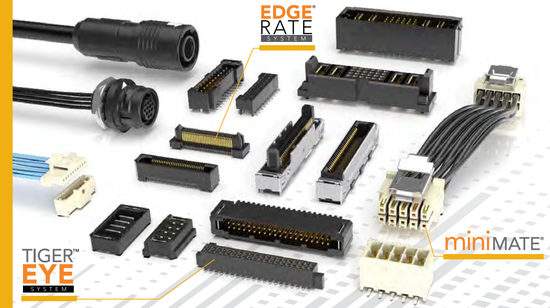
HIGH-SPEED CABLES

FLYOVER™ | MID-BOARD & PANEL | BACKPLANE | MICRO COAX & TWINAX



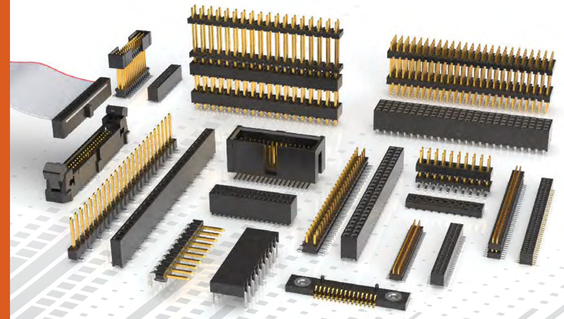
MICRO/RUGGED

RUGGED MICRO SYSTEMS | BLADE POWER | MICRO DISCRETE WIRE | MICRO SEALED I/O



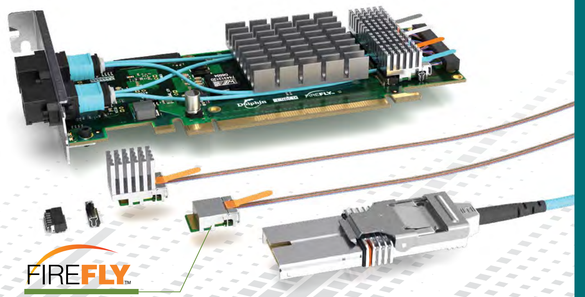
FLEXIBLE STACKING

LOW PROFILE | PASS-THROUGH | ONE-PIECE | SKYSCRAPERS | SHROUDED HEADERS | IDC SYSTEMS



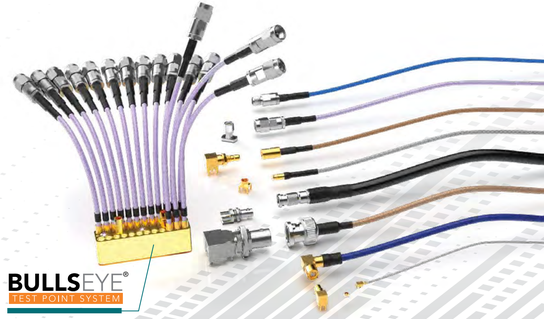
OPTICS

MICRO FLYOVER™ | EXTENDED TEMP | PCIe®-OVER-FIBER | I/O INTERFACES



RF

PRECISION RF | 50 Ω SOLUTIONS | 75 Ω SOLUTIONS | ORIGINAL SOLUTIONS



Quick Reference

Company, Product & Service Overview 2-7
Technology Centers 8-9
Sudden Service® Advantage 10-11
Express Modifications & Engineered Customs 45
Advanced Microelectronics 46-47
Characterization & Development Kits 48
High-Speed Signal & Power Combinations 108
Rugged Features & Options 272
Online Tools 292
High-Speed Channel Performance Metric 399
Industry Standards 400
Extended Life Product™ Systems 401
General Specifications 402
Index by Brand and Part Number 403-405

High-Speed Board-to-Board

High-Density Arrays 12-13
High-Speed Board-to-Board Systems 14-15
Ultra Micro Interconnects 16-17
High-Speed Edge Card 18-19
High-Speed Backplane 20-21

High-Speed Arrays

NovaRay™ Extreme Density/Speed Arrays 50-51
LP Array™ Low-Profile Arrays 52-53
SEARAY™ 0.80 mm Arrays 54-56
SEARAY™ High-Density Arrays 58-66
SkyRay™ Elevated Arrays 68-69
Z-Ray® Ultra-Low Profile Interfaces 70-73
Low-Profile One-Piece Array 74

High-Speed Mezzanine

Q Series® Ground Plane Strips 76-85
Q Rate® Slim Body Ground Plane Strips 86-89
Q2™ Rugged Ground Plane Strips 90-97
Edge Rate® Contact Strips 98-105

Ultra Micro Interconnects

AcceleRate® HD Ultra Dense Strips 110-111
Razor Beam™ Hermaphroditic Strips 112-115
Razor Beam™ LP Low-Profile Strips 116-118

High-Speed Edge Card Connectors

0.50 mm Pitch Micro Edge Card 120-121
0.635 mm Pitch Micro Edge Card 122-123
0.80 mm Pitch Micro Edge Card 124-133
1.00 mm Pitch Mini Edge Card 134-137
PCI Express® Edge Card 138-139
.050" & 2.00 mm Pitch Mini Edge Card 140-142

High-Speed Backplane

XCede® HD High-Density Backplane 144-147
ExaMAX® High-Speed Backplane 148-151
ExaMAX® Direct Mate Orthogonal 152

High-Speed Cable Assemblies

Flyovers 22-25
High-Speed Coax & Twinax Cable Systems 28-29

High-Speed Cables

Micro Coax & Twinax Cable Specifications 156-157
AcceleRate® Slim Body Flyover™ System 158-159
NovaRay™ Extreme Speed/Density Flyover™ . . . 160-161
ExaMAX® Backplane Flyover™ System 162-165
Flyover™ QSFP28 Cable Systems 166-169
FireFly™ Micro Flyover System™ 170-172
Direct Connect™ Horizontal Flyover™ 173
Micro Edge Card Flyover™ System 174-175
Micro Coax & Twinax Cables 176-187
Bulls Eye® Test Point Systems 188

High-Speed I/O

Eye Speed® HD & Eye Speed® I/O Systems 190-193
MSA Transceiver Interfaces & Cages (SFP+) . . . 194-196
Universal Serial Bus (USB) Interfaces 197-198

RF

Bulls Eye® Test Point System and Precision RF 30-31
50 Ω and 75 Ω, Original & Custom Solutions 32-33

Optics

Active and Passive Optical Solutions 26-27

Optical Systems

FireFly™ Optical Micro Flyover System™ 200-204
Optical Patch Cable & Adaptors 205
PCIe® Active Optical Systems 206-207
Optical Development Kits 208

Micro/Rugged

Micro/Rugged Tiger Eye™ Systems 34-35
Discrete Wire Systems 36-37
Power & Panel Systems 38-39

Tiger Eye™

0.80 mm Pitch Tiger Eye™ 210-211
.050" Pitch Tiger Eye™ 212-219, 222
2.00 mm Pitch Tiger Eye™ 220-221

Discrete Wire

Components & Tooling 224-225
0.80 mm Pitch Tiger Eye™ Systems 226
1.00 mm Pitch Assemblies 227-231
.050" Pitch Tiger Eye™ Systems 232-233
2.00 mm Pitch Tiger Eye™ Systems 234-236
Power Mate® & Mini Mate® Systems 237-239
PowerStrip™ High Power Assemblies 240-242

Power

Ultra Micro Power Systems 244-245
EXTreme Ten60Power™ & LPHPower™ 246-251
PowerStrip™/40/30/20 Systems 252-263
Power Mate® & Mini Mate® Systems 264-267
Power Headers & Sockets 268-271

Sealed I/O

Bayonet Circular AccliMate™ IP68 Systems 274-285
Crimped Circular AccliMate™ IP68 Systems 286-287
Mini Push-Pull AccliMate™ IP67 Systems 288
Threaded Circular AccliMate™ IP68 Systems 289
Rectangular AccliMate™ IP68 Systems 290-291

Flexible Stacking

Flexible Stacking 40-43
IDC Systems 44

Flexible Board Stacking

One-Piece Interfaces 294-297
0.50 mm, 0.635 mm, 0.80 mm Blade & Beam . . 298-303
0.80 mm & 1.00 mm Pin & Socket 304-311
.050" Pitch Strips 312-329
2.00 mm Headers & Stackers 330-341
2.00 mm Sockets & PC/104-*Plus*™ 342-351
.025" (0.64 mm) SQ Post Headers & Stackers . . 352-363
.025" (0.64 mm) SQ Post Sockets & PC/104™ . . . 364-373
Machined Sockets & Terminals 374-378

IDC/Flat Cable Systems

FFC Jumpers & Interfaces 380-383
.100" Pitch IDC Systems 384-389
2.00 mm Pitch Tiger Eye™ IDC Systems 390-394
.050" Pitch Tiger Eye™ IDC Systems 395-398

TECHNOLOGY CENTERS

Silicon-to-Silicon Expertise & Support for the
Demands of Today and the **Challenges of Tomorrow.**

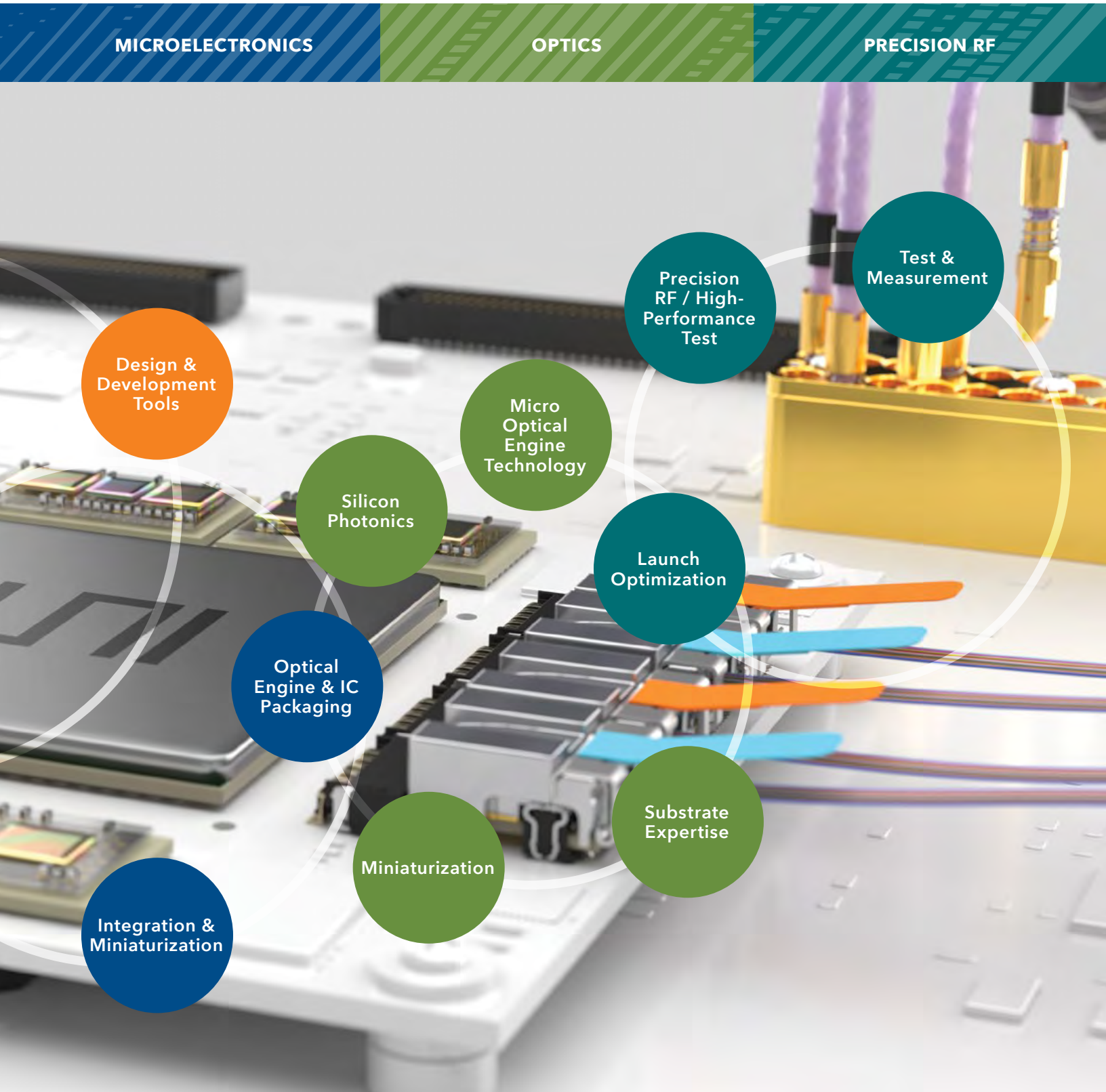
HIGH-SPEED CABLE | **ADVANCED INTERCONNECTS** | **SYSTEM SIGNAL INTEGRITY**



INTEGRATION LEADS TO **INNOVATION**

Increasingly complex systems with escalating bandwidths and shrinking footprints drive Samtec to continually expand and develop our technical expertise and capabilities.

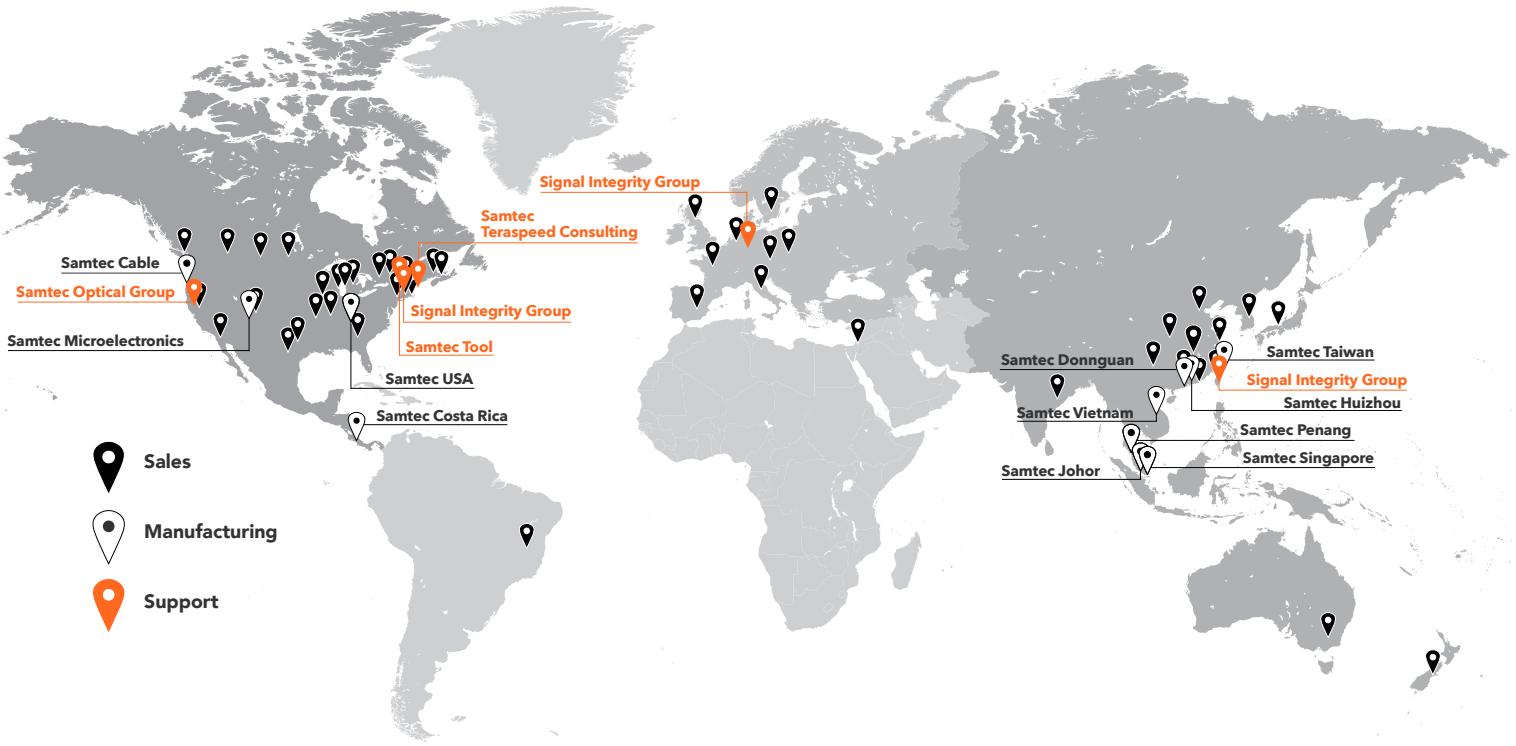
Our Technology Centers are comprised of industry-leading experts who are dedicated to the **design and development of innovative products and technologies**, as well as effective **strategies and technical support for optimizing the entire signal path of a system**. Samtec Tech Centers are not limited by the boundaries of traditional business units, thus, allowing us to work in a fully integrated capacity that enables true collaboration and innovation for solutions to meet the demands of today, and the challenges of tomorrow.



SUDDEN SERVICE® ADVANTAGE

samtec.com/about

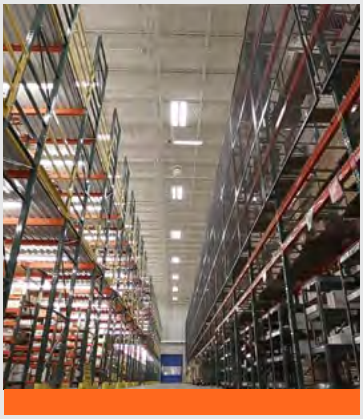
Samtec's Sudden Service® provides unmatched global service, free access to data and industry leading tools, along with engineering support, to help you design, develop, test and deliver the best solution for any complex application.



GLOBAL OPERATIONS NETWORK









LEAD TIMES - TYPICALLY IN DAYS, NOT WEEKS

- 24 Hour Free "Sudden Samples"
- World Direct Shipping - 2 Days to all Major Markets
- Most Products Ship in 3 Days
- Dual Operations - Speed and Cost Optimized







TECH SUPPORT - 24/7 WORLDWIDE ACCESS

- Samtec Teraspeed Consulting
- Signal Integrity Group
- Application Support Group
- Application Engineering Groups
- Interconnect Processing Group

SUPPLY CHAIN SUPPORT - SERVICE & TECHNOLOGY LEADER

- My Samtec – Real-Time Account Access
- Scheduling Flexibility – Pull-ins / Push-outs
- Global Pricing – Global Systems
- Personal Account Managers and CSRs
- 24 Hour Quotes – Upfront and Aggressive
- No MOQs on Catalog Products

ONLINE TOOLS - DESIGN IN A MINUTE

- Simulator™ Real-Time Performance Calculator
- Solutionator® Mated Set Generator
- Channelyzer® Full Channel Simulation and Analysis
- Easy Picture Search
- Part Number and Series Search
- Download Tools







SAMTEC RANKED #1 IN BISHOP CUSTOMER SURVEY

Samtec has been consistently rated as the #1 connector company in North America, Europe and Asia. This is the highest overall rating in the Bishop & Associates' U.S., Europe and Asia Customer Surveys of the Electronic Connector Industry.



HIGH-DENSITY ARRAYS

samtec.com/arrays



HIGH-DENSITY ARRAYS				
SERIES	**NVAM/NVAF**	**SEAM/SEAF**	**SEAR**	**SEAM8/SEAF8**
Type	NovaRay™	SEARAY™		SEARAY™ 0.80 mm
Pitch	0.80 mm x 1.80 mm	1.27 mm x 1.27 mm		0.80 mm
Stack Heights (mm)	7 & 10	7–18.5	30 & 40	7 & 10
Total Pin/ Pair Counts	8, 12, 16, 24, 32	40-560	240-500	40-720
Cable Mates	NVAC	SEAC		ESCA
Notes	92 Ω Solution	Right-Angle, Press-Fit, 85 Ω Tuned & Hardware Available. Guide Post Field Termination Kit Available.	Elevated	Ultra-High Density, Right-Angle & Hardware Available
PAGE	**50-51**	**58-66**		**54-56**

EXTREME DENSITY ARRAYS

NOVARAY™ | NRZ 56 Gbps | PAM4 112 Gbps

- 4.0 Tbps aggregate data rate
- Very low crosstalk to 40 GHz+
- Incredibly tight impedance control
- 40% less space vs. traditional arrays
- 112 differential pairs per square inch
- BGA for high-density, improved breakout region

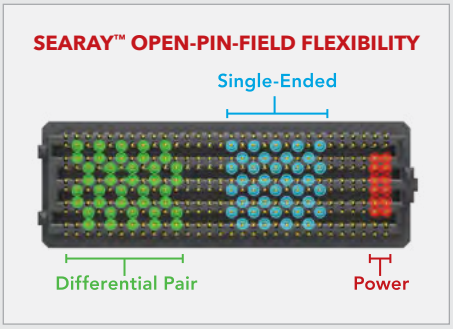


Guaranteed two points of contact for a more reliable connection

OPEN-PIN-FIELD ARRAYS

SEARAY™ | PAM4 56 Gbps

- Maximum grounding and routing flexibility
- Up to 560 single-ended I/Os or 140 differential pairs
- Rugged Edge Rate® contacts
- Solder charged terminations (IPC-A-610F & IPC J-STD-001F Class 3)
- Press-fit tails available (SEAMP/SEAFP, pages 64-65)
- Standoffs available (JSO, page 67)
- Compatible with UMPT/UMPS for power/signal flexibility



ULTRA-HIGH DENSITY ARRAYS

SEARAY™ .8mm | PAM4 56 Gbps

- Up to 720 Edge Rate® contacts
- 2x the density of 1.27 mm pitch SEARAY™
- Compatible with UMPT/UMPS for power/signal flexibility
- 2.00 mm extended wipe version in development
- Standoffs available



LOW-PROFILE ARRAYS

LP ARRAY™ | PAM4 56 Gbps

- 4 mm, 4.5 mm and 5 mm stack heights
- 4, 6 and 8 row designs, up to 400 total pins
- Dual beam contact system
- Solder crimped termination for ease of processing
- Compatible with UMPT/UMPS for power/signal flexibility
- Board stacking standoffs available (JSO, page 67)

ULTRA-LOW PROFILE ONE-PIECE ARRAYS

Z-RAY® | PAM4 56 Gbps

- Z-Ray® is ultra-flexible with custom or standard configurations in an incredibly low profile
- GMI Series is an ideal low-cost solution for board stacking, module-to-board or LGA interfaces

HIGH-DENSITY ARRAYS			LOW-PROFILE ARRAYS			
SERIES	LPAM/LPAF	TPAR/TPAF	ZA8	ZA8H	ZA1	GMI
Type	LP Array™	SkyRay™	Z-Ray®			Compression
Pitch	1.27 mm x 1.27 mm	1.50 mm x 1.75 mm	0.80 mm		1.00 mm	
Stack Heights (mm)	4, 4.5, 5	35	1	0.33	1	1.27 & 2
Total Pin/ Pair Counts	40-400	50, 100, 150	100, 200, 300, 400	24, 42, 48, 84, 96, 168	100, 200, 300, 400	
Notes	Low-Profile, Hardware Available	Elevated, 3-Piece System	Alignment & Compression Hardware Available			Dual Compression Contacts
PAGE	52-53	68-69	70	71	72	74

For full SI Performance data visit samtec.com or contact sig@samtec.com. Other stack heights and pin counts available.

HIGH-SPEED BOARD-TO-BOARD

samtec.com/mezzanine



	Q STRIP®					Q RATE®		Q2™		EDGE RATE®		
SERIES	**QTH/QSH**		**QTS/QSS**	**QTE/QSE**		**QRM8/QRF8**		**QMS/QFS, QMSS/QFSS**		**ERM5/ERF5**	**ERM6/ERF6**	**ERM8/ERF8**
Pitch	0.50 mm		0.635 mm	0.80 mm		0.80 mm		0.635 mm		0.50 mm	0.635 mm	0.80 mm
Stack Heights (mm)	5–25		5 & 8	5–25		7–14		10-16 (QXS) 11 (QXSS)		7–12	5	7–18
Signaling Type	SE	DP	SE	SE	DP	SE	DP	SE	DP	SE		
Total Pin/ Pair Counts	60,120, 180	40, 80, 120	50, 100, 150	40, 80, 120	28, 56, 84	52, 104, 156	36, 72, 108	52, 104, 156	32, 64, 96	20–150	20–120	10–200
Cable Mates	HQCD (50 Ω)	HQDP (100 Ω)	SQCD (50 Ω)	EQCD (50 Ω)	EQDP (100 Ω)	EQRD		Contact Samtec				ERCD, ERDP
Notes	Right-Angle Available					Slim Body Design; Right-Angle Available		Right-Angle, Edge Mount, Power & RF Options (QXS) EMI Shielded (QXSS)		Right-Angle Available	Ultra Slim Body Design	Right-Angle, Edge Mount Available
PAGE	**76–79**		**82–85**	**80–81**		**86–89**		**90–97**		**98–99**	**100–101**	**102–105**

For full SI Performance data visit samtec.com or contact sig@samtec.com. Other stack heights and pin counts available.

TECHNOLOGY CENTER

ADVANCED INTERCONNECT DESIGN

Engineering and manufacturing innovation to ensure interconnect systems are designed for quality, design flexibility and ease of processing. Capabilities include high precision stamping, plating, molding and automated assembly for high-speed, fine pitch, array and micro rugged interconnects.

LOW-PROFILE GROUND PLANE CONNECTORS

QSTRIP® | 28 Gbps

- Low profile 5 mm stack height and up to 25 mm elevated height
- Choice of 0.50 mm, 0.635 mm or 0.80 mm pitch
- Compatible with UMPT/UMPS for power/signal flexibility (see pages 244-245)
- Vertical, perpendicular and coplanar mating
- Latching, weld tabs and guide posts available for mating/retention



Integral power/ground plane rated for up to 25 A

SLIM GROUND PLANE CONNECTORS

QRATE® | 28 Gbps

- Edge Rate® contacts optimized for signal integrity performance
- 1.20 mm contact wipe
- Integral power/ground plane
- Right-angle for coplanar and perpendicular mating
- Compatible with UMPT/UMPS for power/signal flexibility (see pages 244-245)



Slim 4.60 mm body width saves board space

RUGGED GROUND PLANE CONNECTORS

Q2™ | 25 Gbps

- Increased insertion depth for rugged applications
- Compatible with UMPT/UMPS for power/signal flexibility (see pages 244-245)
- Vertical, right-angle and edge mount
- Integral power/ground plane
- Rugged shielding option
- 0.635 mm pitch



Power pins, retention pins and RF options

RUGGED HIGH-SPEED STRIPS

EDGE® RATE SYSTEM | PAM4 56 Gbps

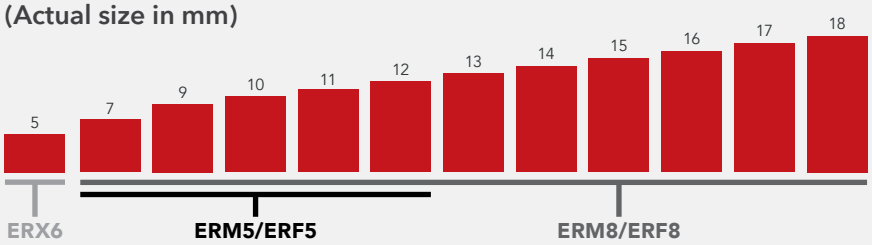
- Choice of 0.50 mm, 0.635 mm or 0.80 mm pitch
- Up to 40% PCB space savings with 0.50 mm pitch system vs. 0.80 mm pitch system
- Extremely slim 2.5 mm body width on 0.635 mm pitch system
- Rugged latching, locking and 360° shielding
- Up to 1.5 mm contact wipe
- Compatible with UMPT/UMPS for power/signal flexibility (see pages 244-245)



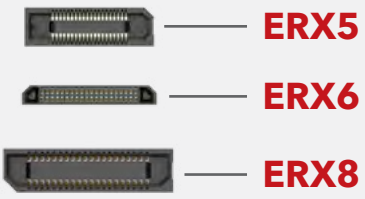
Signal integrity optimized Edge Rate® contact system reduces broadside coupling

EDGE RATE® STACK HEIGHT FLEXIBILITY

(Actual size in mm)

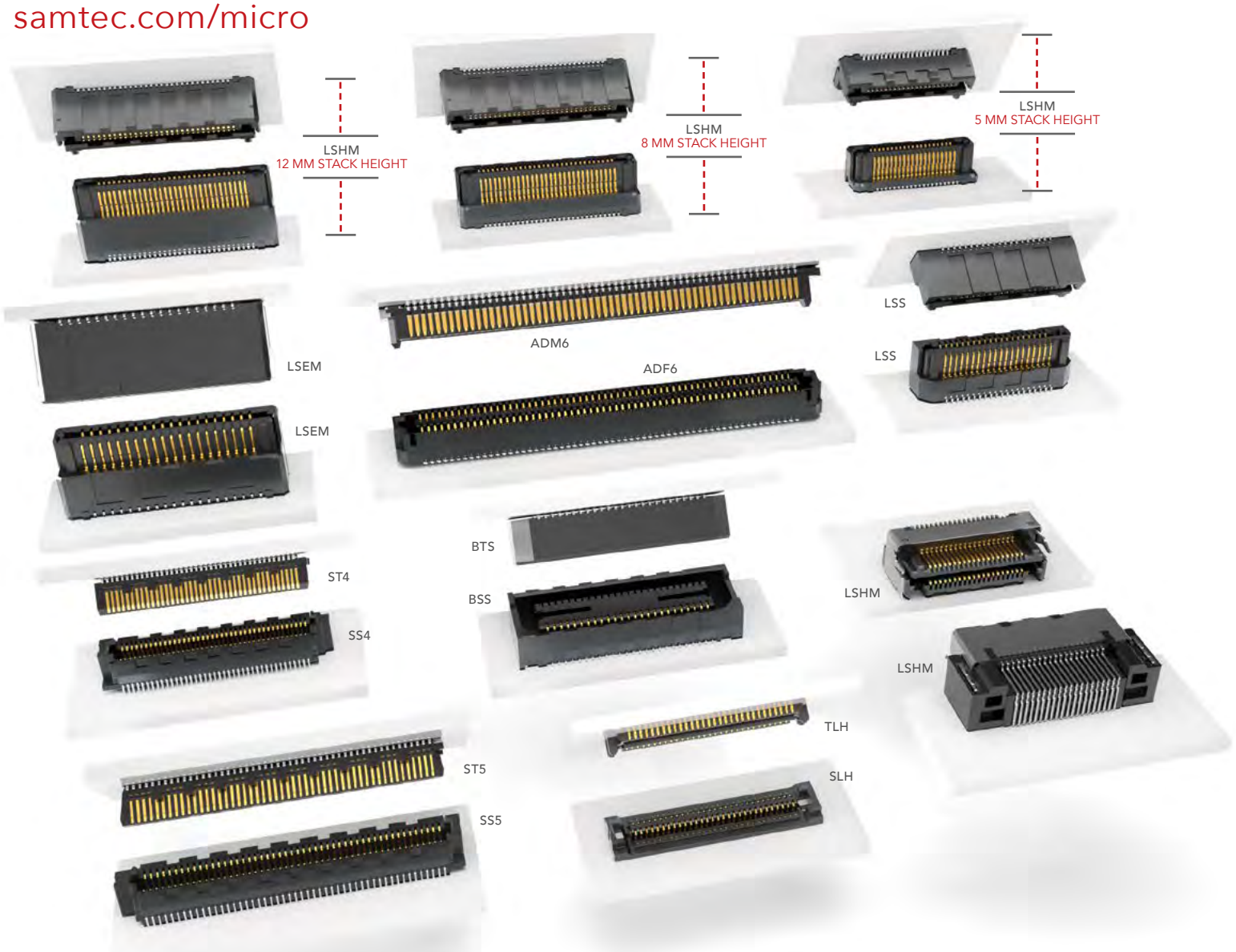


Sockets shown actual size at 40 total positions



ULTRA MICRO INTERCONNECTS

samtec.com/micro



	ACCELERATE® HD	RAZOR BEAM™ LP			RAZOR BEAM™			BLADE & BEAM		
SERIES	ADM6/ADF6	ST4/SS4	ST5/SS5	TLH/SLH	LSHM	LSS	LSEM	LTH/LSH	BTH/BSH	BTS/BSS
Pitch	0.635 mm	0.40 mm	0.50 mm		0.50 mm	0.635 mm	0.80 mm	0.50 mm		0.635 mm
Stack Heights (mm)	5	4-6	4-5	2	5-12	6-12		2.31	5-22	5
Total Pin/ Pair Counts	40-240	20-100	20-160	20, 40, 60	10-100	20-100	40-100	20-100	60-300	50-200
Notes	Edge Rate® Contacts	Ultra-Fine Pitch		Ultra-Low Profile	Right-Angle & Shielded Available	Blade & Beam Contacts		Low Profile	Right-Angle Available	Edge Mount Available
PAGE	110-111	116	117	118	112-113	114	115	298	300-301	302

For full SI Performance data, visit samtec.com or contact sig@samtec.com. Other stack heights and pin counts available.

ULTRA-DENSE STRIPS | ACCELERATE®HD | PAM4 56 Gbps

- Up to 240 I/Os in a 4 row design
- 5 mm stack height and slim 5 mm body width
- Edge Rate® contacts optimized for signal integrity performance
- Open-pin-field design for grounding and routing flexibility
- Compatible with UMPT/UMPS for power/signal flexibility (see pages 244-245)



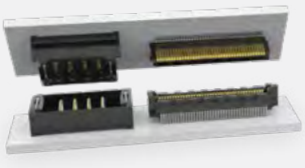
Solder ball technology for simplified processing and self aligning

RUGGED HERMAPHRODITIC CONNECTORS | RAZOR™ BEAM SYSTEM | 25 Gbps

- Razor Beam™ contact for high-speed and fine-pitch systems
- 0.50 mm, 0.635 mm and 0.80 mm pitch
- 4–6x greater mating/unmating forces vs. typical micro pitch connectors
- Rugged shielding available
- Self-mating connectors reduce inventory costs and can be interchanged for varying stack heights
- Jack screw standoffs available to assist with unmating (JSO)
- 0.50 mm pitch hermaphroditic cable assembly available (HLCD)

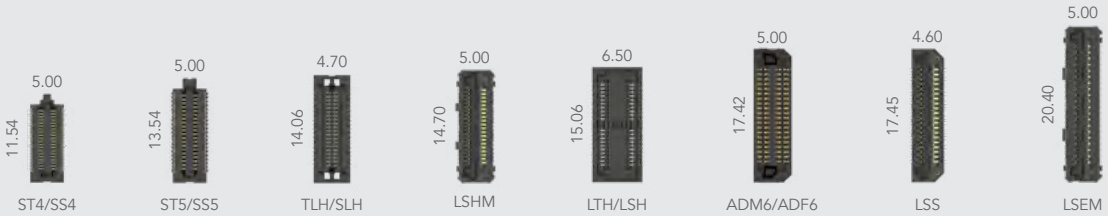
LOW-PROFILE STRIPS | RAZOR™ BEAM LP SYSTEM | PAM4 56 Gbps

- Ultra low stack height down to 2 mm
- Slim body designs for increased PCB space savings
- Ultra fine 0.40 mm and 0.50 mm pitch
- Jack screw standoffs (JSO Series) available for unmating assistance and protection from component damage
- Ultra-micro power available for power/signal applications (UMPT/UMPS, pages 244–245)



Micro power and signal flexibility

SLIM BODY DESIGNS (Actual size at 20 positions per row)



BASIC BLADE & BEAM CONNECTORS | BLADE& BEAM CONTACT

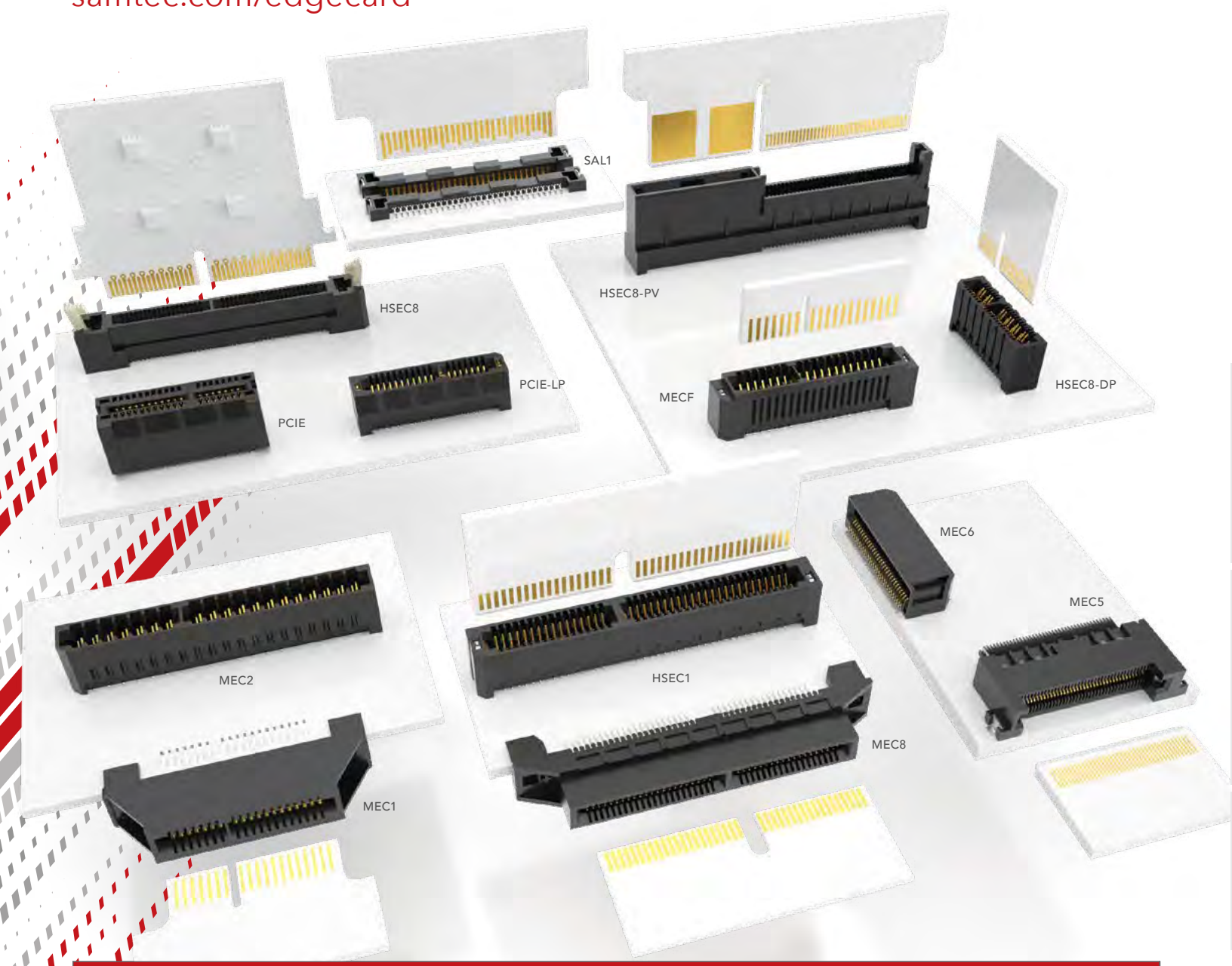
- Lower cost without integral ground plane
- 0.50 mm and 0.635 mm pitch
- Right-angle available for perpendicular application
- Polarized
- E.L.P.™ certified systems



Cost effective Blade & Beam contact system

HIGH-SPEED EDGE CARD

samtec.com/edgecard

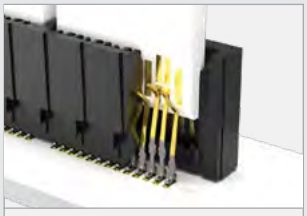


HIGH-SPEED EDGE CARD SOCKETS				
SERIES	**HSEC8-PV**	**HSEC8/RU8**	**HSEC8-DP**	**HSEC1-DV**
Pitch	0.80 mm			1.00 mm
Applications	Power/Signal Combo	PCI Express®, XAUI, SATA	Differential Pair	Mini Edge Card
Card Thickness (mm)	1.60	1.60 & 2.36	1.60	
Total Pin Counts	40, 60, 80 (Signal) 2, 4 (Power)	18–200 (HSEC8) 80–120 (RU8)	16–112	20–140
Notes	Up to 60 A/Power Bank	Right-Angle, Edge Mount & Pass-Through Available; Riser Card Kit	Edge Rate® Contact System	
PAGE	**127**	**128, 130-133**	**129**	**136**

0.80 mm & 1.00 mm PITCH SOCKETS

EDGE® RATE CONTACT | PAM4 56 Gbps

- Edge Rate® contacts optimized for signal integrity performance
- Surface mount, right-angle, edge mount and pass-through
- Power/Signal combo (HSEC8-PV)
- Custom designs allow for misalignment mitigation
- 1.00 mm pitch differential pair socket compatible to PCIe® Gen 5 in development (HSEC1-DP)
- 0.80 mm pitch 30 AWG twinax cable assembly (ECDP)

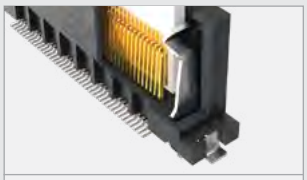


56 Gbps PAM4 with differential pair (HSEC8-DP)

0.50 mm PITCH HIGH-DENSITY SOCKETS

PAM4 56 Gbps

- Justification beam enables use of standard PCB tolerance for lower costs and decreases mating tolerance by 50%
- Up to 300 total I/Os
- PCIe® Gen 4 compatible
- Vertical and right-angle



Justification beam allows for standard board tolerance

EDGE CARD PITCH VARIETY

25 Gbps

- 0.635 mm, 0.80 mm, 1.00 mm, 1.27 mm and 2.00 mm pitch stamped contacts
- Right-angle, vertical and edge mount
- Surface mount and through-hole
- Solutions for .062" (1.60 mm) and .093" (2.36 mm) thick cards



Press-fit application (MEC8)

PCI EXPRESS® EDGE CARD SOCKETS

- Supports one, four, eight and sixteen PCI Express® links
- Compatible to Gen 4 speeds (PCIE-LP)
- Low profile version for space savings
- Standard jumpers and extenders available (PCIEC)



8 mm profile (PCIE-LP) vs. standard 11 mm profile (PCIE)

1.00 mm PITCH THROUGH BOARD SOCKETS

- 40 to 80 I/Os per pair
- Mounts in pairs to simplify signal routing
- Low profile design
- Mounting flexibility for pass-through applications

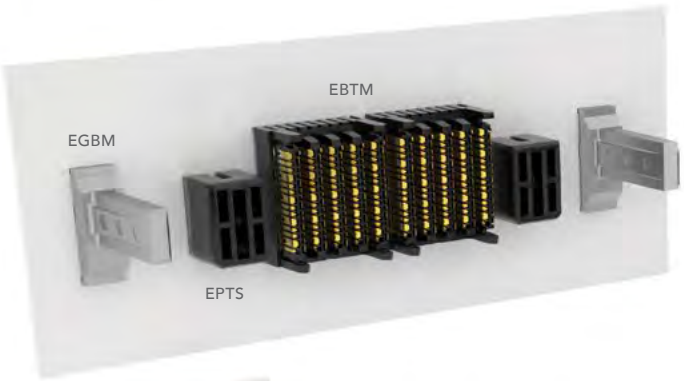
HIGH-SPEED EDGE CARD SOCKETS								
SERIES	**MEC5**	**MEC6**	**MEC8**	**MEC1**	**PCIE-LP/PCIE**	**SAL1**	**MECF**	**MEC2**
Pitch	0.50 mm	0.635 mm	0.80 mm	1.00 mm			1.27 mm	2.00 mm
Applications	High-Density Edge Card	Micro Edge Card		Mini Edge Card	PCI Express®	SATALink™	Mini Edge Card	
Card Thickness (mm)	1.60					Variable Card Thickness	1.60 & 2.36	
Total Pin Counts	60–200	20–140		10–140	36 (x1), 64 (x4), 98 (x8), 164 (x16)	20, 27, 30, 40	10–100	
Notes	Right-Angle Available		Right-Angle, Edge Mount & Press-Fit Available	Right-Angle & Edge Mount Available		Mounts in Pairs	Multiple Card Thickness	
PAGE	**120-121**	**122-123**	**124-126**	**134-135**	**138-139**	**137**	**140**	**141-142**

For full SI Performance data visit samtec.com or contact sig@samtec.com. Other pin counts available.

PCI-SIG®, PCI Express® and the PCIe® design marks are registered trademarks and/or service marks of PCI-SIG.

HIGH-SPEED BACKPLANE

samtec.com/backplane



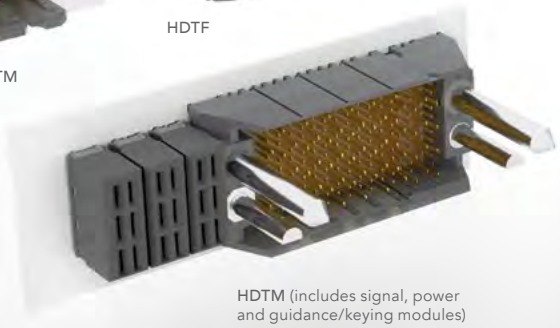












HDTM (includes signal, power and guidance/keying modules)



BSP (includes signal, power and guidance/keying modules)

	EXAMAX®		XCEDE® HD
SERIES	**EBTM/EBTF**	**EBDM-RA**	**HDTM/HDTF**
Type	Traditional & Coplanar Backplane	Direct Mate Orthogonal	Xcede® HD
Pitch	2.00 mm		1.80 mm
Total Pair Counts	24–72	36–72	12–48
Pairs Per Column	4 & 6	6	3, 4 & 6
Total Number of Columns	6, 8, 10 & 12 (12 only available with 6-pair)		4, 6 & 8
Notes	Power and Guidance Modules Available	Integrated Guide Post and Optional Screw Mounts	Integrated Power, Guidance, Keying and Side Wall Options Available
PAGE	**148–151, 153–154**	**152**	**144–147**

For full SI Performance data visit samtec.com or contact sig@samtec.com. Other pair and column counts available.

HIGH-SPEED BACKPLANE SYSTEMS

ExaMAX® | PAM4 56 Gbps

- 2.00 mm column pitch with up to 72 pairs
- Meets industry specifications such as PCI Express®, Intel OPI and VPI, SAS, SATA, Fibre Channel, InfiniBand™ and Ethernet
- Lowest mating force on the market: 0.36 N max per contact
- Press-fit termination
- Engineered for 92 Ω impedance to address both 85 Ω and 100 Ω applications
- Keying, guidance, power and staging available
- Coplanar available (EBTM-RA) to bypass the midplane for a direct connection between the front and rear cards
- Backplane cable available for cable-to-board, cable-to-ExaMAX® or cable-to-cable applications (see pages 162-165)

*ExaMAX® is a registered trademark of AFCI.



Individual signal wafers with one-piece ground plane reduces crosstalk



Two reliable points of contact at all times



Staggered, differential pairs



Guidance & power modules available (EGBM/EGBF-RA & EPTT/EPTS)

DIRECT-MATE ORTHOGONAL

ExaMAX® | PAM4 56 Gbps

- Eliminates the need for a midplane
- Shorter signal path for improved signal integrity
- Two fewer connectors for decreased cost
- Optimizes system airflow and cooling for increased thermal efficiency
- Integral guidance for blind mating



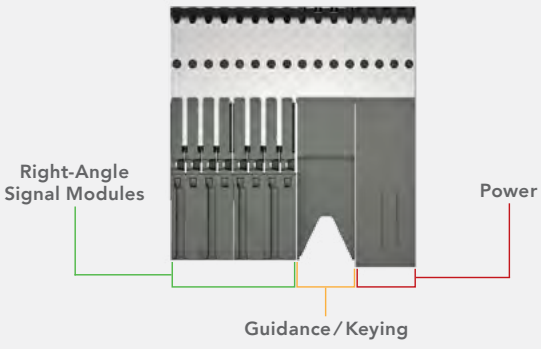
Direct-Mate Orthogonal

HIGH-DENSITY BACKPLANE SYSTEMS

XCede HD | 16 Gbps

- Small form factor and modular design provides significant space-savings and flexibility
- 1.80 mm column pitch with up to 48 pairs
- Up to 84 differential pairs per linear inch
- Up to a 3 mm contact wipe on signal pins
- Power, guidance, keying and end wall options available
- 85 Ω and 100 Ω options
- Right-angle modules can be built into a single customizable part (BSP). Corresponding vertical modules are individually mounted to the backplane

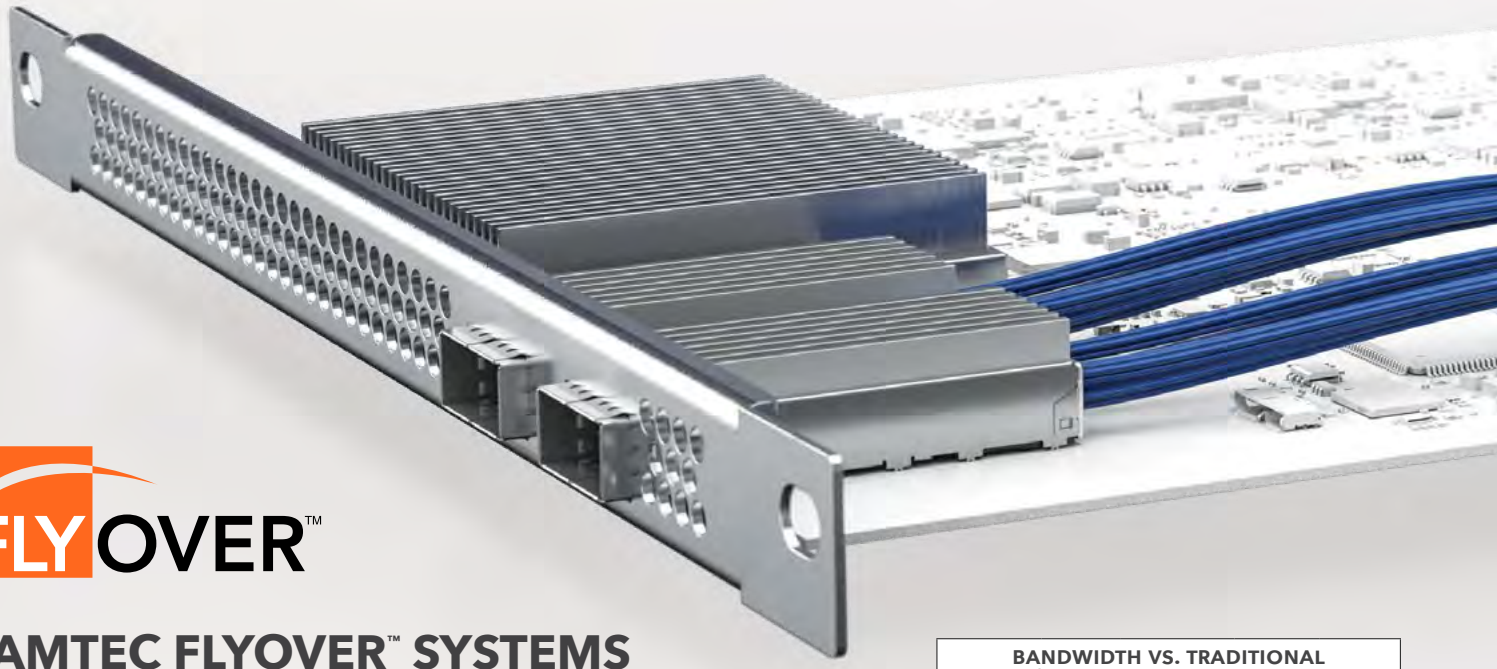
*XCede® is a registered trademark of Amphenol Corporation.



BSP custom configuration shown (Top View)

FLYOVER™ TECHNOLOGY

samtec.com/flyover



SAMTEC FLYOVER™ SYSTEMS

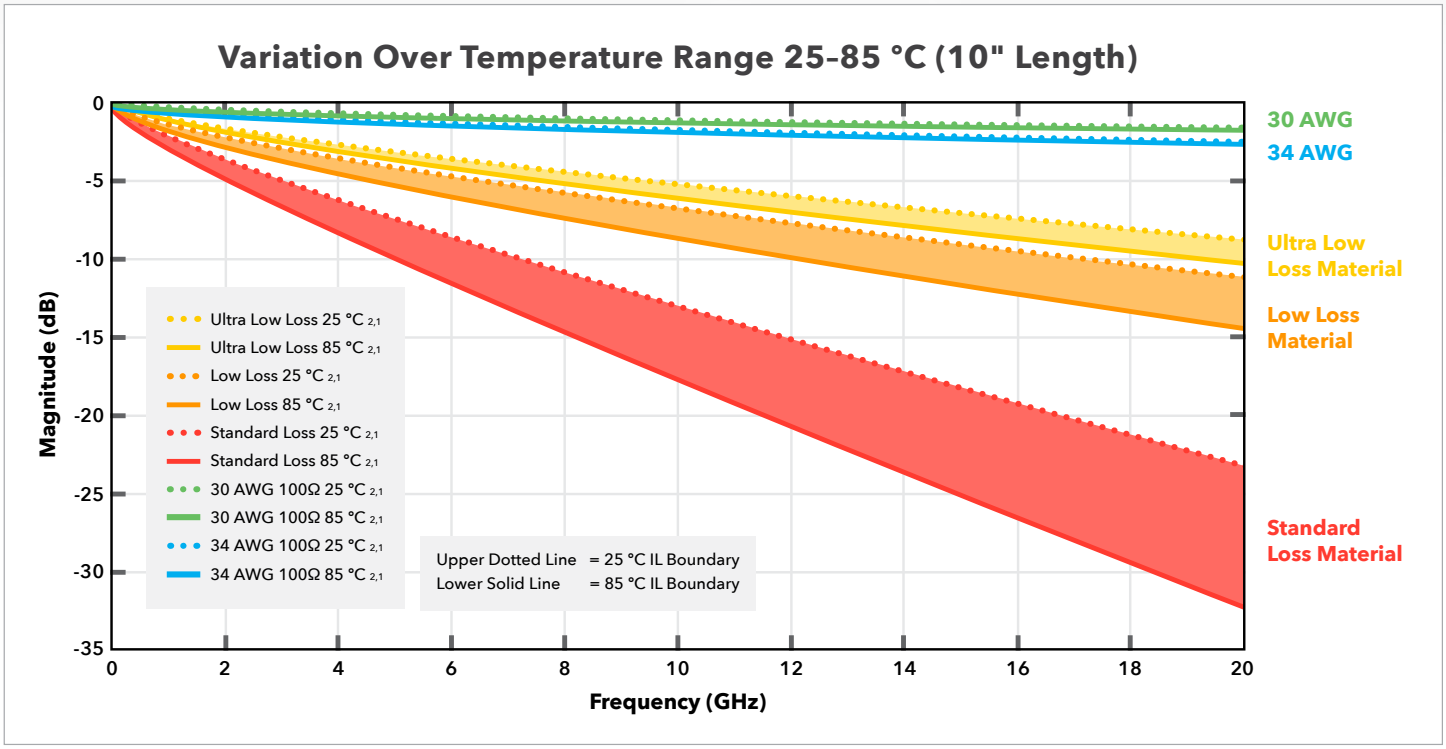
Extended Reach at Next Gen Speeds

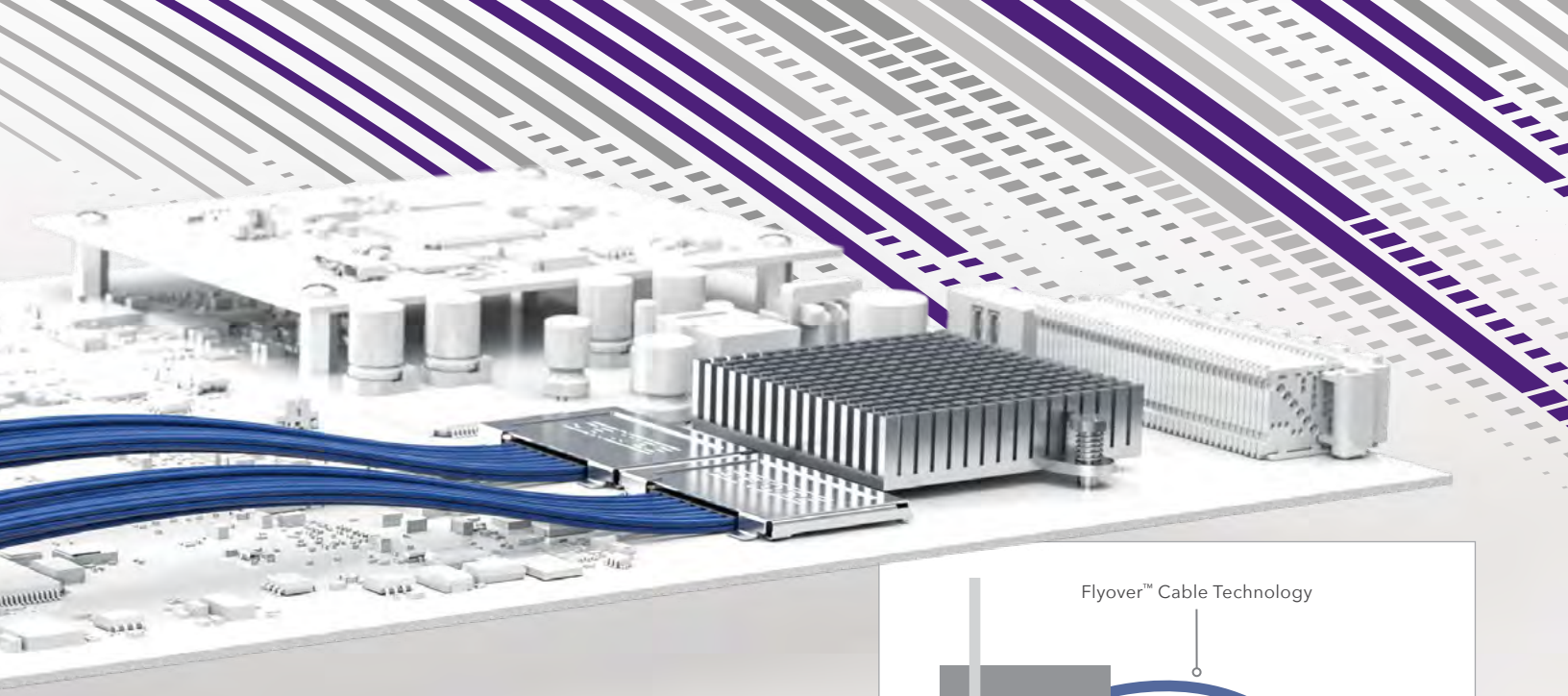
As bandwidth requirements rapidly increase, routing signals through lossy PCBs, vias and other components has become a complex challenge.

Samtec's Flyover™ design breaks the constraints of traditional signaling substrate and hardware offerings, resulting in a cost-effective, high-performance answer to the challenges of 56 Gbps bandwidths and beyond.

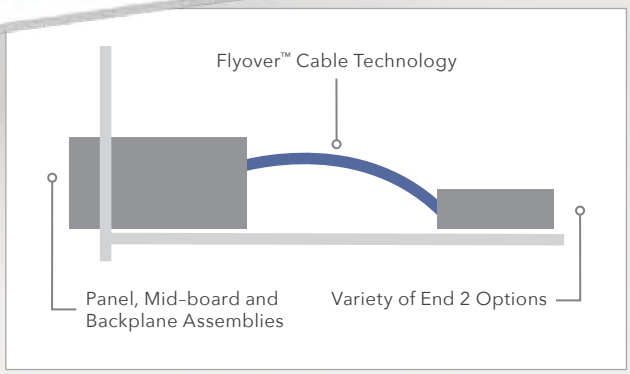
BANDWIDTH VS. TRADITIONAL & HIGH-SPEED MATERIALS

	FR408	MEGTRON 6	Micro Twinax	Optics
10 Gbps	<10"	10"+	10"+	10"+
14 Gbps	<5"	<10"	10"+	10"+
28 Gbps	<2"	<5"	10"+	10"+
56 Gbps	0.0"	<2"	10"+	10"+
112 Gbps	0.0"	0.0"	<10"	10"+





Samtec's Flyover™ designs provide end option flexibility to create a high-speed application specific solution to meet next gen speeds.



ULTRA LOW SKEW CABLE TECHNOLOGY

Samtec's proprietary **co-extruded**, low loss twinax cable technology eliminates the performance limitations and inconsistencies of individually extruded dielectric twinax cabling, improving signal integrity, bandwidth and reach.

- Ideal for 28–56+ Gbps applications
- Tight coupling between signal conductors
- Ultra low skew twinax < 3.5 ps/meter
- See pages 156-157 for cable specifications

EYE® SPEED CABLE





NEXT GEN PERFORMANCE AND COST ADVANTAGES

High-performance, low loss twinax cable systems support 56+ Gbps speeds for extended reach and system architecture design flexibility – without adding cost to the overall system.

Performance Advantages

- Reduced Thermal Challenges
- Simplified Board Layout
- 28–56 Gbps NRZ & Beyond

Cost Advantages

- Eliminate Expensive Re-timers
- Fewer PCB Layers
- Less Expensive PCB Materials

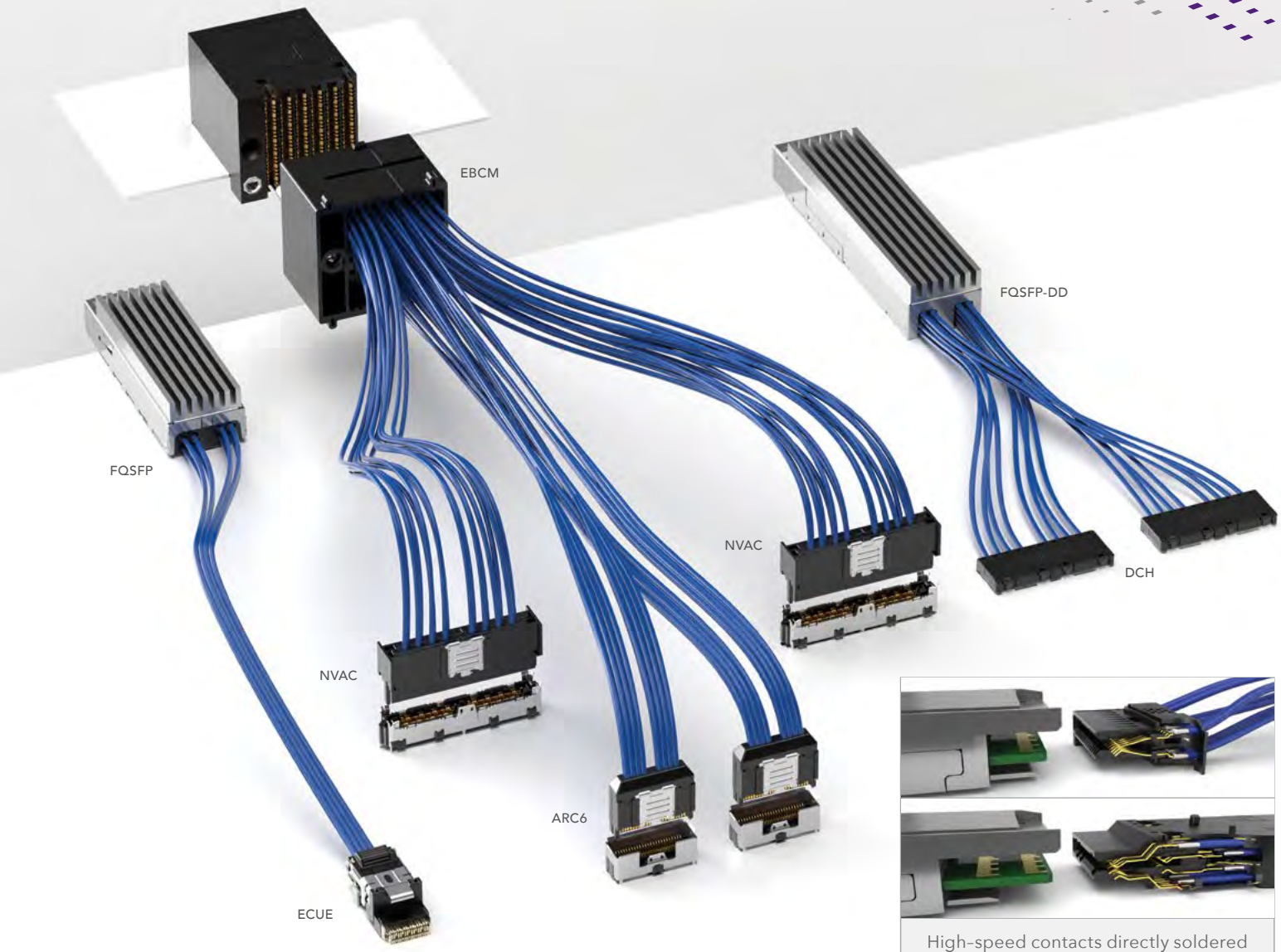
NRZ	PAM4	NRZ	PAM4
28 Gbps	56 Gbps	56 Gbps	112 Gbps

SUPPORT

Fully integrated, complimentary and cross-functional Technology Centers for full system interconnect performance and cost optimization from Silicon-to-Silicon. For more information about Samtec's High-Speed Cable Group visit samtec.com/tech-centers.

FLYOVERS

samtec.com/flyover



High-speed contacts directly soldered to Eye Speed® ultra low skew twinax (Top: FQSFP; Bottom: FQSFP-DD)

	FLYOVER QSFP28		NOVARAY™	ACCELERATE®	DIRECT CONNECT™	FIREFLY™			EXAMAX®
SERIES	FQSFP	FQSFP-DD	NVAC	ARC6	DCH	ECUE	ECUE-2	PCUE	EBCM/EBCF
Performance	56 Gbps PAM4		112 Gbps PAM4	56 Gbps PAM4		14 Gbps	28 Gbps NRZ	PCIe® Gen 4	56 Gbps PAM4
Cable Type	Ultra Low Skew Twinax					Twinax	Ultra Low Skew Twinax		
Cable AWG	30 or 34	34	30 or 34	34	30	34 or 36	34		28, 30 or 34
Pitch			0.80 mm	0.635 mm		0.80 mm			2.00 mm
Mates	Direct Attach		NVAM-C	ARF6	Direct Attach	UEC5/UCC8			EBTM/EBTF
PAGE	**166-167**	**168-169**	**160-161**	**158-159**	**173**	**170**		**171**	**162-165**

High-speed channel performance rating based on Samtec reference channel. For full SI Performance data visit samtec.com or contact sig@samtec.com.

DIRECT ATTACH QSFP28 SYSTEMS

NRZ 28 Gbps PAM4 56 Gbps

- 4 or 8 channels
- Up to ~200 Gbps NRZ (~400 Gbps PAM4)
- Belly-to-belly mating for maximum density (FQSFP-DD)
- Sideband signals are routed through press-fit contacts for increased airflow
- Contacts directly solder to the Eye Speed® cable for improved signal integrity



Localized press-fit control and power contacts eliminate the need for a secondary cable and connector

EXTREME SPEED/DENSITY SYSTEMS

NOVARAY™

NRZ 56 Gbps PAM4 112 Gbps

- 112 Gbps PAM4 per channel in 40% less space than traditional arrays
- 4.0 Tbps aggregate data rate – 9 IEEE 400G channels
- Fully shielded differential pair design
- Very low crosstalk (to 40 GHz) and very tight impedance control
- 8 to 32 signal pairs; 72 pairs in development



Guaranteed two points of contact for a more reliable connection

SLIM BODY ASSEMBLIES

ACCELERATE®

NRZ 28 Gbps PAM4 56 Gbps

- Incredibly slim 7.6 mm body width
- Direct attach technology: contacts directly soldered to cable for improved signal integrity
- High-density 2-row design
- 8 and 16 pair configurations
- Rugged metal latching and shielding

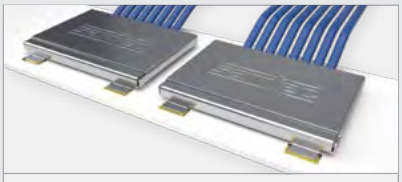


Right-angle in development

DIRECT CONNECT™ HORIZONTAL SYSTEMS

NRZ 28 Gbps PAM4 56 Gbps

- High-retention press-fit termination
- Ultra-low 3 mm profile
- Supports and surpasses PCIe® Gen 3 speeds to 2 meters
- 4 and 8 pair configurations



Direct Connect™ pluggable horizontal cable in development (DPH)

FIREFLY™ COPPER SYSTEMS

28 Gbps

- High-performance, high-density copper Flyover™ solution
- Pin compatible with FireFly™ optical using the same connector system
- x4 bidirectional and x12 unidirectional configurations
- Low-cost solution for seamless integration of new or existing designs
- PCIe® Gen 4 protocol compatible system (PCUE)



Optimized copper (ECUE-2) with 28 Gbps card design

HIGH-SPEED BACKPLANE SYSTEMS

ExaMAX®

PAM4 56 Gbps

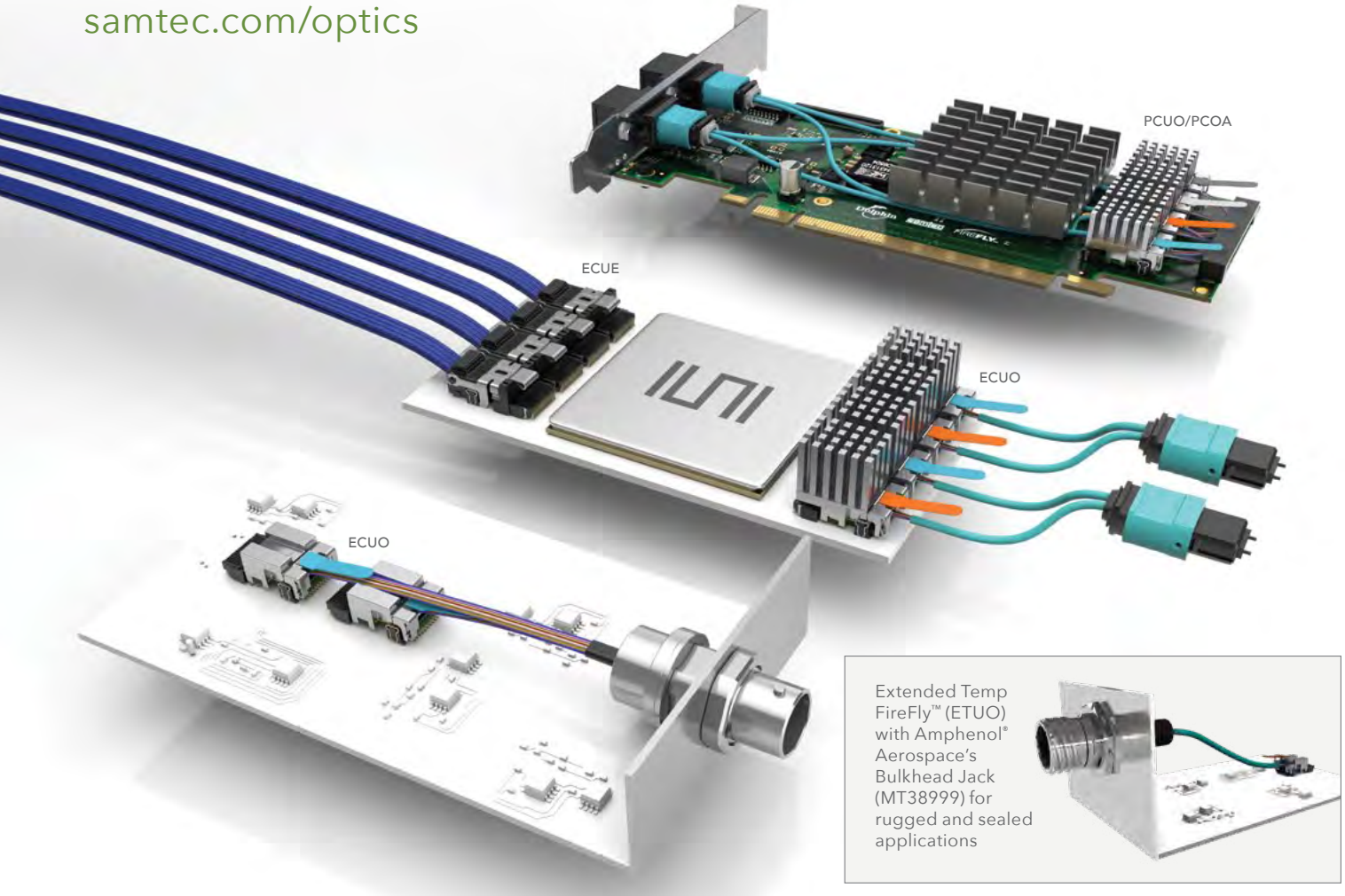
- Cable-to-board, cable-to-cable and cable-to-ExaMAX® applications
- Customizable with modular flexibility
- Reduced cost due to lower layer counts
- 4 and 6 pairs/column; 6, 8, 10 and 12 columns
- Intermateable with all ExaMAX® connectors



Integrated guidance and keying

ACTIVE & PASSIVE OPTICS

samtec.com/optics



Extended Temp FireFly™ (ETUO) with Amphenol® Aerospace's Bulkhead Jack (MT38999) for rugged and sealed applications

FIREFLY™ MICRO FLYOVER SYSTEM™

ECUE

FireFly™ Copper

14 Gbps	x4 Bidir. x12 Undir.

ECUE-2

Optimized Copper

28 Gbps	x4 Bidir.

PCUE

PCIe®-Over-FireFly™ Copper, Gen 4

PAGE 170-171

ECUO

FireFly™ Optical

14 Gbps	x4* x12**
16 Gbps	x12**
25 Gbps	x4*
28 Gbps	x4*

PAGE 200

ETUO

Extended Temp FireFly™

10 Gbps	x4*, x12**

25 Gbps in development

PTUO

PCIe®-Over-Fiber Extended Temp FireFly™

8 GTps	Gen 3 x4, x8, x16

Gen 4 in development

PAGE 201, 203

PCUO

PCIe®-Over-Fiber

8 GTps	Gen 3 x4, x8, x16

Gen 4 in development

PCOA

PCIe®-Over-Fiber Gen 3 Adaptor Card with FireFly™

Gen 4 in development

PAGE 202, 204

Advanced Optics

Advanced Optics in development for 56+ Gbps

Submersible

Design capable of immersion for liquid cooling in development

Rugged

Rugged optical engine design in development for harsh environments

* Duplex
** Simplex or Duplex

The UEC5 & UCC8 connectors are designed to work specifically with the FireFly™ system. They are not designed for use with mating cards other than those used with FireFly™. Visit samtec.com/edgecard or contact asg@samtec.com for other edge card options.

SAMTEC OPTICAL GROUP

Engineering team dedicated to the design, development and application support of high-performance micro optical engines, active optical assemblies and passive optical panel solutions. For more information contact firefly@samtec.com.

ACTIVE OPTICAL MICRO FLYOVERS | FIREFLY™

- Designed for flexibility, FireFly™ optical (ECUO) for greater distances and FireFly™ copper (ECUE) for shorter reach
- Data connection taken "off board" simplifies board layout and enhances signal integrity from IC to faceplate
- 56 Gbps connector
- Industry-leading miniature footprint allows for higher density close to the data source
- Rugged, simple to use system with easy insertion/removal and trace routing
- Optical and copper use the same surface mount connector system (UEC5/UCC8; see page 172)
- Variety of End 2 options for high-density and rugged applications such as: MTP®, MT, MXC®, ARIB, Amphenol® MT38999 and ARINC 801
- Variety of standard integral heat sinks for optimized thermal operating conditions
- PCIe®-Over-FireFly™ (PCUO) supports PCIe® protocol for low latency, power savings and guaranteed transmission
- -40 °C to +85 °C extended temp system (ETUO); PCIe® version available (PTUO)



PCIe®-over-Fiber adaptor card (PCOA) supports transparent and non-transparent bridge links using PCUO FireFly™



High-density end option flexibility

PASSIVE & ACTIVE OPTICAL SOLUTIONS

- Industry standard passive MPO-to-MPO panel adaptor (OPA) and optical patch cable (FOPC); see page 205
- FireFly™ is compatible with multiple industry standard optical backplane systems
- High-density solutions for front panel or backplane applications with MXC® connectors

MXC® is a registered trademark of US Conec Ltd.



PCIe®-OVER-FIBER SOLUTIONS

- x4 and x8 Gen 3 (8.0 GT/s)
- Distances up to 100 meters
- Half cable options available
- PCIEO Series, see pages 206–207



TESTING SOLUTIONS

- FireFly™ Test Kit allows a designer real-time evaluation of an actively running copper or optical FireFly™ system in their lab, with their inputs (FIK-FIREFLY-XX)
- 14 Gbps FireFly™ FMC Kit (REF-193429-01) is VITA 57.1 compliant with up to 140 Gbps full-duplex bandwidth connecting an FPGA to fiber optic cable
- 25/28 Gbps FireFly™ FMC+ Kit (REF-200772-XXX-XX-01) is VITA 57.4 compliant with up to 400/448 Gbps full-duplex bandwidth connecting an FPGA to fiber optic cable
- For more information visit samtec.com/kits



HIGH-SPEED CABLE SYSTEMS

samtec.com/HDR



STANDARD COAX & TWINAX CABLE ASSEMBLIES													
SERIES	**HLCD**	**HQCD**	**EQCD**	**EQRD**	**ERCD**	**ESCA**	**SEAC**	**FEDP**	**ECDP**	**HQDP**	**EQDP**	**ERDP**	**PCIEC**
Brand	Razor Beam™	Q Series®		Q Rate®	Edge Rate®	SEARAY™ 0.80 mm	SEARAY™	Edge Card		Q Pairs®		Edge Rate®	PCI Express®
Cable Type	Eye Speed® Coax							Eye Speed® Twinax					PCI Express® Twinax
Cable AWG	38			34			36	32	34	30			30 or 32
Pitch	0.50 mm		0.80 mm				1.27 mm	0.50 mm	0.80 mm	0.50 mm	0.80 mm		1.00 mm
Mates	LSHM	QTH, QSH	QTE, QSE	QRM8, QRF8	ERM8, ERF8	SEAM8, SEAF8	SEAF	FCDP	HSEC8	QTH-DP, QSH-DP	QTE-DP, QSE-DP	ERM8, ERF8	PCIE
PAGE	**179**	**180-181**		**182**	**183**	**184**	**185**	**174-175**	**176**	**177**		**178**	**186**

High-speed channel performance rating based on Samtec reference channel.

TECHNOLOGY CENTER

HIGH-SPEED CABLE GROUP

In-house R&D and manufacturing of precision extruded micro coax and twinax cable used for high-speed/high-density cable assemblies. Capabilities include 26-38 AWG center conductors, 50/75/85/100 Ω impedance, and systems rated at 56 Gbps and beyond with low skew twinax cable construction.



MICRO COAX & TWINAX CABLE ASSEMBLIES

14 Gbps

- Single-ended 50 Ω standards for Q Series®, Q Rate®, Edge Rate® and Razor Beam™ high-speed connectors
- Differential 100 Ω standards for Q Pairs®, Edge Rate® and PCI Express® high-speed connectors
- SEARAY™ and SEARAY™ 0.80 mm high-density cable assemblies
- Micro rugged edge card assemblies
- Rugged features and options including strain relief, plastic housings, screw downs, latches and locks, etc.
- Many non-cataloged standards available including 75 Ω micro coax and high-density twinax solutions

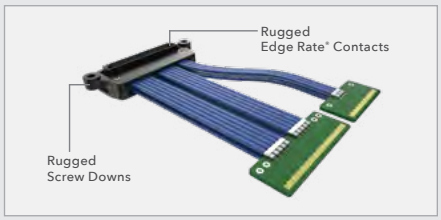


Eye Speed® Cable

Small bend radius for optimal routing. Available in many sizes and material options to best fit specific applications. See pages 156-157 for cable specifications.

CUSTOM HIGH-SPEED CABLE ASSEMBLIES

- Any high-speed connector, any breakout configuration, any high-speed precision cable to create a solution for any specific application. Contact HDR@samtec.com.
- Support and expertise: engineering and design support, dedicated engineers and technicians, 24-hour quotes and samples, flexible quick-turn manufacturing



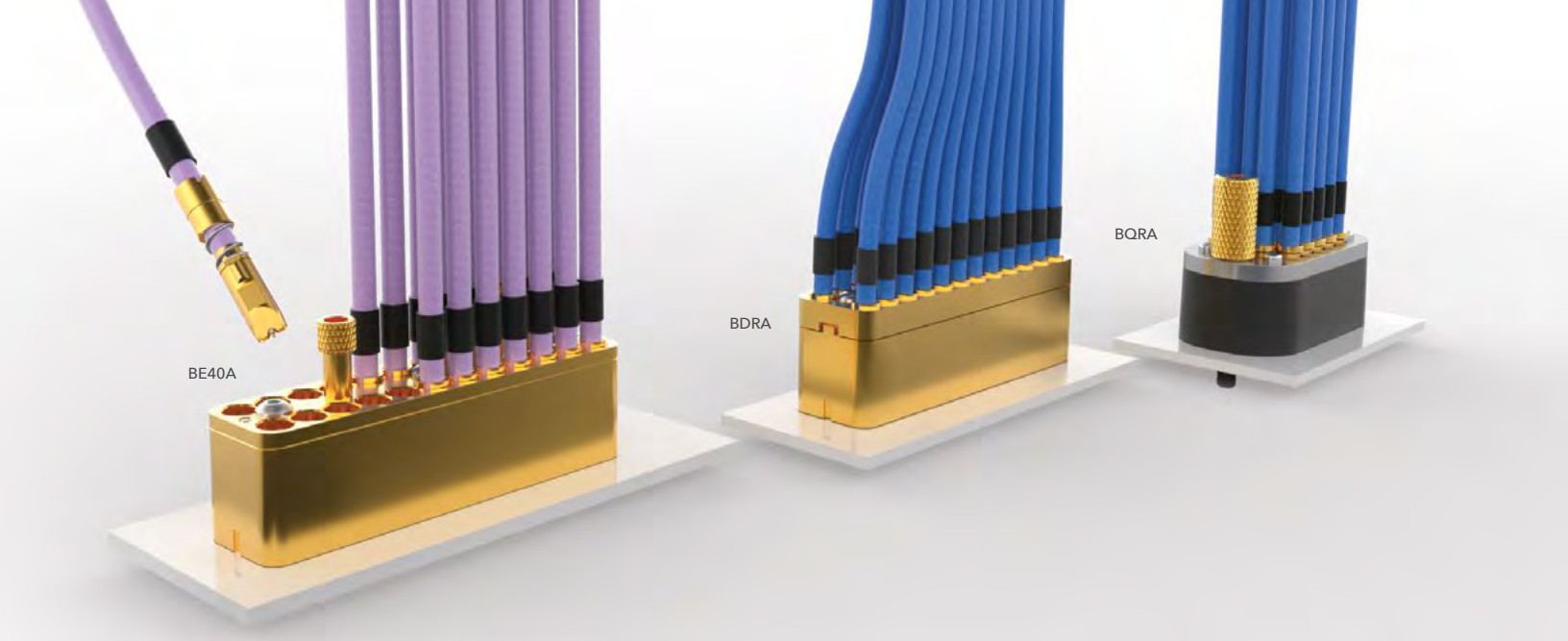
HIGH-SPEED I/O SYSTEMS

- Eye Speed® HD is the industry's densest I/O cable system with HyperTransport™ HT 3.1 performance (HDLSP)
- Eye Speed® I/O is designed for space savings and high cycles (EPLSP)
- SFP+ passive jumpers for up to 10 Gbps data transmission (SFPE)



HIGH-SPEED COPPER I/O SYSTEMS			
SERIES	HDLSP	EPLSP	SFPE
Cable Type	Eye Speed® HD	Eye Speed® I/O	
Application	Rugged, High-Speed, Panel-to-Panel	SFP+, SFP, XFP & XENPAK	
Cable	32 AWG Low Skew Pair Cable		
Mates	HDC/HDI6	ERC/ERI8	MECT/SFPC
Notes	24 Signal Pairs	9 or 17 Signal Pairs, 5 Power, 2 Clock	Connectors, Cages & Kits Available
PAGE	190-191	192-193	194-196

For full SI Performance data, contact sig@samtec.com or visit samtec.com.



HIGH-PERFORMANCE TEST TO 50 GHz

samtec.com/bullseye

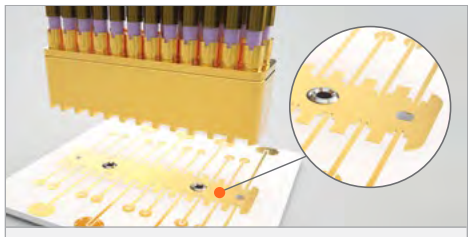
BULLS EYE® HIGH-PERFORMANCE TEST TO 50 GHZ

BULLSEYE® TEST POINT SYSTEM

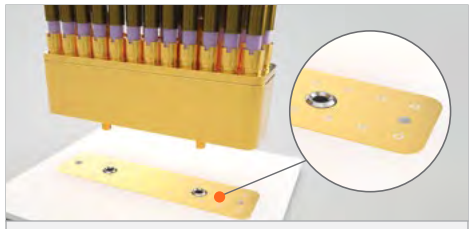
- Optimized performance to 50 GHz; to 65 GHz in development
- Compression interface to the board for easy on/off and no soldering costs
- Small footprint design significantly saves space on the board
- Assembly options: Dual row (BE40A, BDRA) and quad row (BQRA)
- BE40A is backward compatible to BDRA
- Enhanced system design with signal and ground pogo pins (BE40A)
- **Installation:** The attach process for each series is similar but unique specifications need to be observed. Contact RFTechnicalGroup@samtec.com

BULLS EYE® ASSEMBLIES			
SERIES	BE40A	BDRA	BQRA
Frequency (GHz)	Up to 50	Up to 20	
Cable	23 AWG low loss microwave, additional shielding	23 AWG low loss microwave	
PCB Transmission	Microstrip or Stripline	Stripline	
Ground	Pogo-pin design on Bulls Eye® probe end	Elastomer	
Positions	2 x 3, 4, 6, 8, 10, 12, 14 and 16	2 x 12	20 (Quad Row)
End 2 Options	2.92 mm and 2.40 mm	2.92 mm and SMA	
PAGE	188		

Go to samtec.com/catalog to order or view the RF Interconnect Catalog.



Microstrip PCB transmission



Stripline PCB transmission



Pogo-pin design (BE40A)

PRECISION RF INTERCONNECTS

samtec.com/RF



34 GHz

3.50 mm
- Edge mount with screw downs
- High-performance microwave cable assembly: 23 AWG (RF23S)

40 GHz

2.92 mm
- Compression mount with 2-hole flange in various board thicknesses
- High-performance microwave cable assembly: 23 AWG (RF23C)

SMP
- Straight & right-angle, full detent & smooth bore
- Blind-mate with axial alignment
- High-performance microwave cable assembly: 24 AWG (RF405), 25 AWG (RF25S) and .047 cable (in development)

50 GHz

2.40 mm
- Compression mount with 2-hole flange in various board thicknesses
- High-performance microwave cable assembly: 23 AWG (RF23C)

65 GHz

1.85 mm
- Compression mount with 2-hole flange in various board thicknesses
- High-performance microwave cable assembly

SMPM
- Straight & edge mount, full detent & smooth bore
- Blind-mate with axial alignment
- High-performance microwave cable assembly: .047 & .086 cable (in development)

70 GHz

1.20 mm
- Edge mount
- High-performance microwave cable assembly: .047 cable (in development)
- Simple snap-on coupling

SERVICE & TECHNICAL SUPPORT

RF Technical Group
RFTechnicalGroup@samtec.com

Signal Integrity Group
SIG@samtec.com

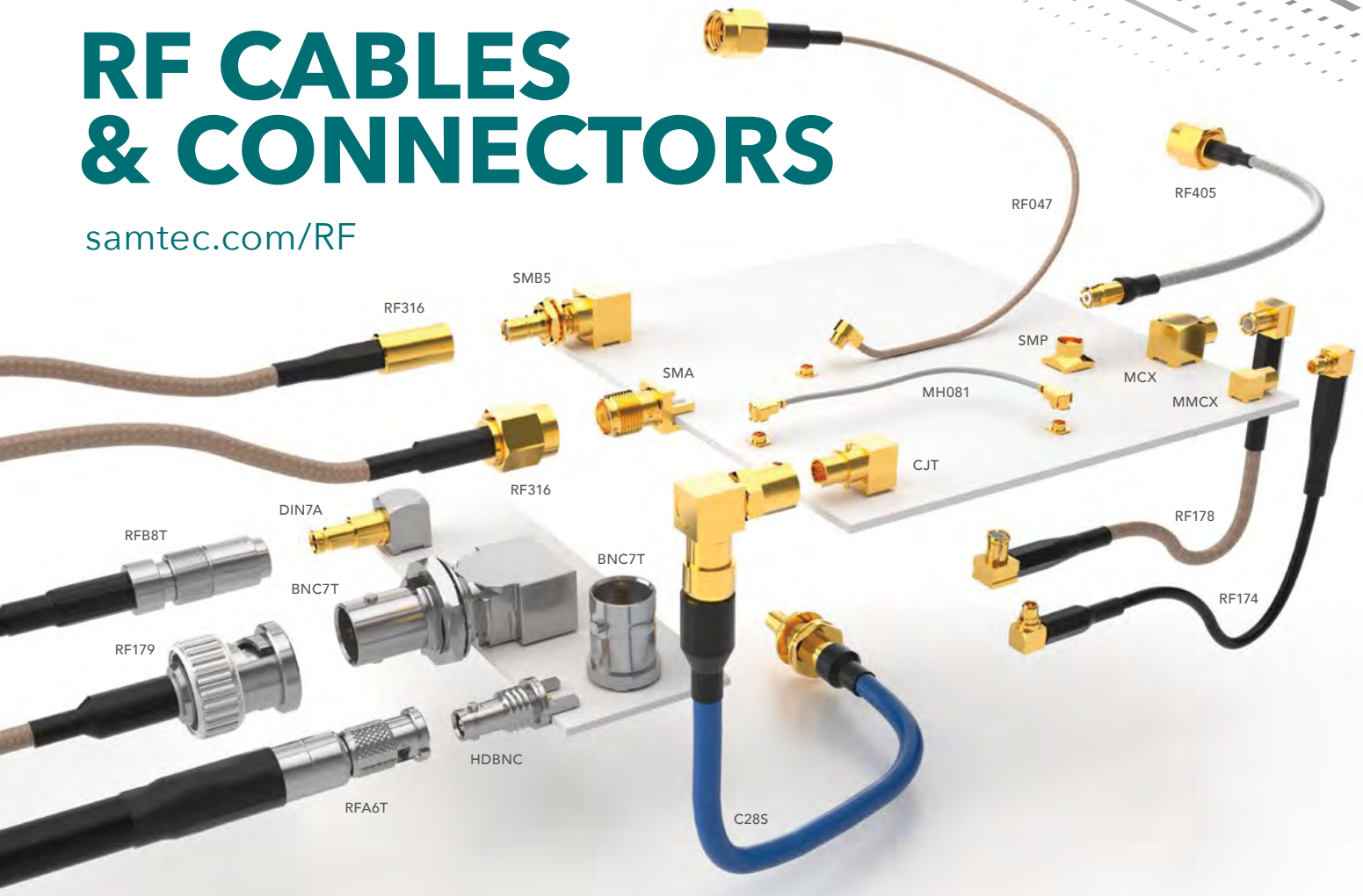
Dedicated RF engineers and Signal Integrity experts provide personal support for meeting your specific challenges.

Launch Optimizations • Simulations • Test & Measurements • Customs

Go to samtec.com/catalog to order or view the RF Interconnect Catalog

RF CABLES & CONNECTORS

samtec.com/RF



SOLUTIONATOR® ONLINE RF ASSEMBLY BUILDER | rf.samtec.com

Solutionator® is Samtec's online parametric filter that lets you easily choose your product and board-level mate in a matter of minutes. It also connects you directly to:

LIVE CHAT
with an RF engineer

VIEW
engineering drawings

REQUEST
samples and quotes

MIX-AND-MATCH END OPTIONS

Standard cable assemblies with standard pricing and lead times

HIGH FREQUENCY MICROWAVE

CABLE	AWG	END OPTIONS	SERIES
MWC-2350CU-01	23	2.92 mm, 2.40 mm, SMA, SMP	RF23C
MWC-2350-01	23	3.50 mm	RF23S
MWC-2550-01	25	SMA, SMP	RF25S
CCA-047	28	HMHF1, SMA	RF047
RG 405	24	SMA, SMP	RF405
RG 402	19	SMA	RF402

50 Ω RF CABLES

CABLE	AWG	END OPTIONS	SERIES
0.81	36	MHF1, MHF3, MHF4, SMA	MH081
1.13	32	MHF1, SMA	MH113
RG 178	30	MMCX, MCX, SMA, SMB, BNC, TNC, N Type	RF178
RG 174	26	MMCX, MMCXV, MCX, SMA, SMB, BNC, TNC, N Type	RF174
RG 316	26	MMCX, MMCXV, MCX, SMA, SMB, BNC, TNC, N Type	RF316, IJ5C, IJ5H, GRF1-C, GRF1H-C
RG 58	20	SMA, TNC, N Type	RF058

75 Ω RF CABLES

CABLE	AWG	END OPTIONS	SERIES
RG 179	30	MCX, MMCX7, SMB, BNC, DIN 1.0/2.3	RF179, GRF7-C, GRF7H-C
1855A	23	HD-BNC™, DIN 1.0/2.3	RFB8T
1694A	18	BNC, HD-BNC™, DIN 1.0/2.3	RFB6T
RG 6	18		RFA6T

Go to samtec.com/catalog to order or view the RF Interconnect Catalog.

50 Ω RF CABLES & CONNECTORS

- High-frequency cables: semi-flexible, solid, foamed or air enhanced dielectric
- Micro high-frequency U.FL/W.FL cable assemblies
- Wide variety of industry standard cables with mix-and-match end options
- Double-shielded RG 316 cable
- Wide variety of terminations: jacks and plugs, bulkhead jacks, straight and right-angle
- 3.50 mm, 2.92 mm, SMP, 2.40 mm, 1.85 mm and SMPM Precision interconnects
- Board level interconnects in a choice of orientations



Precision Interconnects

NON-MAGNETIC RF SOLUTIONS

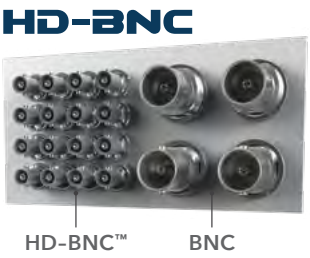
- Truly non-magnetic RF solutions; 100% inspected for magnetic permeability
- Nearly all Samtec interconnects can be ordered as non-magnetic, contact RFTechnicalGroup@samtec.com
- Supported by Samtec's quick-turn lead times and unmatched service
- Ideal for medical imaging, advanced driver assistance systems, hand held devices, etc.



75 Ω RF CABLES & CONNECTORS

- Wide variety of industry standard cables with mix-and-match end options
- RFB8T Series (with Belden 1855A cable)
- Wide variety of terminations: BNC, HD-BNC™, DIN 1.0/2.3, SMB
- Straight and right-angle, die cast options
- Board level interconnects in a choice of orientations
- High-density BNC provides 4X the panel density of traditional BNCs
- 12G-SDI optimized 75 Ω interconnects

HD-BNC™ is a trademark of Amphenol.



12G-SDI BROADCAST VIDEO SOLUTIONS

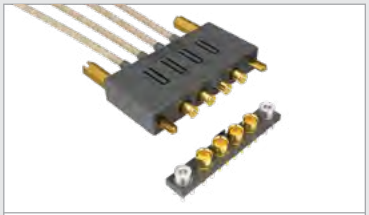
- Samtec has the largest variety of 12G-SDI optimized products
- Analysis and launch optimization: RFTechnicalGroup@samtec.com
- 75 Ω BNC, HD-BNC™ and DIN 1.0/2.3
- Right-angle, vertical, edge mount, low-profile and standard or tall through-hole
- Visit samtec.com/12gsdi



12G-SDI for broadcast video

ORIGINAL SOLUTIONS

- Machined U.FL to 500 cycles (HMHF1/RF047)
- High vibration and 75 Ω MMCX (MMCXV and MMCX7)
- Circular RF shielded twisted pair system (C28S/CJT)
- IsoRate® isolated signal systems for 90% performance of traditional RF at 50% of the cost (IJ5C and IJ5H)



Ganged micro scale isolated signal systems (GRF1 and GRF7)

MICRO/RUGGED SYSTEMS

samtec.com/rugged



	EDGE RATE® SYSTEMS			TIGER EYE™ SYSTEMS		
SERIES	**ERM5/ERF5**	**ERM6/ERF6**	**ERM8/ERF8**	**SFM/TFM, SFML/TFML, SFC/TFC**	**FOLC/MOLC**	**SFMC**
Pitch	0.50 mm	0.635 mm	0.80 mm	1.27 mm		
Stack Heights (mm)	7–12	5	7–18	6–12	6–11.4	6–12
Termination Options	SM & RA (Socket) SM (Terminal)	SM	SM, RA & Edge Mount	SM, RA & T/H	SM, T/H & MT	SM & T/H
Total Pin/ Pair Counts	20–150	20–120	10–200	3–100	80–200	4–100
Notes	Space Saving Design	Ultra-Slim Design	Extended Life Product™	Extended Life Product™	Quad Row Design	Tiger Eye™ Lite Contacts
PAGE	**98-99**	**100-101**	**102-105**	**212-217**	**218-219**	**222**

Other stack heights and pin counts available.

0.50 mm, 0.635 mm & 0.80 mm SYSTEMS

EDGE® RATE SYSTEM | 2.2 A per pin

- Edge Rate® contacts for up to 56 Gbps PAM4
- 1.50 mm contact wipe on 0.80 mm pitch
- 1.00 mm contact wipe on 0.50 mm pitch
- Up to 40% PCB space savings with 0.50 mm system
- 0.635 mm pitch with slim 2.5 mm body width
- Stack heights from 5 mm to 18 mm
- Rugged metal latching, solder locks and 360° shielding available



Micro Power available for power/ signal applications (UMPT/UMPS)

1.27 mm PITCH SYSTEMS

TIGER™ EYE SYSTEM | 3.2 A per pin

- Samtec's most rugged contact system, rated to 1,000+ mating cycles
- Friction latching, locking clip, dual screw down or weld tab ruggedizing options
- Surface mount and through-hole
- Shrouded, polarized and keyed
- Discrete wire, flat and twisted pair IDC cable systems



Locking feature increases unmating force (SFML/TFML)

2.00 mm PITCH SYSTEMS

TIGER™ EYE SYSTEM | 3.8 A per pin

- Locking clip, weld tab or dual screw down ruggedizing features
- Surface mount and through-hole
- Vertical and right-angle for micro backplane applications
- Discrete wire and IDC cable systems



Screw down option for secure locking

0.80 mm PITCH SYSTEMS

TIGER™ EYE SYSTEM | 2.9 A per pin

- Locking clip, alignment pin or weld tab ruggedizing features
- Extended Life Product™ testing available
- Micro pitch and slim body for space savings
- Discrete wire cable systems



Multi-finger BeCu contacts for high-reliability & cycles

IDC CABLE SYSTEMS

TIGER™ EYE IDC | 2.8 A per pin

- 0.50" (1.27 mm) or 2.00 mm (.0787") pitch
- Choice of socket and plug terminations
- Ejector and shrouded headers
- Rugged strain relief option



Strain relief option

	TIGER EYE™ SYSTEMS				
SERIES	**FFSD/FFTP, FFMD/FMTP**	**SEM/TEM/SEML SEMS/TEMS**	**S2M/T2M**	**SMM/TMM**	**TCSD/TCMD**
Pitch	1.27 mm	0.80 mm	2.00 mm		
Stack Heights (mm)	N/A	6, 7, 10 mm	6 & 7 mm	Flex Stack	N/A
Termination Options	IDC	SM (Socket) SM, RA & T/H (Terminal)	SM & T/H (Socket) SM, RA & T/H (Terminal)	SM (Socket) SM, RA & T/H (Terminal)	IDC
Total Pin/ Pair Counts	8–50	10–100	10–60	1–200	8–50
Notes	Flat Cable & Twisted Pair	Extended Life Product™	Tiger Eye™ Contacts	Extended Life Product™	Tiger Eye™ IDC
PAGE	396-398	210-211	220-221	330-331, 349	390-391

Other stack heights and pin counts available.

DISCRETE WIRE SYSTEMS

samtec.com/discretewire

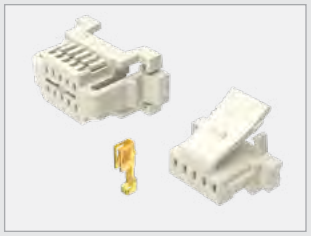


DISCRETE WIRE CABLE ASSEMBLIES					
SERIES	**SESDT**	**S1SX(T)**	**T1PX(T) / T1SX(T)**	**SFSX(T)**	**S2SD(T)**
Type	Tiger Eye™	Socket System	Cable-to-Cable	Tiger Eye™	
Pitch	0.80 mm	1.00 mm		1.27 mm	2.00 mm
Cable AWG	32	28 & 30			24, 26, 28, 30
CCC (1 pin powered/row)	1.9 A	3.3 A (S1SS/T1M)		2.9 A (SFSD/TFM)	3.8 A (S2SD/T2M)
Mates	TEM-L1	T1M	S1SX(T)	TFM/SFM, TFC/SFC	T2M/S2M
Total Pin Counts ‡	10-40	2-40	2-20	3-100	10-60
Components	ISDE/CC396	ISS1/ISD1/CC09	T1PX/T1M137	ISDF/CC03	ISD2/CC81
PAGE	**226**	**227-229**	**230-231**	**232-233**	**236**

LOW-PROFILE 1.00 mm PITCH ASSEMBLIES

3.3 A per pin

- 2 through 40 I/Os, single or double row
- Crimp-style dual leaf contact system
- Low profile down to 3.2 mm
- Panel mount and cable-to-cable terminal assemblies available
- Components also available (see pages 224-225)



MICRO RUGGED ASSEMBLIES

TIGER™ EYE SYSTEM

3.8 A per pin

- Multi-finger, BeCu contact system for high-reliability and high cycle applications
- 0.80 mm, .050" (1.27 mm) & 2.00 mm pitch
- Shrouded, polarized & keyed
- Rugged screw down & retention latch options
- Rugged shielded Tiger Eye™ assembly in development (SS2SD/ST2M)
- Components also available (see pages 224-225)



RUGGED ASSEMBLIES

miniMATE® POWERMATE®

10.3 A per pin

- Mini Mate® .100" (2.54 mm) pitch and Power Mate® .165" (4.19 mm) pitch
- Single and double row
- Standard and high power versions
- Polarized, guide pins and latching systems
- Mini Mate® panel mount and 2.54 mm pitch universal assemblies available
- Creepage and clearance dimensions available at samtec.com/power*
- Components also available (see pages 224-225)



HIGH POWER ASSEMBLIES

POWER™ STRIP

58.7 A per blade

- PowerStrip™/30 on 5.00 mm pitch
- PowerStrip™/40 on (6.35 mm) .250" pitch
- Power/signal combination available
- Creepage and clearance dimensions available at samtec.com/power*
- Components also available (see pages 224-225)



COMPONENT TOOLING

- Hand tools and quick-change semi-automatic crimp applicators
- Wire ranges from 10 to 32 AWG
- Wide variety of additional application specific hardware and field service capabilities
- Visit samtec.com/tooling



DISCRETE WIRE CABLE ASSEMBLIES					
SERIES	MMSX(T)	PMSX(T)	MPSS	MPCC	PESS
Type	Mini Mate®	Power Mate®	PowerStrip™/30		PowerStrip™/40
Pitch	2.54 mm	4.19 mm	5.00 mm		6.35 mm
Cable AWG	20, 22, 24, 26, 28 & 30	16, 18, 20, 22, 24	14 & 16	14, 16, 24, 26, 28, 30	10 & 12
CCC (1 pin powered/row)	4.8 A (MMSD/IPL1)	10.3 A (PMSD/IPBT)	19.7 A	Signal 3.4 A † Power to 23.2 A	34.5 A
Mates	IPL1	IPBT	MPT	MPTC	PET
Total Pin Counts ‡	2-50	2-30	2-8	4 Power, 16 or 24 Signal	2-8
Components	IPD1/CC79/PK-79	IPBD/CC69	IMS5/CC46	IMSC5/CC46/CC81	IPS6/CC10
PAGE	237-238	239	240	241	242

* Selectively loading contacts achieves customer specific creepage and clearance requirements. Contact ASP@samtec.com.

† 4 adjacent pins powered, ‡ See catalog page for exact pin counts

POWER & PANEL SOLUTIONS

samtec.com/power



HIGH POWER SYSTEMS								
SERIES	**LPHT/LPHS**	**ET60T/ET60S**	**PEX/PEXC**	**MPX/MPXC/ MPPT**	**UPT/UPS/ UPPT**	**UMPT/ UMPS**	**IPBT/IPBS**	**IPT1/IPS1**
Brand	EXTreme LPHPower™	EXTreme Ten60Power™	PowerStrip™/40	PowerStrip™/30	PowerStrip™/20	Ultra Micro Power	Power Mate®	Mini Mate®
Current Rating	30 A/power blade (4 blades)	60 A/power blade (2 blades)	Up to 58.7 A/blade	28.8 A/blade	23 A (-V)/blade	12-15 A/blade (4 blades)	10.3 A/blade	5.9 A/blade
Pitch	12.00 mm		6.35 mm	5.00 mm	3.81 mm	2.00 mm	4.19 mm	2.54 mm
Stack Heights (mm)			19	14	7, 10	5-20	15.25, 16.84	11.05-35
Total Power Pins*	2-10	2-20	2-8	2-10	2, 4, 6, 8	2-5	2-30	10-50
Total Signal Pins*	16, 20, 24, 32	0-40	12, 40	16, 24, 40, 80				
Creepage**	5.63 mm		3.66 mm	2.95 mm	5.80 mm		4.27 mm	2.55 mm
Clearance**	2.69 mm		3.31 mm	2.71 mm	1.51 mm		3.05 mm	1.91 mm
PAGE	246-247	248-251	252-253	254-259	261-263	244-245	264-265	266-267

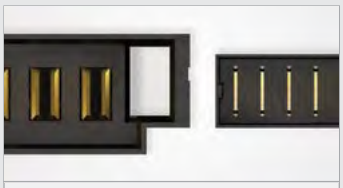
* Asymetric power pins and other signal pin counts available.

** Selectively loading contacts achieves customer specific creepage and clearance requirements. Contact ASP@samtec.com.

ULTRA MICRO POWER SYSTEMS

17.1 A per pin

- 5 mm to 20 mm stack heights
- Design flexibility as power-only system or two-piece system for power/signal applications
- Higher position counts and stack heights in development
- Use with Samtec's high-speed connector systems (Edge Rate®, SEARAY™, AcceleRate® HD, Q Series®, Tiger Eye™, Razor Beam™ LP, LP Array™, etc.)
- Right-angle, cable assembly and 25 A systems in development



2.00 mm pitch (UMPX)
vs. 3.81 mm pitch (UPX)

RUGGED POWER SYSTEMS

miniMATE® POWERMATE®

10.3 A per pin

- Individually shrouded contacts
- Reliable Tiger Buy™ contacts (Mini Mate®)
- Optional polarization
- Elevated stack height options
- Vertical and right-angle for parallel, perpendicular and coplanar applications

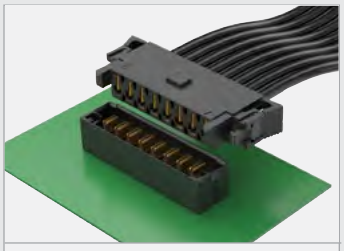


Discrete wire assemblies also available (PMSX(T), MMSX(T))

FLEX POWER SYSTEMS

20-60 A per blade

- Small form factor high power systems
- 20 A, 30 A and 40 A options
- Power only, or power/signal combinations
- Hermaphroditic (MPPT & UPPT) and "hinging" (FMPT/FMPS) designs available
- 60 A system with 3 or 5 row signals in the same form factor (ET60T/ET60S)
- 30 A system with double stacked blades for higher density and power (LPHT/LPHS)



Discrete wire assemblies also available (PESS, MPSS, MPCC)

RUGGED SEALED SYSTEMS

ACCLIMATE™

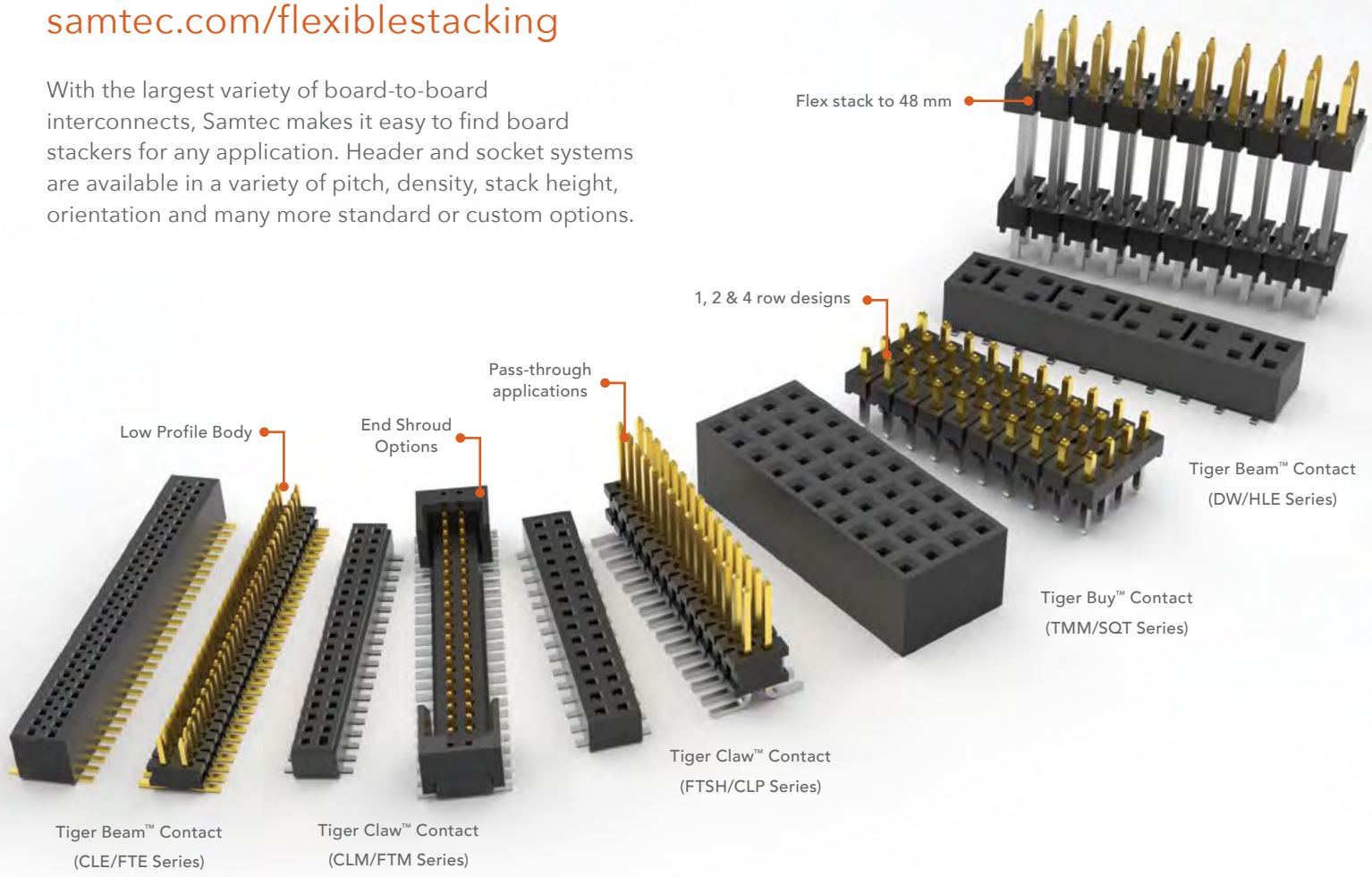
- IP67 miniature push-pull latching system with lightweight plastic shell
- IP68 bayonet-style latching circulars with metal or plastic shells and flexible configurations
- Cost-effective crimp version available
- Rectangular design for maximum panel area savings
- Ethernet and USB signal systems
- IP68 threaded circulars with rugged overmold design

ACCLIMATE™ CABLE PLUG & RECEPTACLES							
SERIES	MCP/MCR (IP67)	CCP/CCR (IP68)	ACP/ACR (IP68)			RPBE/RPCE/RCE	RPBU/RPCU/RCU
Shell Size	Miniature	12 mm	12 mm	16 mm	22 mm	Rectangular	
Wire AWG	28 (crimp)		24, 28	16, 24, 28	16, 24	24	20 (Power), 25 (Signal), 28 (Drain)
Standard Pin Count/ Terminations	12	8	4, 5, 6	10, 14	8, 20, 30	Ethernet (CAT3, CAT5, CAT5e)	USB (Type A & B)
Notes	Efficient field assembly kits are available. Either signal/power pins or combinations are available as sockets or terminals.					Dust Caps Available	
PAGE	288	286-287	274-285			290	291

FLEXIBLE STACKING

samtec.com/flexiblestacking

With the largest variety of board-to-board interconnects, Samtec makes it easy to find board stackers for any application. Header and socket systems are available in a variety of pitch, density, stack height, orientation and many more standard or custom options.



INCREDIBLE FLEXIBILITY

- Post height:
  Adjustable in .005" (0.13 mm) increments
- Body positions:
  Adjustable in .005" (0.13 mm) increments
- Board stacking distance:
  1.65 mm (.065") – 48.51 mm (1.910")
- Number of pins: 2-300
- Number of rows: 1-6

VARIETY OF PITCHES

- 0.80 mm (.0315")
- 1.00 mm (.0394")
- .050" (1.27 mm)
- .050" x .050" (1.27 x 1.27 mm)
- .050" x .100" (1.27 x 2.54 mm)
- 2.00 mm (.0787")
- .100" (2.54 mm)
- .156" (3.96 mm)
- .200" (5.08 mm)

BUILD IT YOURSELF

Check out Solutionator® to quickly build a mated set for your specific application.
Visit samtec.com/solutionator

Solutionator®

CUSTOMIZABLE

- Mix-and-match headers and sockets to find the right solution
- Quick and easy custom parts are available.
  Contact asp@samtec.com

VARIETY OF CONTACTS

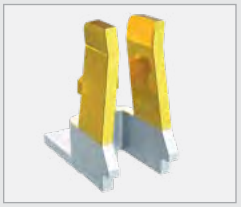
TIGER™ EYE CONTACT

- High-reliability
- High mating cycles
- Multi-finger contact



TIGER™ CLAW CONTACT

- Pass-through
- Ultra-low profile
- Dual wipe contact



TIGER™ BUY CONTACT

- High-retention
- Cost-effective
- Tuning fork contact

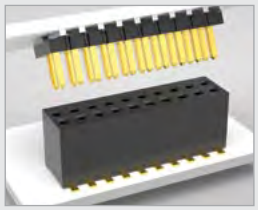


TIGER™ BEAM CONTACT

- Best cost
- Reliable performance
- Post & beam contact

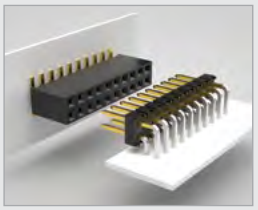


VARIETY OF ORIENTATIONS/APPLICATIONS



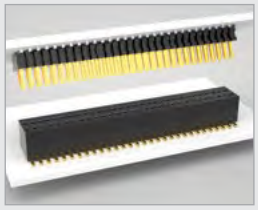
Standard

- Choice of contact system
- Single, double and triple row designs
- Largest variety



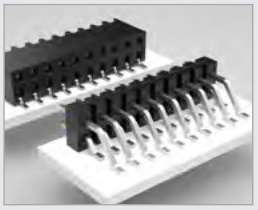
Right-Angle

- Design flexibility
- Tiger Claw™ & Tiger Buy™ contacts
- Through-hole, surface mount



Low Profile

- Down to 1.65 mm (.065") stack height
- Tiger Claw™ contacts
- Space saving



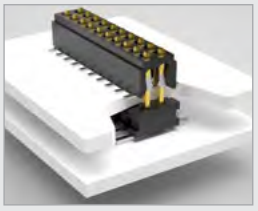
Coplanar

- 1-4 row designs
- Surface mount, through-hole or mixed technology
- Tiger Claw™ & Tiger Beam™ contacts



Elevated

- Up to 48.51 mm (1.910") stack height
- Design flexibility
- Clearance, air flow



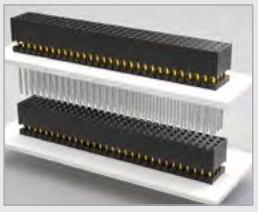
Bottom Entry

- Tiger Claw™ contacts
- Access to components when mated
- Space savings



Pass-Through

- Connect three or more boards
- Tiger Claw™ & Tiger Beam™ contact systems
- Surface mount or offset through-hole



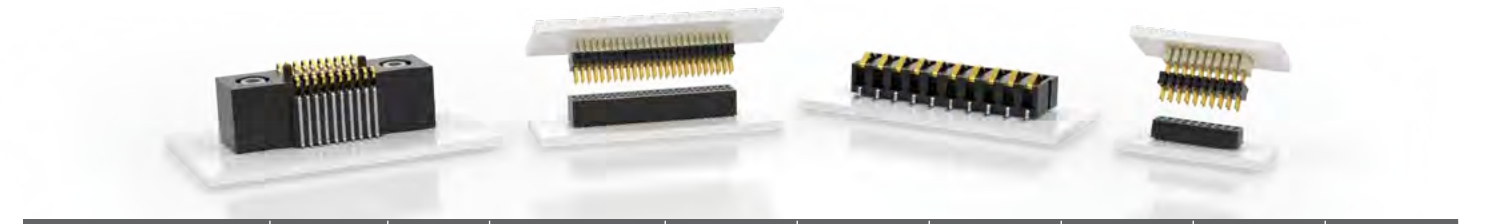
Self-Nesting

- Tiger Buy™ contacts
- Press-fit or through-hole tails
- PC/104-*Plus*™ embedded applications

BOARD STACKING REFERENCE

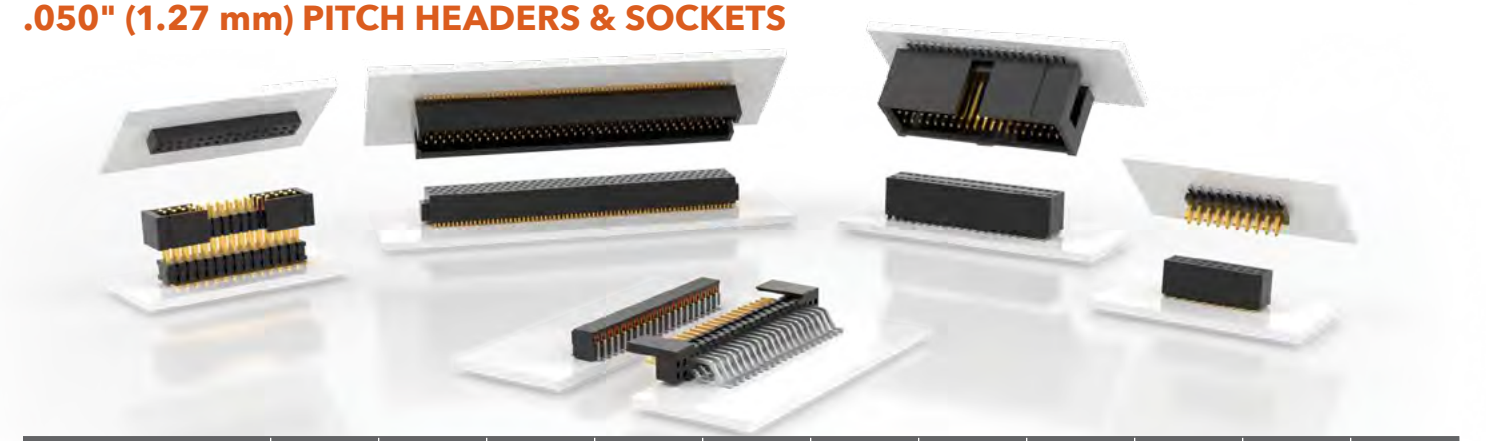
Focused/most popular series in charts. For all flexible stacking solutions see pages 294-378 or visit samtec.com/connectors

ONE-PIECE, 0.80 mm (.0315") & 1.00 mm (.0394") PITCH



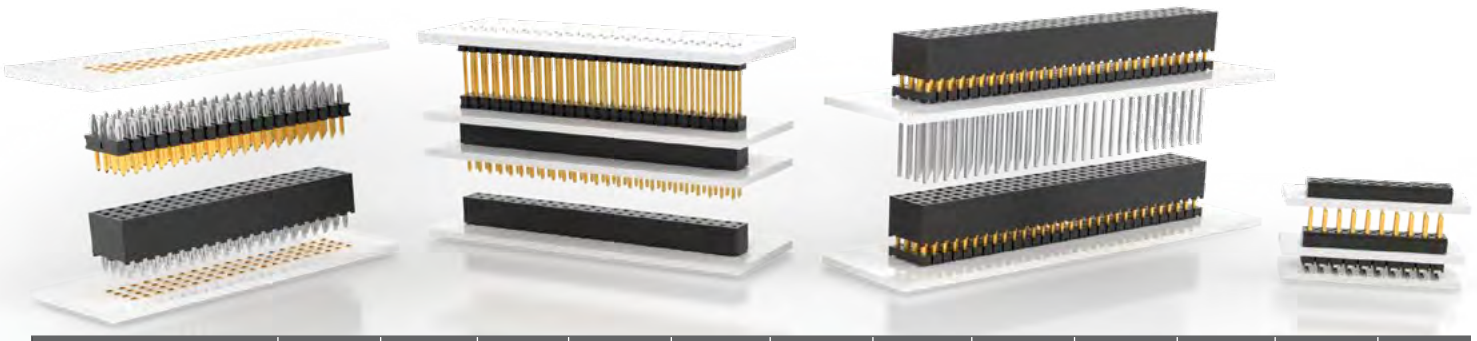
SERIES		FSI	SEI	SIB	CLE	FTE	CLM	FTMH/ FTM	MLE	MW
PITCH		1.00 mm (.0394")		.100" (2.54 mm)	0.80 mm (.0315")		1.00 mm (.0394")			
ORIENTATION		V				V & RA	V	V & RA	V	
BOARD STACKING (mm)	min	3	1.65	3.8	5	5	3.48		4.57	4.62
	max	10			9.14		8.43	5.11	9.27	
CONTACT SYSTEM					Tiger Beam™		Tiger Claw™		Tiger Beam™	
MATES		One-Piece			FTE, AW	CLE	FTM, FTMH, MW	CLM, MLE	FTM, FTMH, MW	CLM, MLE
PAGE		294-295	297	296	305	304	311	308-309	311	310

.050" (1.27 mm) PITCH HEADERS & SOCKETS



SERIES		CLP	FLE	FTS	FTSH	FW	SOLC	TOLC	DWM/ HDWM	FTR	RSM	SLM
PITCH		.050" x .050" (1.27 mm x 1.27 mm)							.050" x .100" (1.27 mm x 2.54 mm)			
ORIENTATION		V & RA	V		V & RA	V						
BOARD STACKING (mm)	min	3.53	5.82	3.53	5.18	7.72	6.35		9.65	9.78		7.11
	max	17.75	19.15	5.82	7.49	19.15	12.00		22.99	14.73	19.69	19.43
CONTACT SYSTEM		Tiger Claw™	Tiger Beam™				Tiger Buy™					Tiger Buy™
MATES		FTSH, FTS, FW		CLP, FLE			TOLC	SOLC	SMS, SLM, RSM		FTR, HTMS, HDWM, DWM, TML, ZML, TMS	HTMS, TMS, MTMS, DWM, HDWM, FTR, HMTMS
PAGE		320	321	317	314-316	318-319	312	313	326	327	328	329

2.00 mm (.0787") PITCH HEADERS & SOCKETS



SERIES		MMT	TMM/ MTMM	TMMH	TW	ZLTMM	CLT	ESQT/ -368	MMS	SMM	SQT	SQW	TLE
ORIENTATION		RA	V & RA		V				V & RA	V	V & RA	V	
TERMINATION		SMT & MT	T/H & SMT			T/H	T/H & SMT	T/H	T/H & SMT	SMT	T/H	T/H & SMT	SMT
BOARD STACKING (mm)	min	2	3.63	4.14	7.49	7.62	3.63	9.37	5.94	6.07	7.85		6.99
	max	4	18.87	22.07	43.31	13.34	4.98	43.31	19.81	17.78	29.59		17.53
CONTACT SYSTEM							Tiger Claw™	Tiger Buy™	Tiger Claw™	Tiger Eye™	Tiger Buy™		Tiger Beam™
MATES		CLT, SQT, SQW, ESQT, TLE, SMM, MMS				SQT, SQW, ESQT, SMM	TMM, TMMH, MTMM, MMT, TW, TSH	TMMH, TMM, MTMM, MMT, TW, LTMM, ZLTMM, ESQT, PTT, TSH, TMMS, PTHF	TMMH, TMM, MTMM, MMT, TW, LTMM, ZLTMM, TSH	TMM, TMMH, MTMM, MMT, LTMM, TW, PTT, ZLTMM	TMMH, TMM, MTMM, MMT, TW, LTMM, ZLTMM, PTT, ESQT, TSH	TMMH, TMM, MTMM, MMT, TW, TSH, LTMM, PTT	TMMH, TMM, MTMM, MMT, TW, LTMM, ZLTMM, TSH
PAGE		333	330-332	334-337	340-341	338	348	343, 346	347	349	345	344	350

.100" (2.54 mm) PITCH HEADERS & SOCKETS



SERIES		DW, EW, ZW	HW	MTSW/ HMTSW	TLW/ MTLW	TSM	TSW/ HTSW	BCS	ESW, ESQ	HLE	SSM	SSQ	SSW
ORIENTATION		V		V & RA				V & RA	V		V & RA		
TERMINATION		T/H	T/H & SMT	T/H		SMT & MT	T/H			T/H & SMT	SMT	T/H	T/H & SMT
BOARD STACKING (mm)	min	13.59	10.03	7.24	6.1	7.47	7.87	9.02	13.59	7.47	11.18	10.03	
	max	48.51	30.73	46.36	20.96	14.48	35.69	18.92	48.51	26.16	30.1	38.35	
CONTACT SYSTEM								Tiger Claw™	Tiger Buy™	Tiger Beam™	Tiger Claw™	Tiger Buy™	
MATES		SSW, SSQ, ESW, ESQ, CES, SLW, BSW, BCS, SSM, HLE, PHF		SSW, SSQ, ESW, ESQ, BCS, BSW, CES, SLW, HLE, SSM	BSW, CES, SLW, HLE	SSW, SSQ, SSM, BSW, ESW, ESQ, BCS, SLW, CES, HLE	SSW, SSQ, SSM, ESW, ESQ, BCS, BSW, CES, SLW	TSW, MTSW, HTSW, HMTSW, TSS, ZSS, DW, EW, ZW, HW, TSM, MTLW, PHT	TSW, MTSW, EW, MTLW, TSS, ZSS, TSM, DW, ZW, HW, TSSH, HTSS	TSW, MTSW, DW, EW, ZW, TLW, TSM, MTLW, HW	TSW, MTSW, TST, TSS, ZST, ZSS, DW, EW, ZW, TSM, HMTSW, HTSW, TSSH, BST, HTSS, TLW, MTLW	TSW, MTSW, MTLW, EW, ZW, TSS, ZSS, TSM, TSSH, HTSS	TSW, MTSW, HTSW, HMTSW, MTLW, EW, ZW, TSS, HTSS, ZSS, TSM, TSSH, DW, HW
PAGE		360	360-361	356-357	359	354-355	352-353	370	368	369	367	364-365	

IDC SYSTEMS

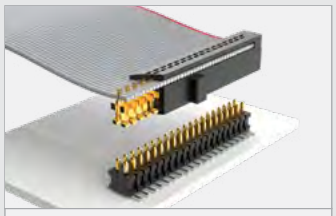
samtec.com/IDC



.050" & 2.00 mm PITCH IDC SYSTEMS

TIGER™ EYE IDC

- Exceptionally low-profile design
- Choice of socket and plug terminations
- Single or double ended
- Twisted pair or flat cable
- Tiger Eye™ board level mates
- Mating shrouded and ejector terminal strips
- Variety of options including rugged strain relief, polarization and standard wiring configurations



High-reliability, high cycle Tiger Eye™ IDC contacts

FLEXIBLE FLAT RIBBON IDC SYSTEMS

- Low profile with no bulky side locks
- Choice of dual beam socket or plug terminations

MOLDED-TO-POSITION IDC ASSEMBLIES

- Low profile and skinny side locks
- Plugs with .025" (0.64 mm) square tail headers

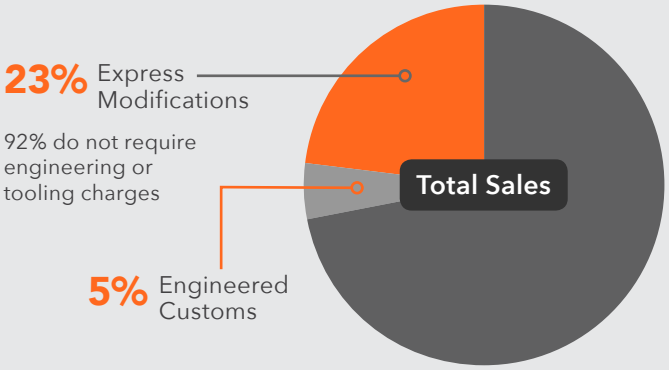
IDC CABLE ASSEMBLIES & HEADERS					
SERIES	IDMX/IDSX	HCMX/HCSX	TCSD/TCMD	FFSD/FFMD	FFTP/FMTP
Pitch	.100" (2.54 mm)		2.00 mm (.0787")	.050" (1.27 mm)	
Cable	28 AWG Color Coded (standard) or Gray (optional)		28 AWG Gray	30 AWG Gray	30 AWG Twisted Pair
Headers	HTST/TST/ZST/EJH	TST/ZST/EJH	STMM/ETMM/EHT	SHF/ESHF/EHF	SHF/EHF
Contacts	Dual Beam Contacts		Tiger Eye™ Contacts		
Notes	Low Profile & Slim Body	Low Profile	Strain Relief Available		
PAGE	384-385	386-387	390-391	396-397	398

MODIFIED & CUSTOM SOLUTIONS

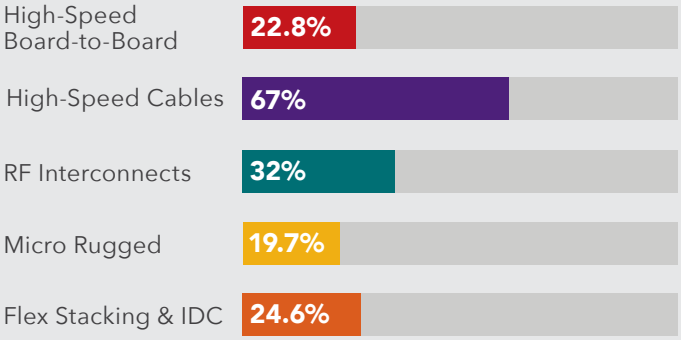
samtec.com/custom

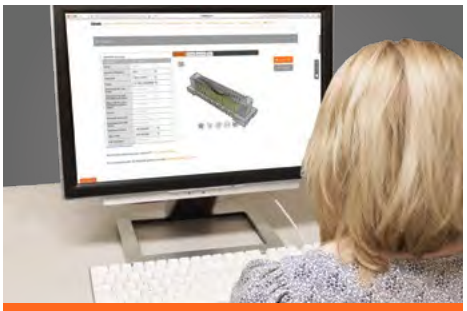
WILLINGNESS, SUPPORT & EXPERTISE

Customs and Modifications make up about 28% of Samtec's total sales.



A substantial percentage of Samtec's product segments are custom.

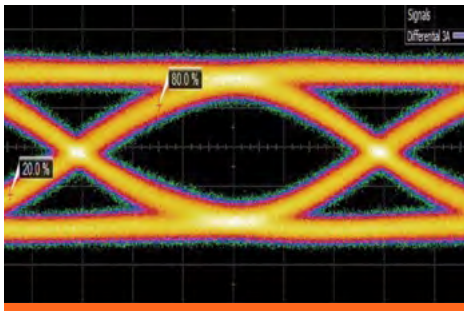




INDUSTRY LEADING CUSTOMER SERVICE



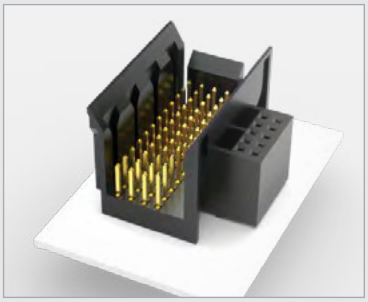
FLEXIBLE IN-HOUSE MANUFACTURING



SIGNAL INTEGRITY EXPERTISE

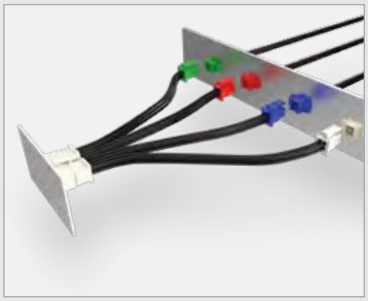
FLEXIBLE CAPABILITIES

- Full engineering, design and prototype support
- Design, simulation and processing assistance
- Quotes and samples turned around in 24 hours
- Flexible, quick-turn manufacturing
- Dedicated Application Specific Product engineers and technicians
- Modified or custom options for board level connectors and cable assemblies including: contacts, bodies, stamping, plating, wiring, molding, ruggedizing features and much more
- Contact the Application Specific Products Group at asp@samtec.com for express modifications or engineered customs.



ENGINEERED CUSTOM

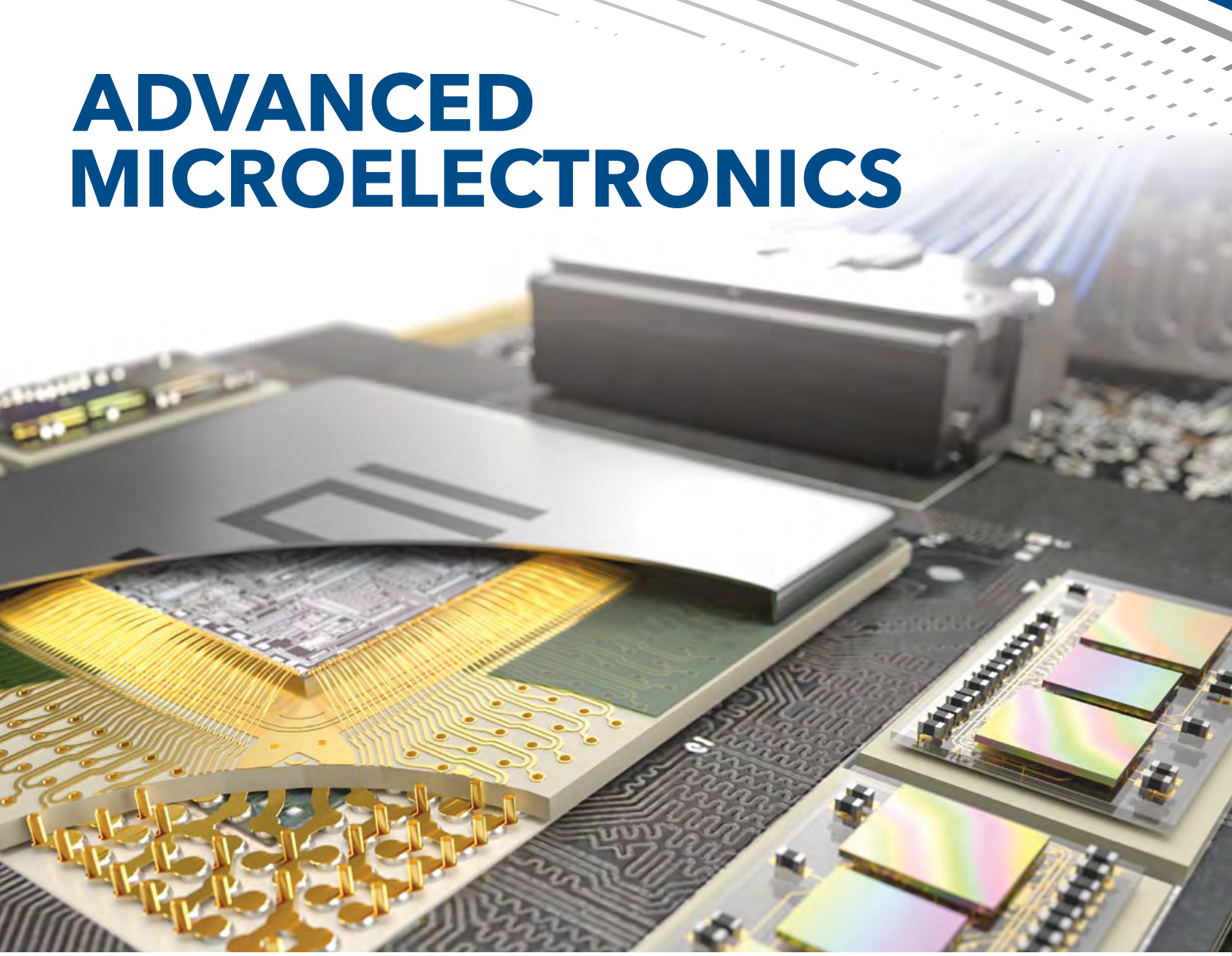
Multi-power staging, power/ signal combo, header/socket combo & custom body



EXPRESS MODIFICATION

.100" (2.54 mm) pitch Mini Mate® discrete wire assembly with custom color coded breakout

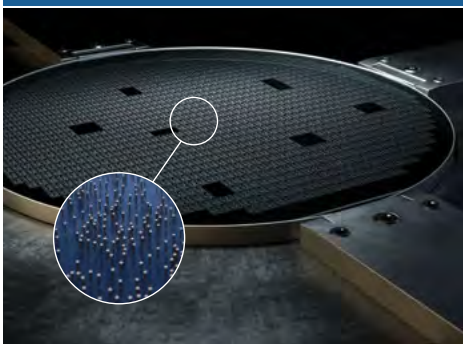
ADVANCED MICROELECTRONICS



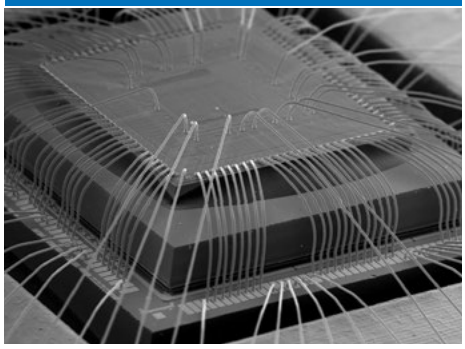
NEXT GENERATION SOLUTIONS

Next-generation 56+ Gbps integrated circuits require robust signal integrity, optimized power integrity, compact packages and advanced assembly techniques. Samtec's team of technical experts, including packaging and assembly designers, Signal / Power Integrity engineers, material scientists and system architects, collaborate to identify the ideal solution for any application. Contact sme@samtec.com to discuss your application.

Glass Core Technology



Advanced Packaging & Assembly



Next Gen 2.5D / 3D Packaging

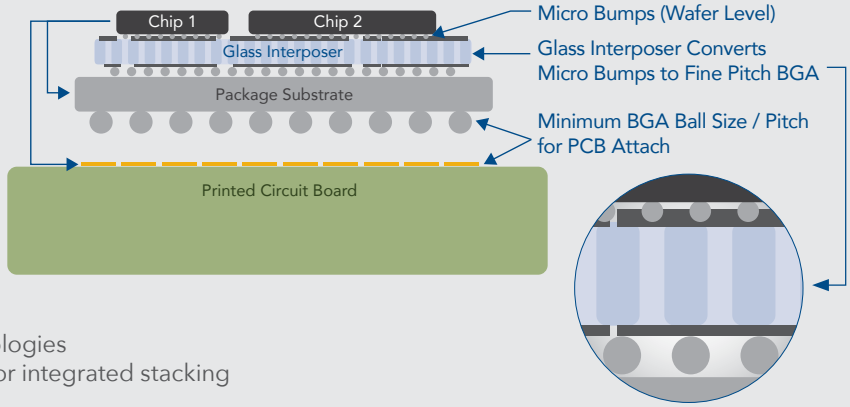


THE FUTURE OF IC PACKAGING AT 56 Gbps & BEYOND

Integrated Stacking: 2.5D & 3D Packaging

As miniaturization and integration demands increase, the concept of stacking microchips is gaining more traction; stacked chips offer the benefits of electrical efficiency, less heat and power, and increased bandwidths. Samtec's proprietary Glass Core Technology enables solutions to aid in the development of these next generation packages.

- Because microchips require micro bumps, which are too small for direct attach to typical substrates or PCBs, 2.5D & 3D packaging is much more challenging
- Using glass as an interposer between the microchips and package substrate is an ideal solution, as it can be used to convert the top side micro bumps to fine pitch BGAs on the bottom side
- Additional benefits of using glass include increased signal integrity, active interposers, fine pitch / high-count I/Os, and mixed chip technologies with common bumping, and endless possibilities for integrated stacking
- Other end product applications for glass include CMOS Imaging Sensors (CIS), high-performance RF packages, SiPho packages, high-speed multichip modules and system-in-packages
- Contact Samtec's technical experts at sme@samtec.com to discuss your design needs



MICROELECTRONICS EXPERTISE AND GLASS CORE TECHNOLOGY

THROUGH-GLASS VIA (TGV)

Copper Metalization



Borosilicate, Sapphire and Fused Silica

Hermetic Sealing and Copper Via Fill

High-Reliability Copper Filled Vias Enable Miniaturization & Integration

REDISTRIBUTION LAYER (RDL)

Circuit Patterning



Borosilicate and Fused Silica

Basic Single-Layer Fan-Out Top and Bottom

Lower Cost Compared to Silicon-Based Interposers

ADVANCED IC PACKAGING

Design & Assembly



Traditional and Glass Substrates

Precision Die Attach

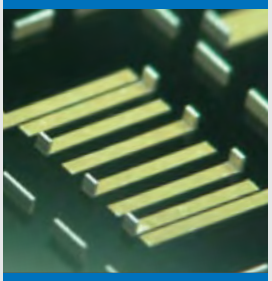
Fine Pitch and Low Profile Wire Bond

Flip Chip & Underfill

Finishing

GLASS-BASED COMPONENTS

1-Layer Passives



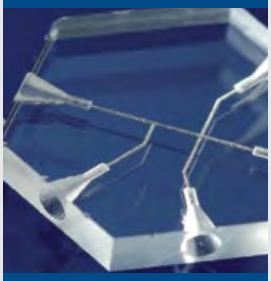
Borosilicate and Fused Silica

High-Reliability, High-Density, Precision Solutions

Antennae, Inductors, Caps, Resistors and RF Filters

GLASS-BASED MICROFLUIDICS

Channels & Shapes



Basic Surface Level Channel Geometry

Basic Buried Channel Geometry

Biomedical Devices

Lab-on-Chip

Sensors

CHARACTERIZATION & DEVELOPMENT KITS

samtec.com/kits

From concept and prototype to development and production, Samtec-designed Characterization and Development Kits simplify the design process and reduce time to market. Kits are available for many of our high-performance connector sets and standard high-speed cable assembly configurations. Custom kits are also available via our "mix-and-match" design approach.

Visit samtec.com/kits or contact kitsandboards@samtec.com.

DEVELOPMENT BOARDS & KITS

Additional kits are available, visit samtec.com/kits



VITA 57.4 FMC+
HSPC Loopback Card



VITA 57.4 FMC+
HSPC / HSPCe Loopback Card



ExaMAX® Loopback Card
for Xilinx® Virtex® UltraScale™
VCU110 Development Kit



FMC+ HSPC Loopback Card
Supporting Xilinx® Virtex®
UltraScale™+ VCU118 Kit

CHARACTERIZATION KITS

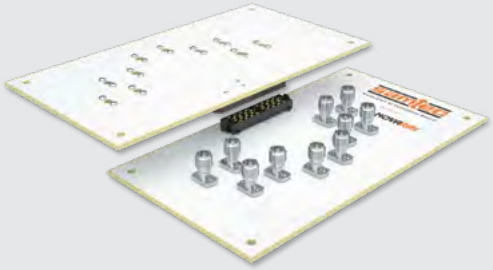
Additional kits are available, visit samtec.com/kits



ExaMAX® High-Speed Backplane
Traditional Connectors
(EBTF / EBTM)



Flyover™ QSFP28
Double-Density
(FQSFP-DD to NVAX)



NovaRay™
Extreme Density Array
(NVAM/NVAF)

CUSTOM KITS FOR APPLICATION-SPECIFIC EVALUATION

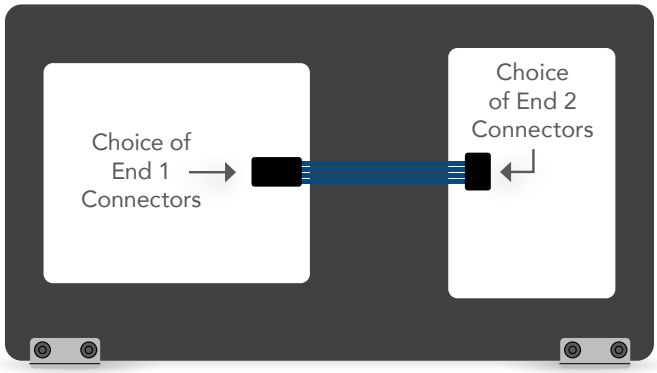
Samtec's Custom Kits make it easy to quickly obtain a robust, high-quality kit for evaluating Samtec interconnect systems. A vast library of high-performance connector and cable options is available for designing a custom solution to meet your specific evaluation needs. Contact kitsandboards@samtec.com.

END 1/END 2 OPTIONS

Twinax Flyover™
FQSFP-DD
FQSFP
DCH
ECUE

High-Speed Backplane
EBTF/EBTM
EBCF/EBCM
EBDM/EBCF-RA
HDTF/HDTM

High-Speed Mezzanine
NVAM/NVAF
ARF6/ARC6
ADF6/ADM6
LPAM/LPAF
ZRDP/ZCI



HIGH-DENSITY ARRAYS



HIGH-DENSITY ARRAYS

NovaRay™ Extreme Density & Performance Terminal (NVAM, NVAF) 50-51
.050" (1.27 mm) Pitch LP Array™ (LPAM, LPAF) 52-53
0.80 mm Pitch SEARAY™ (SEAM8, SEAF8) 54-56
Power Modules for SEARAY™ (UBPT, UBPS) 57
.050" (1.27 mm) Pitch SEARAY™ (SEAM, SEAF, SEAMP, SEAFP, SEAMI, SEAR) 58-66
Jack Screws (JSO) 67
Elevated High-Speed Riser System (TPAR, TPAF) 68-69

COMPRESSION ONE-PIECE INTERFACES

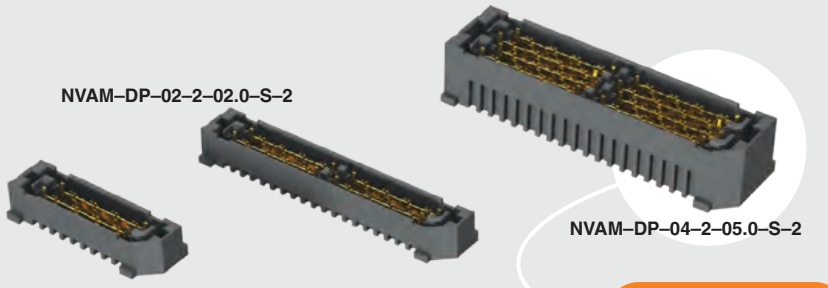
Z-Ray® Ultra-Low Profile Interfaces (ZA1, ZA8, ZA8H) 70-72
Z-Ray® Alignment Screws and Dowels (ZD, ZSO, ZHSI) 73
Low-Profile One-Piece Array (GMI) 74

APPLICATIONS

High-Density Arrays 12-13

samtec

NOVARAY™



(0.80 mm) .0315" X (1.80 mm) .071"

NVAM SERIES

EXTREME DENSITY & PERFORMANCE

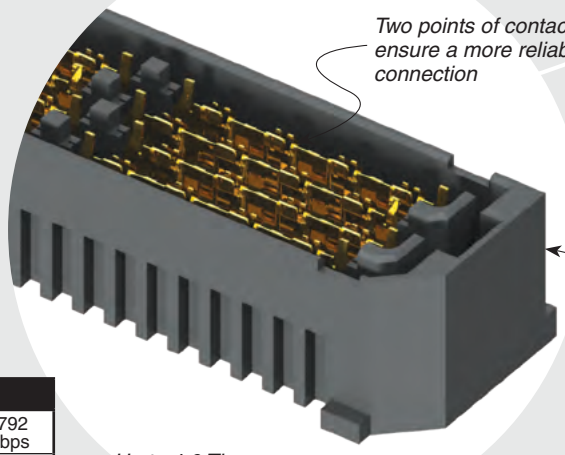
SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?NVAM

Insulator Material:
Black LCP
Contact Material:
Copper Alloy
Shield:
Copper Alloy
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Current Rating:
Testing Now!
RoHS Compliant:
Yes
Lead-Free Solderable:
Yes

Mates with:
NVAF

NRZ	PAM4
56 Gbps	112 Gbps



Up to 4.0 Tbps aggregate data rate (9 IEEE, 400 G channels)

AGGREGATE DATA RATE (NRZ)					
448 Gbps	672 Gbps	896 Gbps		1344 Gbps	1792 Gbps
1 Bank			2 Bank		
2 Row	3 Row	4 Row	2 Row	3 Row	4 Row
8 Pairs	12 Pairs	16 Pairs	24 Pairs		32 Pairs

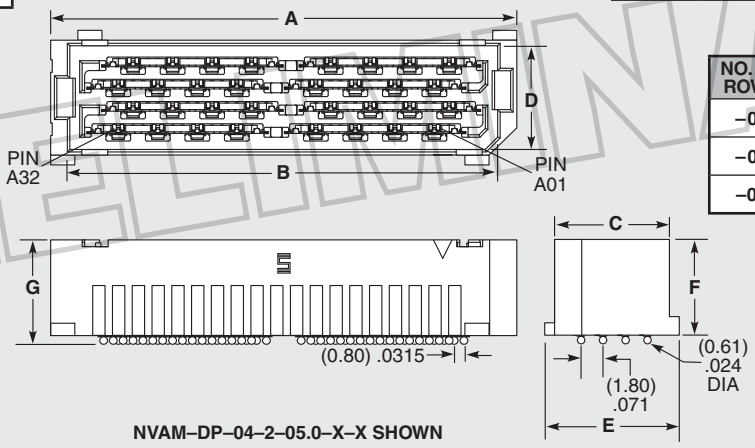
NVAM	–	STYLE	–	NO. OF ROWS	–	NO. OF BANKS	–	LEAD STYLE	–	PLATING OPTION	–	SOLDER TYPE
		–DP = 4 pairs per wafer		–02 = 2 Rows –03 = 3 Rows –04 = 4 Rows		–1 = 1 Bank –2 = 2 Banks		–02.0 = (2 mm) .0787" –05.0 = (5 mm) .1969"		–S = 30 µ" (0.76 µm) Gold on contact area, Matte Tin on solder tail		–2 = Lead-Free Solder Charge

MATED HEIGHT*		
NVAF LEAD STYLE	NVAM LEAD STYLE	
	–02.0	–05.0
–05.0	(7.00) .276	(10.00) .394

*Processing conditions will affect mated height.

NO. OF BANKS	A	B
–1	(21.75) .856	(18.65) .734
–2	(37.75) 1.486	(34.65) 1.364

LEAD STYLE	F	G
–02.0	(4.75) .187	(5.46) .215
–05.0	(7.75) .305	(8.46) .333



NVAM–DP–04–2–05.0–X–X SHOWN

NO. OF ROWS	C	D	E
–02	(5.70) .224	(4.80) .189	(7.30) .287
–03	(7.50) .295	(6.60) .260	(9.10) .358
–04	(9.30) .366	(8.40) .331	(10.90) .429

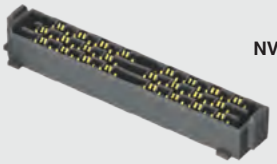
Note:
Some sizes, styles and options are non-standard, non-returnable.

PRELIMINARY

samtec

NOVARAY™


NVAF–DP–04–2–05.0–S–2


NVAF–DP–03–2–05.0–S–2


NVAF–DP–02–1–05.0–S–2

(0.80 mm) .0315" X (1.80 mm) .071"

NVAF SERIES

EXTREME DENSITY & PERFORMANCE

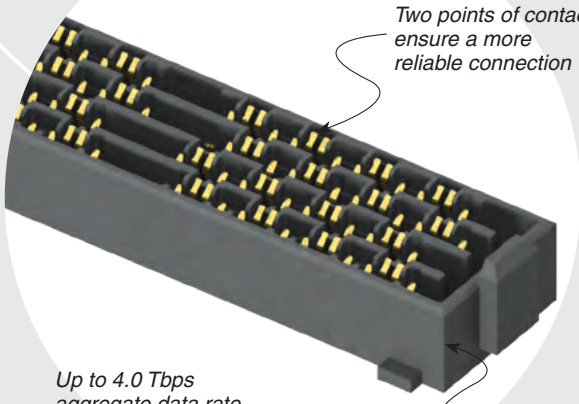
SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?NVAF

Insulator Material:
Black LCP
Contact Material:
Copper Alloy
Shield:
Copper Alloy
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Current Rating:
Testing Now!
RoHS Compliant:
Yes
Lead-Free Solderable:
Yes

Mates with:
NVAM

NRZ	PAM4
56 Gbps	112 Gbps



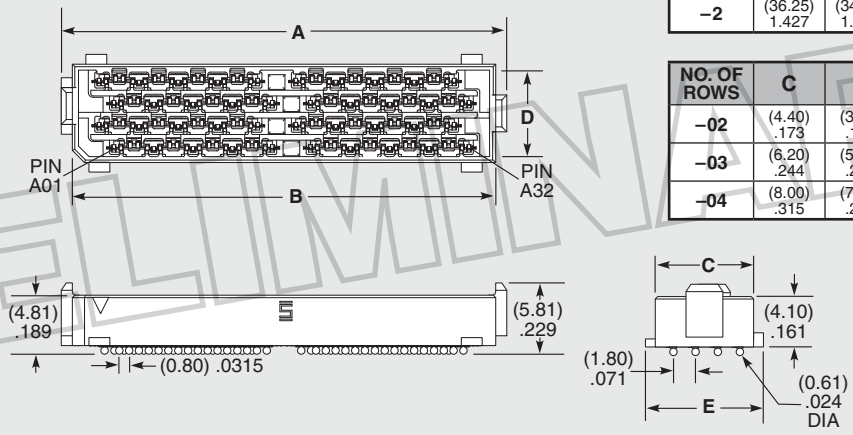
AGGREGATE DATA RATE (NRZ)					
448 Gbps	672 Gbps	896 Gbps		1344 Gbps	1792 Gbps
1 Bank			2 Bank		
2 Row	3 Row	4 Row	2 Row	3 Row	4 Row
8 Pairs	12 Pairs	16 Pairs		24 Pairs	32 Pairs

NVAF	–	STYLE	–	NO. OF ROWS	–	NO. OF BANKS	–	LEAD STYLE	–	PLATING OPTION	–	SOLDER TYPE
		–DP = 4 pairs per wafer		–02 = 2 Rows –03 = 3 Rows –04 = 4 Rows		–1 = 1 Bank –2 = 2 Banks		–05.0 = (5 mm) .1969"		–S = 30 µ" (0.76 µm) Gold on contact area, Matte Tin on solder tail		–2 = Lead-Free Solder Charge

MATED HEIGHT*		
NVAF LEAD STYLE	NVAM LEAD STYLE	
	–02.0	–05.0
–05.0	(7.00) .276	(10.00) .394
*Processing conditions will affect mated height.		

NO. OF BANKS	A	B
–1	(20.25) .797	(18.45) .726
–2	(36.25) 1.427	(34.45) 1.356

NO. OF ROWS	C	D	E
–02	(4.40) .173	(3.44) .135	(6.00) .236
–03	(6.20) .244	(5.24) .206	(7.80) .307
–04	(8.00) .315	(7.04) .277	(9.60) .378



NVAF–DP–04–2–05.0–X–X SHOWN

Note:
Some sizes, styles and options are non-standard, non-returnable.

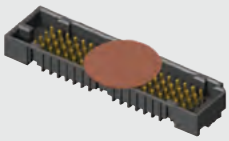
PRELIMINARY

samtec

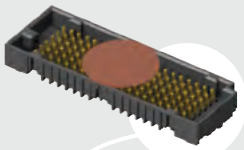
LP ARRAY™

(1.27 mm) .050"

LPAM–20–01.5–L–04–2–K



LPAM–20–01.5–L–06–2–K



LPAM SERIES

HIGH-SPEED LOW-PROFILE OPEN-PIN-FIELD

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?LPAM

Insulator Material:
Black LCP
Terminal Material:
Copper Alloy
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Current Rating:
2.3 A per pin
(8 adjacent pins powered)
Working Voltage:
250 VAC
RoHS Compliant:
Yes
Lead-Free Solderable:
Yes

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

ALSO AVAILABLE
(MOQ Required)

- Tin-Lead Solder Charge
- Other pins/row and row counts
- Other Gold plating options

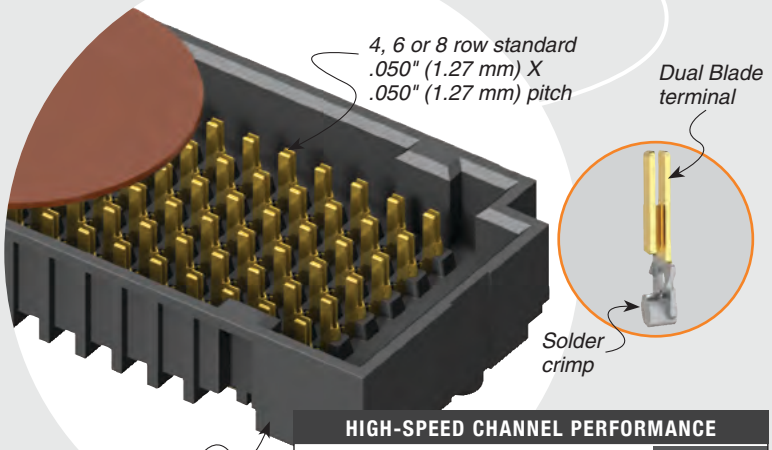
Mates with:
LPAF

Standoffs:
JSO, SO

POWER/SIGNAL APPLICATION



Compatible with UMPT/UMPS for flexible two-piece power/signal solutions



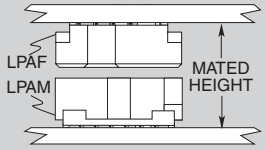
HIGH-SPEED CHANNEL PERFORMANCE

LPAM/LPAF @ 5 mm Mated Stack Height
Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

PAM4
56
Gbps

LPAM	NO. PINS PER ROW	LEAD STYLE	PLATING OPTION	NO. OF ROWS	SOLDER TYPE	K	TR
	–10, –20, –30, –40, –50 (–08 rows only)	–01.0 = (1.0 mm) .039" –01.5 = (1.5 mm) .060"	–L = 10 µ" (0.25 µm) Gold on contact area, Matte Tin on solder tail	–04 = Four Rows –06 = Six Rows –08 = Eight Rows	–2 = Lead-Free Solder Crimp	–K = Polyimide film Pick & Place Pad	–TR = Tape & Reel

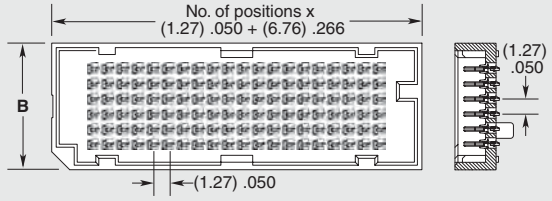
MATED HEIGHT

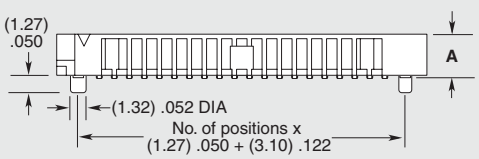


MATED HEIGHT*		
LPAM LEAD STYLE	LPAF LEAD STYLE –03.0	LPAF LEAD STYLE –03.5
–01.0	(4.00) .157	(4.50) .177
–01.5	(4.50) .177	(5.00) .197

*Processing conditions will affect mated height.

NO. OF ROWS	B
–04	(8.18) .322
–06	(10.72) .422
–08	(13.26) .522





LEAD STYLE	A
–01.0	(3.68) .145
–01.5	(4.19) .165

Notes:
Patent Pending

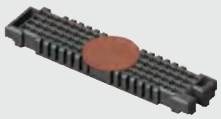
Some sizes, styles and options are non-standard, non-returnable.

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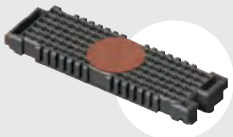
All parts within this catalog are built to Samtec's specifications.
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samtec

LP ARRAY™



LPAF–20–03.5–L–04–2–K



LPAF–20–03.5–L–06–2–K

(1.27 mm) .050"

LPAF SERIES

HIGH-SPEED LOW-PROFILE OPEN-PIN-FIELD

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?LPAF

Insulator Material:
Black LCP
Contact Material:
Copper Alloy
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Current Rating:
2.3 A per pin
(8 adjacent pins powered)
Working Voltage:
250 VAC
RoHS Compliant:
Yes
Lead-Free Solderable:
Yes

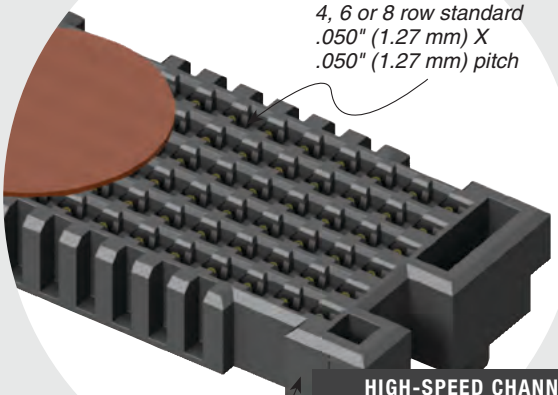
RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

Mates with:
LPAM

Standoffs:
JSO, SO



POWER/SIGNAL APPLICATION



Compatible with UMPT/UMPS for flexible two-piece power/signal solutions

HIGH-SPEED CHANNEL PERFORMANCE

LPAM/LPAF @ 5 mm Mated Stack Height
Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

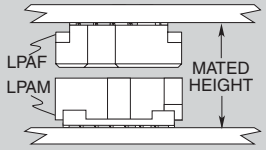
PAM4 56 Gbps

ALSO AVAILABLE (MOQ Required)

- Tin-Lead Solder Charge
- Other pins/row and row counts
- Other Gold plating options

LPAF	–	NO. PINS PER ROW	–	LEAD STYLE	–	PLATING OPTION	–	NO. OF ROWS	–	SOLDER TYPE	–	K	–	TR
		–10, –20, –30, –40, –50 (–08 rows only)		–03.0 = (3.0 mm) .118" –03.5 = (3.5 mm) .138"		–L = 10 µ" (0.25 µm) Gold on contact area, Matte Tin on solder tail		–04 = Four Rows –06 = Six Rows –08 = Eight Rows		–2 = Lead-Free Solder Crimp		–K = Polyimide film Pick & Place Pad		–TR = Tape & Reel

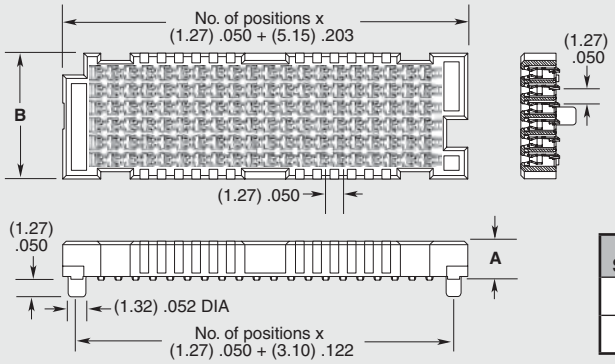
MATED HEIGHT



MATED HEIGHT*		
LPAF LEAD STYLE	LPAM LEAD STYLE	
	–01.0	–01.5
–03.0	(4.00) .157	(4.50) .177
–03.5	(4.50) .177	(5.00) .197

*Processing conditions will affect mated height.

NO. OF ROWS	B
–04	(6.71) .264
–06	(9.25) .364
–08	(11.79) .464



LEAD STYLE	A
–03.0	(2.79) .110
–03.5	(3.30) .130

Notes:
Patent Pending

Some sizes, styles and options are non-standard, non-returnable.

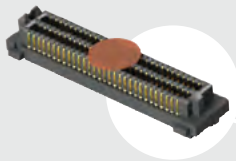
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samtec

SEARAY™ .8mm

SEAM8–30–S02.0–S–06–2–K





SEAM8–20–S02.0–S–04–2–GP–K

(0.80 mm) .0315"

SEAM8 SERIES

ULTRA-HIGH DENSITY OPEN-PIN-FIELD

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?SEAM8

Insulator Material:
Black LCP
Contact Material:
Copper Alloy
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C
Current Rating:
1.3 A per pin
(10 adjacent pins powered)
Working Voltage:
220 VAC
RoHS Compliant:
Yes
Lead-Free Solderable:
Yes

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

ALSO AVAILABLE
(MOQ Required)

- Other pin counts

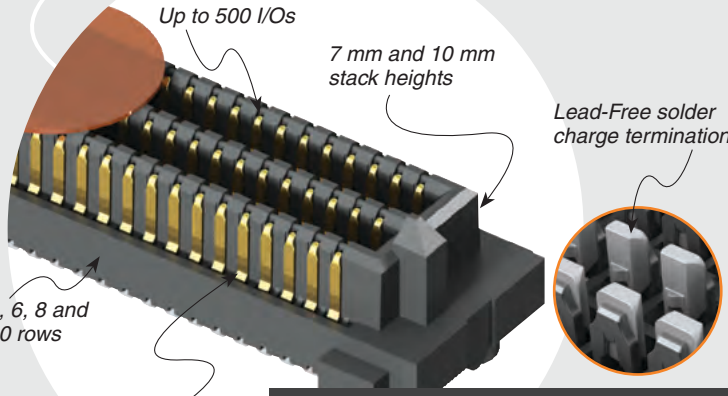
Board Mates:
SEAF8
Cable Mates:
ESCA
Standoffs:
JSO

EDGE® RATE CONTACT

POWER/SIGNAL APPLICATION



Compatible with UMPT/UMPS for flexible two-piece power/signal solutions



HIGH-SPEED CHANNEL PERFORMANCE

SEAM8/SEAF8 @ 7 mm Mated Stack Height
Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

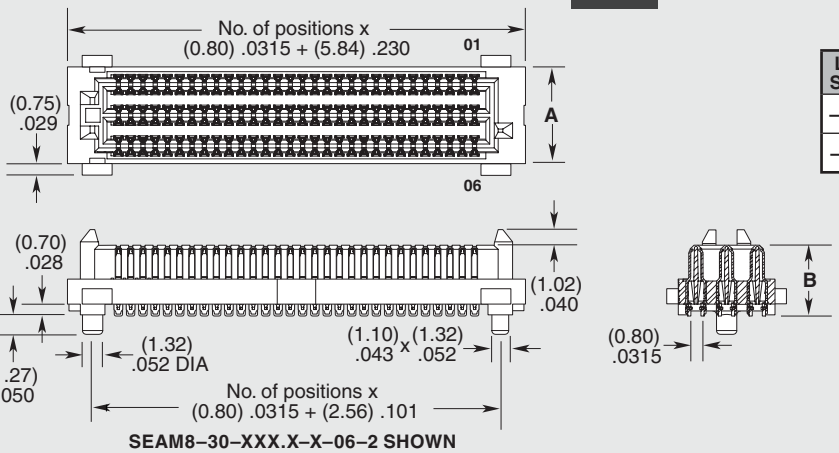
PAM4
56 Gbps

SEAM8	NO. PINS PER ROW	LEAD STYLE	PLATING OPTION	NO. OF ROWS	SOLDER TYPE	OPTION	K
	–10, –20, –30, –40, –50 (Standard sizes)	–S02.0 = 2 mm Body Height –S05.0 = 5 mm Body Height	–L = 10 µ" (0.25 µm) Gold on contact area, Matte Tin on solder tail –S = 30 µ" (0.76 µm) Gold on contact area, Matte Tin on solder tail	–04 = Four Rows –06 = Six Rows –08 = Eight Rows –10 = Ten Rows	–2 = Lead-Free Solder Charge	–GP = Guide Post (–S02.0 lead style only) (Mates with SEAF8-RA-GP)	–K = Polyimide film Pick & Place Pad

NO. OF ROWS	A
–04	(4.30) .169
–06	(6.30) .248
–08	(8.30) .327
–10	(10.30) .406

MATED HEIGHT*		
SEAF8 LEAD STYLE	SEAM8 LEAD STYLE	
	–S02.0	–S05.0
–05.0	(7.00) .276	(10.00) .394

*Processing conditions will affect mated height.



LEAD STYLE	B
–S02.0	(4.54) .179
–S05.0	(7.54) .297

SEAM8–30–XXX.X–X–06–2 SHOWN

Notes:
Patent Pending

Tape & Reel packaging is standard.

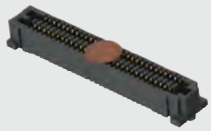
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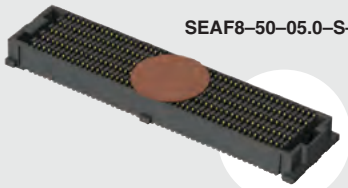
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samtec

SEARAY™ .8mm



SEAF8–30–05.0–S–04–2–K



SEAF8–50–05.0–S–10–2–K

(0.80 mm) .0315"

SEAF8 SERIES

ULTRA-HIGH DENSITY OPEN-PIN-FIELD

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?SEAF8

Insulator Material:
Black LCP
Contact Material:
Copper Alloy
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C
Current Rating:
1.3 A per pin
(10 adjacent pins powered)
Working Voltage:
220 VAC
RoHS Compliant:
Yes
Lead-Free Solderable:
Yes

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

ALSO AVAILABLE (MOQ Required)

- Other pin counts

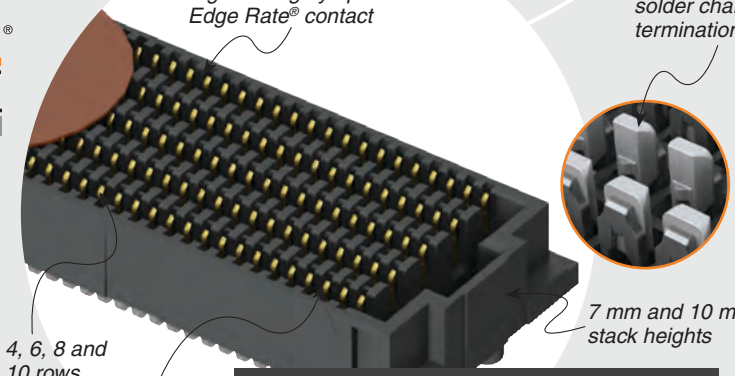
Board Mates:
SEAM8
Cable Mates:
ESCA
Standoffs:
JSO

EDGE® RATE CONTACT

POWER/SIGNAL APPLICATION



Compatible with UMPT/UMPS for flexible two-piece power/signal solutions



HIGH-SPEED CHANNEL PERFORMANCE

SEAM8/SEAF8 @ 7 mm Mated Stack Height
Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

PAM4 56 Gbps

SEAF8	–	NO. PINS PER ROW	–	05.0	–	PLATING OPTION	–	NO. OF ROWS	–	SOLDER TYPE	–	K

–10, –20, –30, –40, –50
(Standard sizes)

–L
= 10 µ" (0.25 µm) Gold on contact area, Matte Tin on solder tail

–S
= 30 µ" (0.76 µm) Gold on contact area, Matte Tin on solder tail

–04
=Four Rows

–06
=Six Rows

–08
=Eight Rows

–10
=Ten Rows

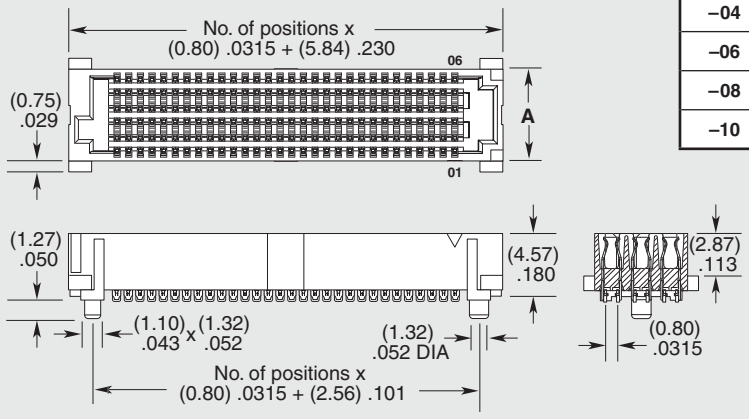
–2
= Lead-Free Solder Charge

–K
= Polyimide film Pick & Place Pad

MATED HEIGHT*		
SEAF8 LEAD STYLE	SEAM8 LEAD STYLE	
	–S02.0	–S05.0
–05.0	(7.00) .276	(10.00) .394

*Processing conditions will affect mated height.

NO. OF ROWS	A
–04	(4.30) .169
–06	(6.30) .248
–08	(8.30) .327
–10	(10.30) .406



Notes:
Patent Pending

Tape & Reel packaging is standard.

Some sizes, styles and options are non-standard, non-returnable.

Due to technical progress, all designs, specifications and components are subject to change without notice.

All parts within this catalog are built to Samtec's specifications.
Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.

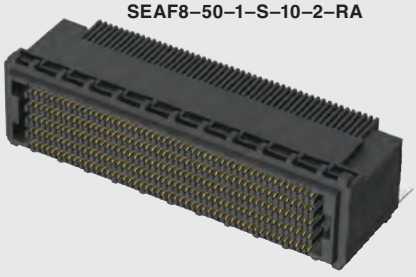
samtec

SEARAY™ .8mm

(0.80 mm) .0315"



SEAF8–30–1–S–10–2–RA–GP



SEAF8–50–1–S–10–2–RA

SEAF8-RA SERIES

HI-DENSITY RIGHT-ANGLE OPEN-PIN-FIELD

SPECIFICATIONS

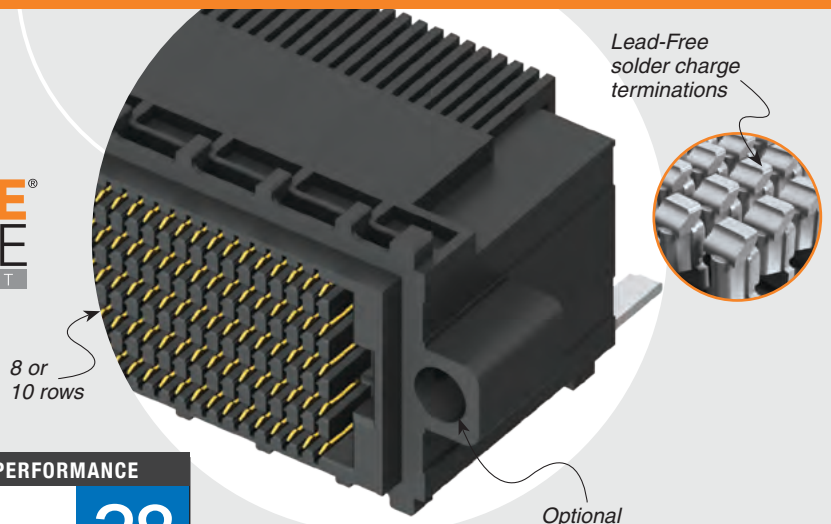
For complete specifications and recommended PCB layouts see www.samtec.com?SEAF8-RA

Insulator Material:
Black LCP
Contact Material:
Copper Alloy
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C
Current Rating:
1 A per pin
(10 adjacent pins powered)
RoHS Compliant:
Yes
Lead-Free Solderable:
Yes

Board Mates:
SEAM8

Cable Mates:
ESCA

EDGE® RATE CONTACT



HIGH-SPEED CHANNEL PERFORMANCE

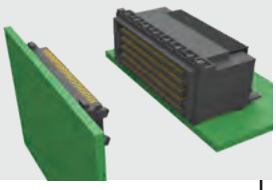
SEAF8-RA/SEAM8-2.0
Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

28 Gbps

ALSO AVAILABLE (MOQ Required)

- Other pin counts
- Other row options

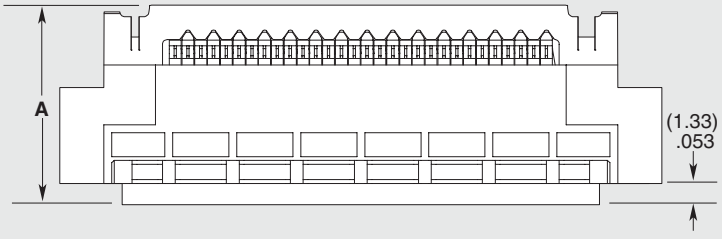
APPLICATION



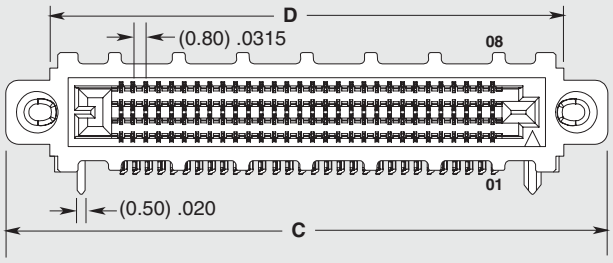
SEAF8	–	NO. PINS PER ROW	–	1	–	PLATING OPTION	–	NO. OF ROWS	–	SOLDER TYPE	–	RA	–	OPTION
		–20, –30, –40, –50 (Standard sizes)				–L = 10 µ" (0.25 µm) Gold on contact area, Matte Tin on solder tail –S = 30 µ" (0.76 µm) Gold on contact area, Matte Tin on solder tail		–08 = Eight Rows –10 = Ten Rows		–2 = Lead-Free Solder Charge				–GP = Guide Post Hole

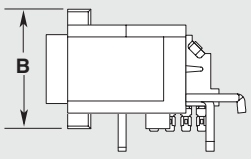
–L PRELIMINARY

NO. OF ROWS	A	B
–08	(16.48) .649	(11.46) .451
–10	(18.48) .728	(13.46) .530



NO. PINS PER ROW	C	D
–20	(29.62) 1.166	(24.12) .950
–30	(37.62) 1.481	(32.12) 1.265
–40	(45.62) 1.796	(40.12) 1.580
–50	(53.62) 2.111	(48.12) 1.894





Notes:
Patent Pending

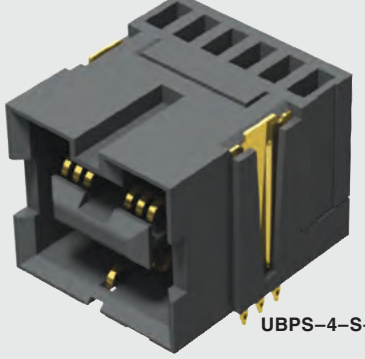
Some sizes, styles and options are non-standard, non-returnable.

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samtec

SEARAY™



UBPS–4–S–RA



UBPT–4–01.0–S

(1.50 mm) .059"

UBPT, UBPS-RA SERIES

SEARAY™ POWER MODULES

Mates with:
UBPS
(used with SEAM8, SEAM)

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?UBPT

Current Rating:
20 A per module

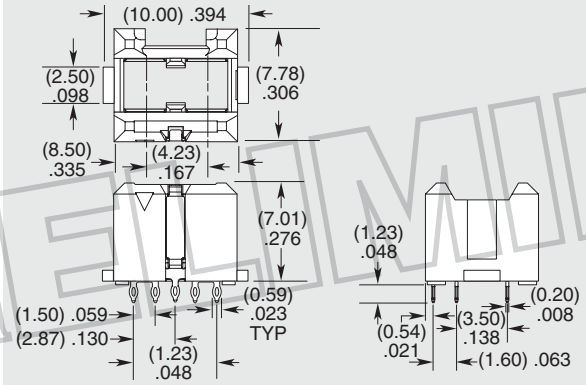
RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

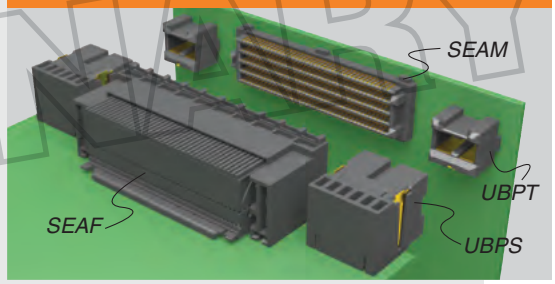
FILE NO. E111594

Note:
Some lengths, styles and options are non-standard, non-returnable.

UBPT	– NO. OF POSITIONS	– LEAD STYLE	– PLATING OPTION
	–4 = 4 positions (Total 2 per row)	–01.0 = Extended	–S = 30 µ" (0.76 µm) Gold on contact, Matte Tin on tail



APPLICATION



Mates with:
UBPT
(used with SEAF8, SEAF)

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?UBPS-RA

Current Rating:
20 A per module

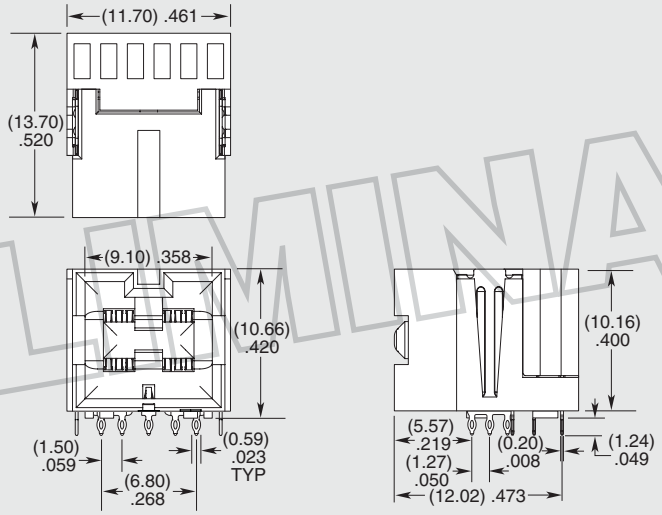
RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

Note:
Some lengths, styles and options are non-standard, non-returnable.

UBPS	– NO. OF POSITIONS	– PLATING OPTION	– RA
	–4 = 4 positions (Total 2 per row)	–S = 30 µ" (0.76 µm) Gold on contact, Matte Tin on tail	–RA = Right-angle



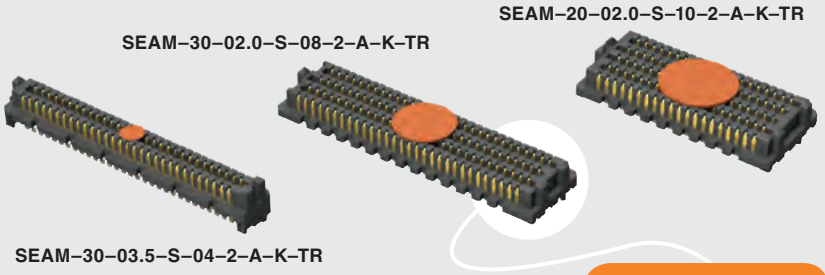
PRELIMINARY

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samtec

SEARAY™



(1.27 mm) .050"

SEAM SERIES

HIGH-SPEED/HIGH-DENSITY OPEN-PIN-FIELD

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?SEAM

Insulator Material:
Black LCP
Contact Material:
Copper Alloy
Operating Temp Range:
-55 °C to +125 °C
Current Rating (7 mm stack height):
2.7 A per pin
(10 adjacent pins powered)
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Working Voltage:
240 VAC
RoHS Compliant:
Yes
Lead-Free Solderable:
Yes

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

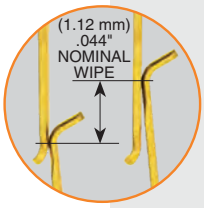
FILE NO. E111594

STANDARDS

- VITA 47
- VITA 57.1 FMC
- VITA 57.4 FMC+
- VITA 74 VNX
- PISMO™ 2

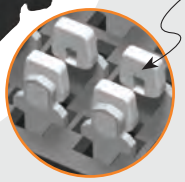
Visit www.samtec.com/standards for more information.

Mates with:
SEAF, SEAFP
Standoffs:
JSO





10 YEAR MFG WITH 30 µ" GOLD
EXTENDED LIFE PRODUCT
HIGH MATING CYCLES



HIGH-SPEED CHANNEL PERFORMANCE

SEAF/SEAM @ 10 mm Mated Stack Height
Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

PAM4
56
Gbps

OTHER SOLUTIONS

- Up to 560 pins

SEAM	–	NO. PINS PER ROW	–	LEAD STYLE	–	PLATING OPTION	–	NO. OF ROWS	–	SOLDER TYPE	–	A	–	K	–	TR

–10, –15, –20, –30, –40, –50
(–10 only available in 04 row)
(-15 is only available in 4 Row with -02.0 lead style and 10 row with any lead style)

Specify LEAD STYLE from chart

–L
= 10 µ" (0.25 µm) Gold on contact area, Matte Tin on solder tail

–S
= 30 µ" (0.76 µm) Gold on contact area, Matte Tin on solder tail

–04
=Four Rows (–06.5 not available)

–05
=Five Rows (–06.5 not available)

–06
=Six Rows (–06.5 not available)

–08
=Eight Rows

–10
=Ten Rows

–1
= Tin/Lead Alloy Solder Charge

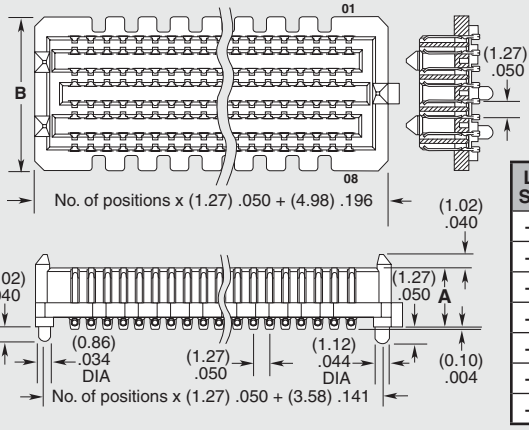
–2
= Lead-Free Solder Charge

–A
= Alignment Pins (Required. Arrays will not self-center on solder pads)

–K
= Polyimide film Pick & Place Pad

–TR
=Tape & Reel

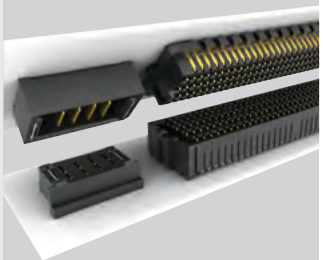
NO. OF ROWS	B
–04	(7.06) .278
–05, –06	(9.60) .378
–08	(12.14) .478
–10	(14.68) .578



LEAD STYLE	A
–02.0	(4.60) .181
–03.0	(5.59) .220
–03.5	(6.10) .240
–06.5	(9.14) .360
–07.0	(9.60) .378
–09.0	(11.60) .457
–11.0	(13.60) .535

MATED HEIGHTS				
SEAM LEAD STYLE	SEAF LEAD STYLE			
	–05.0	–06.0	–06.5	–07.5
–02.0	7 mm	8 mm	8.5 mm	9.5 mm
–03.0	8 mm	9 mm	9.5 mm	10.5 mm
–03.5	8.5 mm	9.5 mm	10 mm	11 mm
–06.5	11.5 mm	12.5 mm	13 mm	14 mm
–07.0	12 mm	13 mm	13.5 mm	14.5 mm
–09.0	14 mm	15 mm	15.5 mm	16.5 mm
–11.0	16 mm	17 mm	17.5 mm	18.5 mm

POWER/SIGNAL APPLICATION



Compatible with UMPT/UMPS for flexible two-piece power/signal solutions

Notes:
Patented

IPC-A-610F and IPC J-STD-001F Class 3 solder joint.

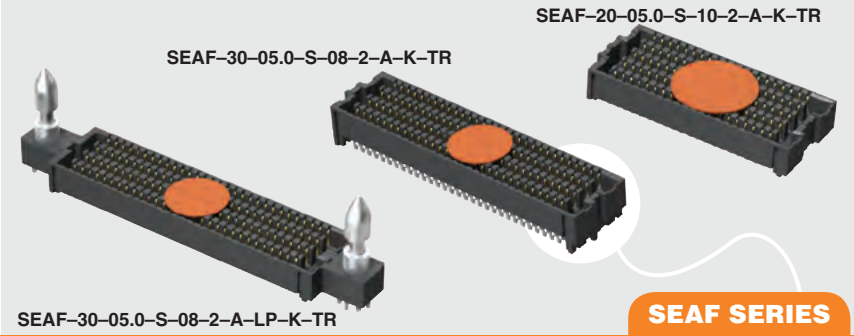
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Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.

samtec

SEARAY™



(1.27 mm) .050"

SEAF SERIES

HIGH-SPEED/HIGH-DENSITY OPEN-PIN-FIELD

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?SEAF

Insulator Material:
Black LCP
Contact Material:
Copper Alloy
Operating Temp Range:
-55 °C to +125 °C
Current Rating (7 mm stack height):
2.7 A per pin
(10 adjacent pins powered)
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Working Voltage:
240 VAC
RoHS Compliant:
Yes
Lead-Free Solderable:
Yes

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

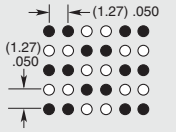
FILE NO. E111594

STANDARDS

- VITA 47
- VITA 57.1 FMC
- VITA 57.4 FMC+
- VITA 74 VNX
- PISMO™ 2

Visit www.samtec.com/standards for more information.

DIFFERENTIAL SIGNAL ROUTING



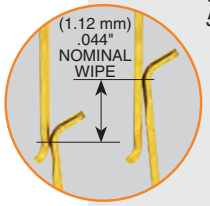
The above signal routing configuration allows for the use of 25 to 125 differential pair counts. Contact sig@samtec.com for specific details.

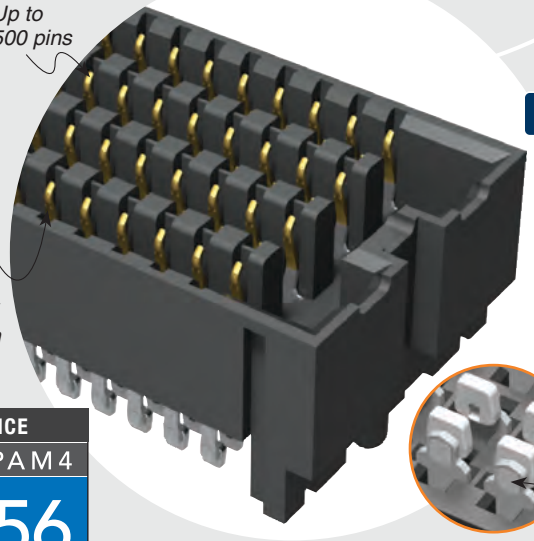
Notes:
Patented

IPC-A-610F and IPC J-STD-001F Class 3 solder joint.

Some sizes, styles and options are non-standard, non-returnable.

Board Mates:
SEAM, SEAMP, SEAR, SEAMI
Cable Mates:
SEAC
Standoffs:
JSO





HIGH-SPEED CHANNEL PERFORMANCE

SEAF/SEAM @ 10 mm Mated Stack Height
Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

PAM4 56 Gbps

SEAF	NO. PINS PER ROW	LEAD STYLE	PLATING OPTION	NO. OF ROWS	SOLDER TYPE	A	OPTION	K	TR

–10, –15, –20, –30, –40, –50
(–10 only available in 04 row)
(–15 only available in 04 or 10 row with –05.0 lead style)

Specify LEAD STYLE from chart

LEAD STYLE	A
–05.0	(5.05) .199
–06.0	(6.05) .238
–06.5	(6.55) .258
–07.5	(7.54) .297

–L
= 10 µ" (0.25 µm) Gold on contact area, Matte Tin on solder tail

–S
= 30 µ" (0.76 µm) Gold on contact area, Matte Tin on solder tail

–04 =Four Rows
–05 =Five Rows
–06 =Six Rows
–08 =Eight Rows
–10 =Ten Rows

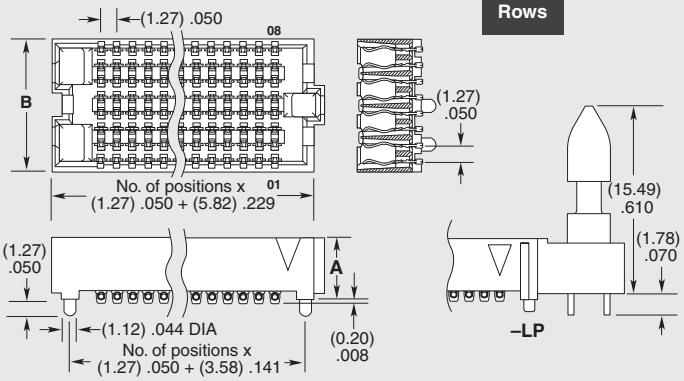
NO. OF ROWS	B
–04	(5.66) .223
–05, –06	(8.20) .323
–08	(10.74) .423
–10	(13.28) .523

–1
= Tin/Lead Alloy Solder Charge

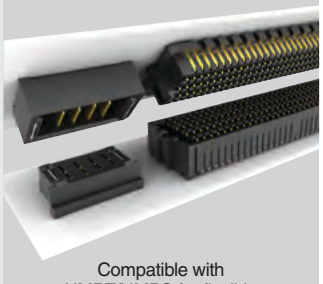
–2
= Lead-Free Solder Charge

–LP
= Latch Post (–LP required for SEAC mate only) (Available with –05.0 lead style and –04, –06, –08 & –10 rows only)

–K
= Polyimide film Pick & Place Pad (Not available with –10 and –15 pins with –LP Latch post)



POWER/SIGNAL APPLICATION

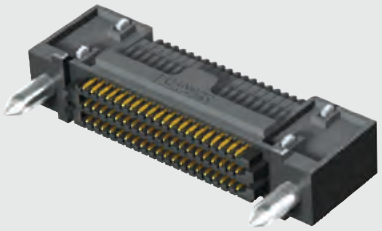


Compatible with UMPT/UMPS for flexible two-piece power/signal solutions

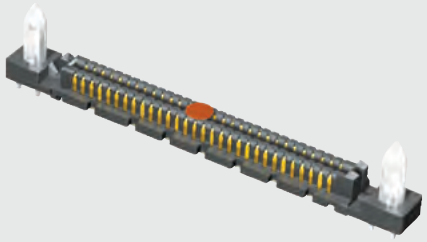
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samtec

SEARAY™



SEAM–20–01–L–06–2–RA–GP–TR



SEAM–30–02.0–L–04–2–A–GP–K–TR

(1.27 mm) .050"

SEAM-RA, SEAM-GP SERIES

HI-DENSITY RIGHT-ANGLE OPEN-PIN-FIELD

SEAM-RA Mates with:
SEAF, SEAF-RA, SEAFP

SEAM-GP Mates with:
SEAF-RA-GP

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?SEAM-RA or www.samtec.com?SEAM

Insulator Material:
Black LCP
Contact Material:
Copper Alloy
Current Rating:
SEAM-RA = 1.9 A per pin (10 pins powered)
Operating Temp Range:
-55 °C to +125 °C
Plating:
Au or Sn over 50 µ" (1.27 µm) Ni
Working Voltage:
SEAM-RA = 260 VAC
SEAM-GP = 240 VAC
Mated Cycles:
SEAM-GP = 100
RoHS Compliant:
Yes
Lead-Free Solderable:
Yes

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

Notes:
SEAM-GP Patented

Some sizes, styles and options are non-standard, non-returnable.

SEAM	NO. PINS PER ROW	01	PLATING OPTION	NO. OF ROWS	SOLDER TYPE	RA	OPTION	TR

–20, –30, –40, –50

–L = 10 µ" (0.25 µm) Gold on contact area, Matte Tin on solder tail

–S = 30 µ" (0.76 µm) Gold on contact area, Matte Tin on solder tail

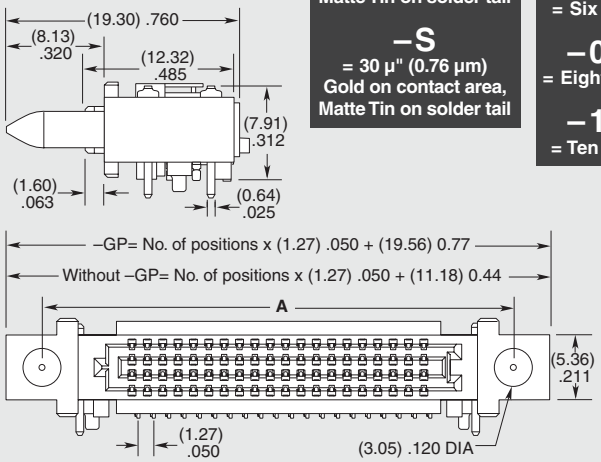
–04 = Four Rows
–06 = Six Rows
–08* = Eight Rows
–10* = Ten Rows

–1 = Tin/Lead Alloy Solder Charge
–2 = Lead-Free Solder Charge

–GP = Guide Post
–K = Polyimide film Pick & Place Pad

–TR = Tape & Reel

* **Note:** Fixturing required to process eight and ten row options, see www.samtec.com/searayfixture



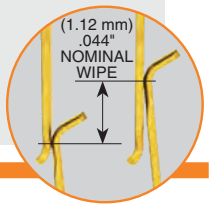
NO. PINS PER ROW	A
–20	(38.94) 1.533
–30	(51.64) 2.033
–40	(64.34) 2.533
–50	(77.04) 3.03

HIGH-SPEED CHANNEL PERFORMANCE

SEAM-RA/SEAF-RA

Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

25 Gbps



SEAM	NO. PINS PER ROW	02.0	PLATING OPTION	NO. OF ROWS	SOLDER TYPE	A	GP	K	TR

–20, –30, –40, –50

–L = 10 µ" (0.25 µm) Gold on contact area, Matte Tin on solder tail

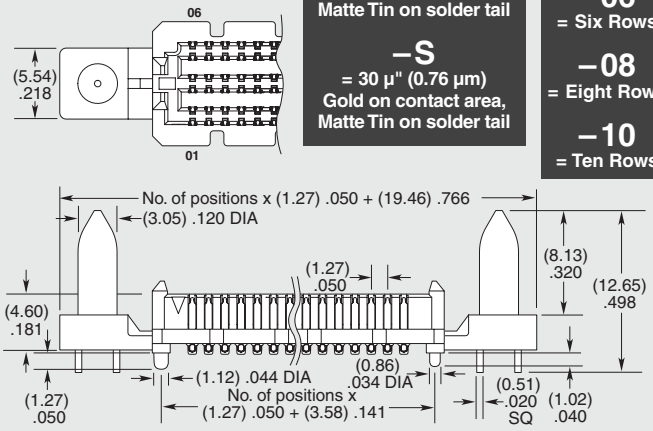
–S = 30 µ" (0.76 µm) Gold on contact area, Matte Tin on solder tail

–04 = Four Rows
–06 = Six Rows
–08 = Eight Rows
–10 = Ten Rows

–1 = Tin/Lead Alloy Solder Charge
–2 = Lead-Free Solder Charge

–K = Polyimide film Pick & Place Pad

–TR = Tape & Reel (Not available with 50 positions)



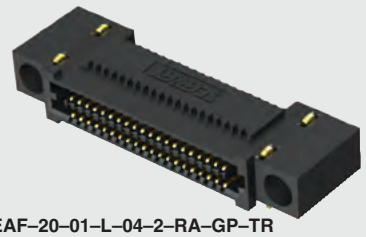
ALSO AVAILABLE
(MOQ Required)

- Extended Guide Post
- Guide post field termination kits
- Other platings

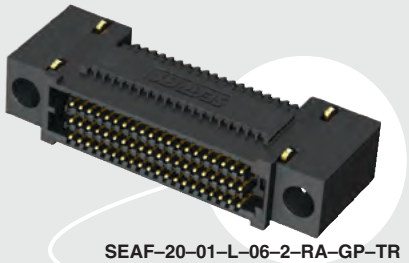
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samtec

SEARAY™



SEAF–20–01–L–04–2–RA–GP–TR



SEAF–20–01–L–06–2–RA–GP–TR

(1.27 mm) .050"

SEAF-RA SERIES

HI-DENSITY RIGHT-ANGLE OPEN-PIN-FIELD

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?SEAF-RA

Insulator Material:
Black LCP
Contact Material:
Copper Alloy
Current Rating:
1.9 A per pin
(10 pins powered)
Operating Temp Range:
-55 °C to +125 °C
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Working Voltage:
280 VAC
Mated Cycles:
100
RoHS Compliant:
Yes
Lead-Free Solderable:
Yes

RECOGNITIONS

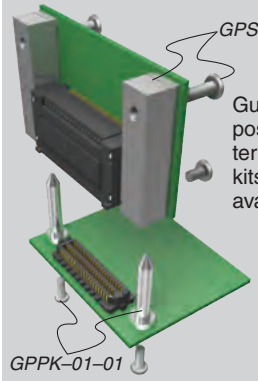
For complete scope of recognitions see www.samtec.com/quality

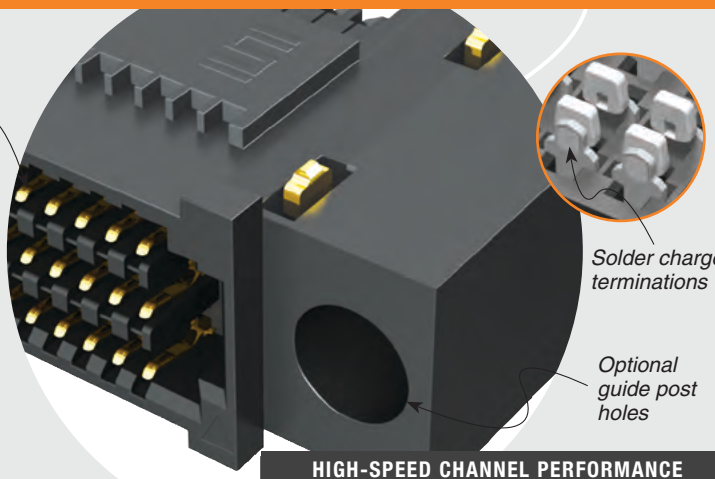
FILE NO. E111594

Board Mates:
SEAM, SEAMP

Cable Mates:
SEAC

OTHER SOLUTIONS





HIGH-SPEED CHANNEL PERFORMANCE

SEAF-RA/SEAM-RA
Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

25 Gbps

SEAF	–	NO. PINS PER ROW	–	01	–	PLATING OPTION	–	NO. OF ROWS	–	SOLDER TYPE	–	RA	–	OPTION	–	TR

NO. PINS PER ROW: –20, –30, –40, –50

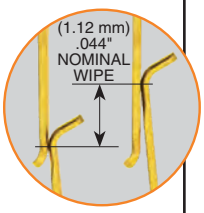
PLATING OPTION:
- **–L** = 10 µ" (0.25 µm) Gold on contact area, Matte Tin on solder tail
- **–S** = 30 µ" (0.76 µm) Gold on contact area, Matte Tin on solder tail

NO. OF ROWS:
- **–04** = Four Rows
- **–06** = Six Rows
- **–08*** = Eight Rows
- **–10*** = Ten Rows

SOLDER TYPE:
- **–1** = Tin/Lead Alloy Solder Charge
- **–2** = Lead-Free Solder Charge

OPTION:
- **–GP** = Guide Post Hole
- **–LP** = Latch Post (06 row 30 positions only) (Mates to SEAC Series)
- **–K** = Polyimide film Pick & Place Pad

TR: –TR = Tape & Reel

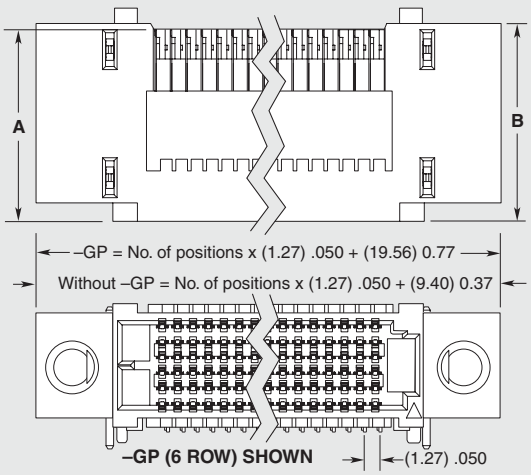


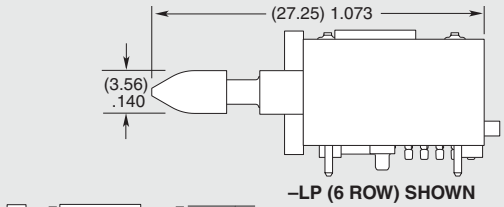
NO. OF ROWS	A	B	C
–04	(13.26) .522	(13.77) .542	(7.91) .311
–06	(15.80) .622	(16.31) .642	(10.45) .411
–08	(18.34) .722	(18.85) .742	(12.99) .511
–10	(20.88) .822	(21.39) .842	(15.53) .611

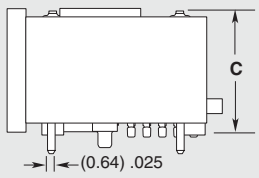
***Note:** Fixturing required to process eight and ten row options, see www.samtec.com/searayfixture

ALSO AVAILABLE
(MOQ Required)

- Other platings







Note:
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SEARAY™



SEAR SERIES

85 Ω HIGH-SPEED/HIGH-DENSITY RISER

SPECIFICATIONS

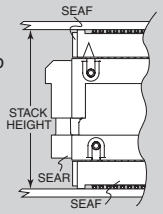
For complete specifications and recommended PCB layouts see www.samtec.com?SEAR

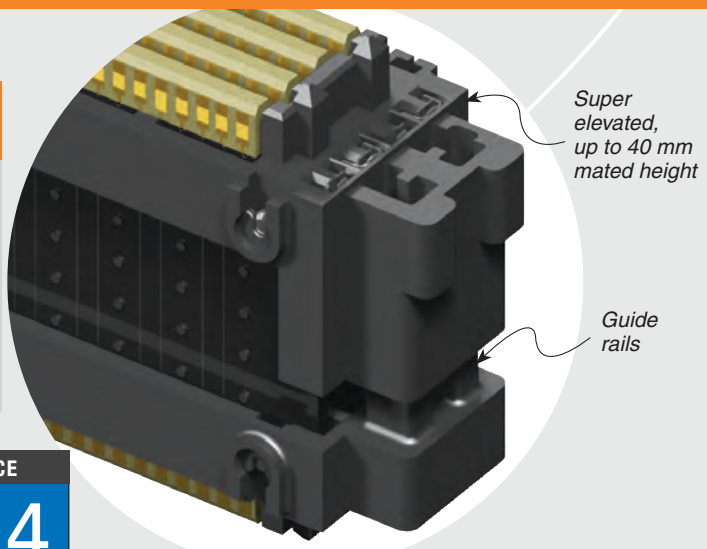
Insulator Material:
Black LCP
Clip Material:
Copper Alloy
PCB Material:
FR4, Copper
Operating Temp Range:
-55 °C to +125 °C
Current Rating:
Signal:
1.4 A per pin
(20 adjacent signal pins powered)
Ground:
5.4 A per pin
(10 adjacent ground pins powered)
Contact Area:
Hard Gold plated
Working Voltage:
240 VAC
RoHS Compliant:
Yes
Lead-Free Solderable:
Yes

Side A Mates with:
SEAF
Side B Mates with:
SEAF

ALSO AVAILABLE
(MOQ Required)

- Custom stack heights up to 40 mm
- 50 Ω and 100 Ω systems
- Additional positions
- Additional row options





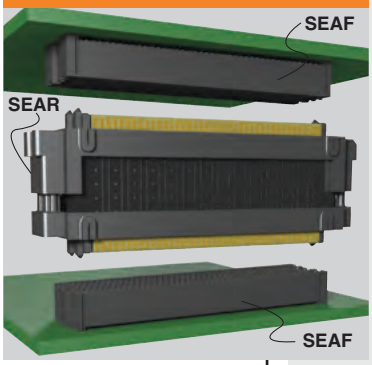
HIGH-SPEED CHANNEL PERFORMANCE

SEAR/SEAF @ 20 mm Mated Stack Height
Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

14 Gbps

SEAR	–	NO. OF PINS PER ROW	–	LEAD STYLE	–	NO. OF ROWS	–	085
		–40, –50 (Call Samtec for other sizes)		Specify LEAD STYLE from chart		–06 = Six Rows –08 = Eight Rows –10 = Ten Rows		–085 = 85 Ω system

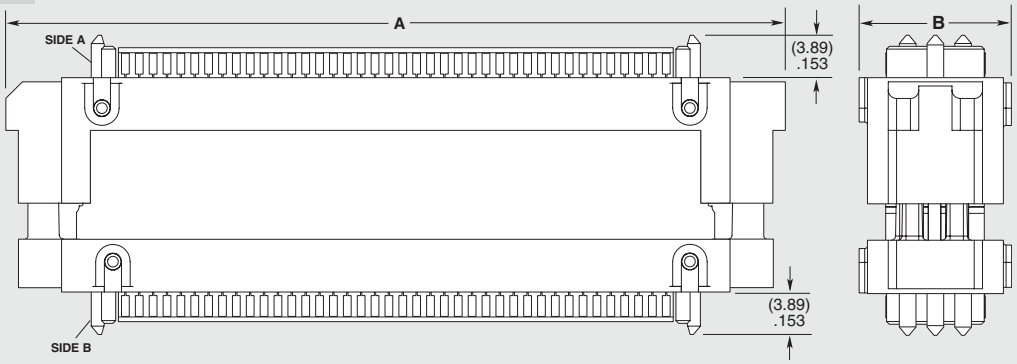
APPLICATION



NO. OF POSITIONS	A
–40	(71.42) 2.812
–50	(84.12) 3.312

NO. OF ROWS	B
–06	(11.43) .450
–08	(13.97) .550
–10	(16.51) .650

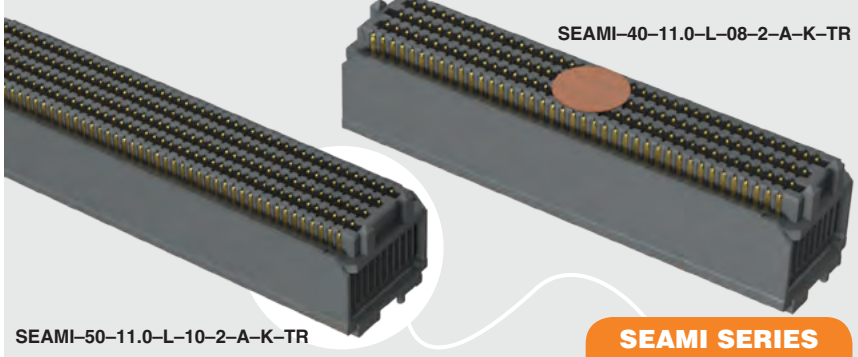
MATED HEIGHT*	
SEAR LEAD STYLE	SEAF LEAD STYLE –05.0 (SIDE A & B)
–10.0	20 mm
–20.0	30 mm
–30.0	40 mm
*Processing conditions will affect mated height.	



Note:
Some sizes, styles and options are non-standard, non-returnable.

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SEARAY™



(1.27 mm) .050"

SEAMI SERIES

85 Ω TUNED OPEN-PIN-FIELD ARRAY

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?SEAMI

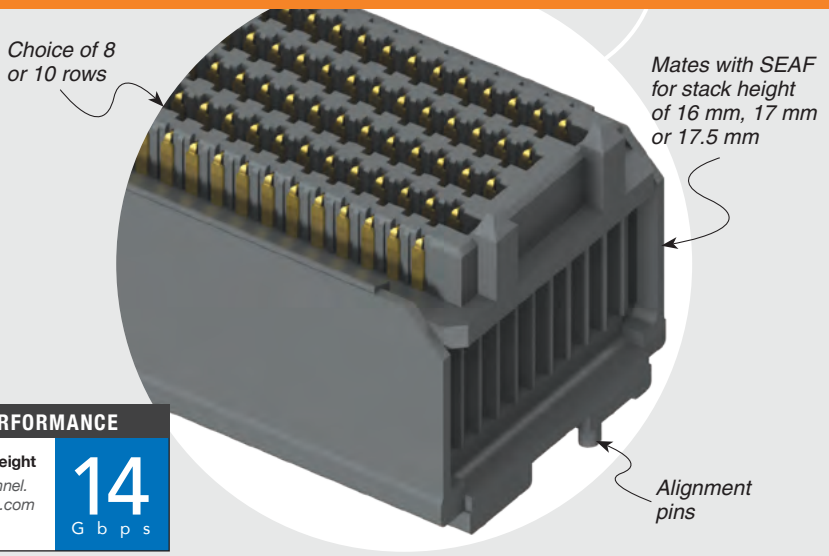
Insulator Material:
Black LCP
Contact Material:
Copper Alloy
Operating Temp Range:
Testing Now!
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Working Voltage:
Testing Now!
RoHS Compliant:
Yes
Lead-Free Solderable:
Yes

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

Mates with:
SEAF



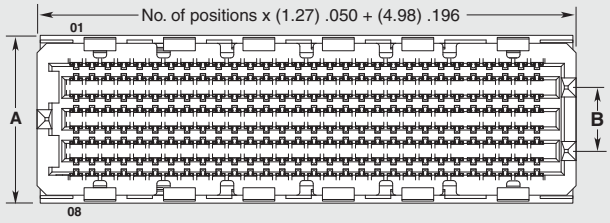
HIGH-SPEED CHANNEL PERFORMANCE

SEAMI/SEAF @ 16 mm Mated Stack Height
Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

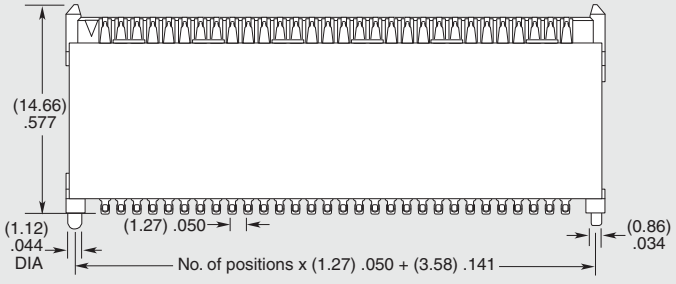
14 Gbps

SEAMI	–	NO. PINS PER ROW	–	11.0	–	PLATING OPTION	–	NO. OF ROWS	–	SOLDER TYPE	–	A	–	K	–	TR
SEAMI = 85 Ω tuned		–40, –50				**–L** = 10 µ" (0.25 µm) Gold on contact area, Matte Tin on solder tail **–S** = 30 µ" (0.76 µm) Gold on contact area, Matte Tin on solder tail		**–08** = Eight Rows **–10** = Ten Rows		**–1** = Tin/Lead Alloy Solder Charge **–2** = Lead-Free Solder Charge		**–A** = Alignment Pins **–K** = Polyimide film Pick & Place Pad **–TR** = Tape & Reel				

MATED HEIGHTS*			
SEAMI LEAD STYLE	SEAF LEAD STYLE		
	–05.0	–06.0	–06.5
–11.0	16 mm	17 mm	17.5 mm
*Processing conditions will affect mated height.			



NO. OF ROWS	A	B
–08	(13.41) .528	(5.08) .200
–10	(15.95) .628	(7.62) .300



ALSO AVAILABLE
(MOQ Required)

- Other plating options
- 20 & 30 pins per row
- 04 & 06 rows

Notes:
Patented

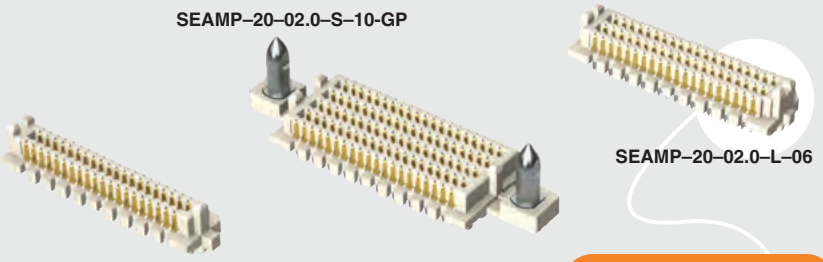
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SEARAY™



(1.27 mm) .050"

SEAMP SERIES

PRESS-FIT OPEN-PIN-FIELD ARRAY

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?SEAMP

Insulator Material:
Natural High Temperature Nylon
Contact Material:
Copper Alloy
Operating Temp Range:
-55 °C to +125 °C
Current Rating:
2.5 A per pin
(6 adjacent pins powered)
Plating:
Au or Sn over 50 µ" (1.27 µm) Ni
Working Voltage:
215 VAC
RoHS Compliant:
Yes

PROCESSING

Application tooling and one ton minimum press required. Contact ATG@samtec.com for more information.

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

ALSO AVAILABLE (MOQ Required)

- Other plating options

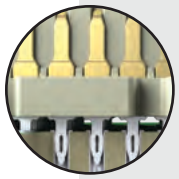
TOOLING

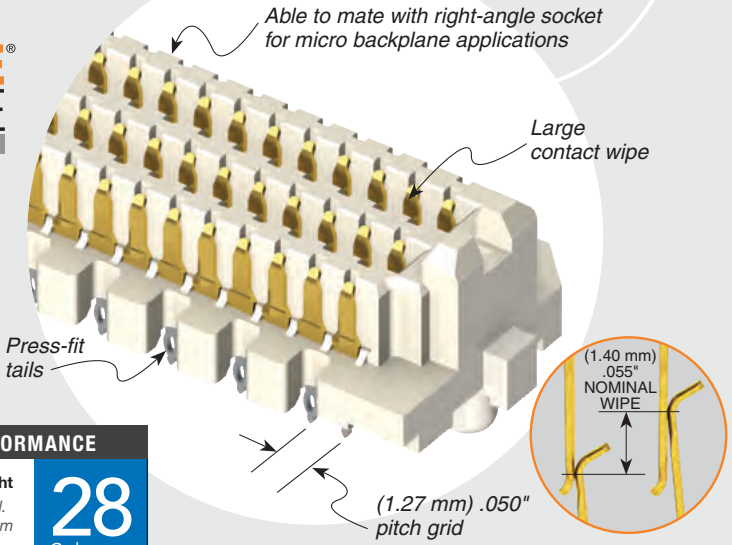
- Compliant pin fixture CAT-SEAMP-XX-XX

For more information, visit www.samtec.com/tooling

Mates with:
SEAF, SEAF-RA-GP, SEAFP

EDGE® RATE CONTACT



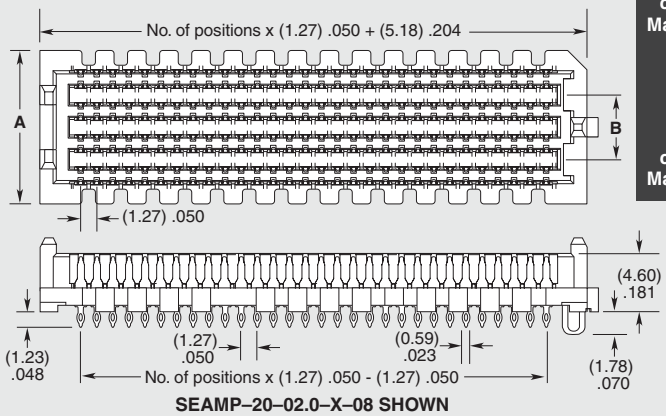


HIGH-SPEED CHANNEL PERFORMANCE

SEAMP/SEAF @ 7 mm Mated Stack Height
Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

28 Gbps

SEAMP	–	NO. OF POSITIONS PER ROW	–	02.0	–	PLATING OPTION	–	NO. OF ROWS	–	OPTION
SEAMP = Press-fit		–10, –20, –30, –40, –50				–L = 10 µ" (0.25 µm) Gold on contact area, Matte Tin on tail –S = 30 µ" (0.76 µm) Gold on contact area, Matte Tin on tail		–04 = Four Rows –06 = Six Rows –08 = Eight Rows –10 = Ten Rows		–GP = Guide Post (Mates with SEAF-RA-GP only) –TR = Tape & Reel

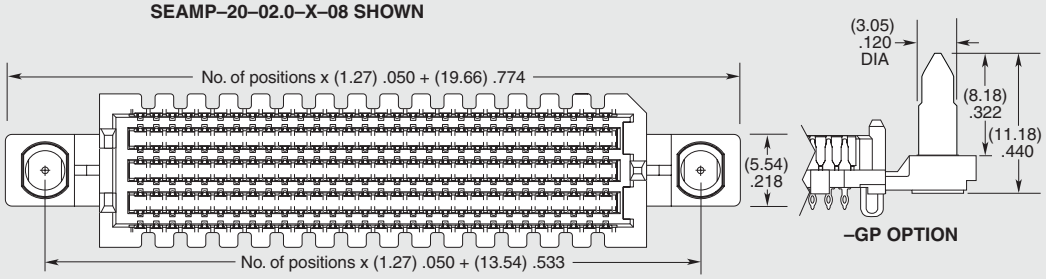


SEAMP–20–02.0–X–08 SHOWN

NO. OF ROWS	A	B
–04	(7.06) .278	(2.54) .100
–06	(9.60) .378	(2.54) .100
–08	(12.14) .478	(5.08) .200
–10	(14.68) .578	(7.62) .300

MATED HEIGHTS*	
SEAMP LEAD STYLE	SEAFP LEAD STYLE –05.0
–02.0	7 mm

* Processing conditions will affect mated height. Other stack heights available if mated with SEAF (solder charge tails).



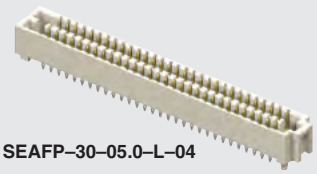
–GP OPTION

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SEARAY™





(1.27 mm) .050"

SEAFP SERIES

PRESS-FIT OPEN-PIN-FIELD ARRAY

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?SEAFP

Insulator Material:
Natural High Temperature Nylon
Contact Material:
BeCu Alloy
Plating:
Au or Sn over 50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C
Current Rating (SEAFP/SEAM):
1.9 A per pin (6 adjacent pins powered)
Working Voltage:
250 VAC
RoHS Compliant:
Yes

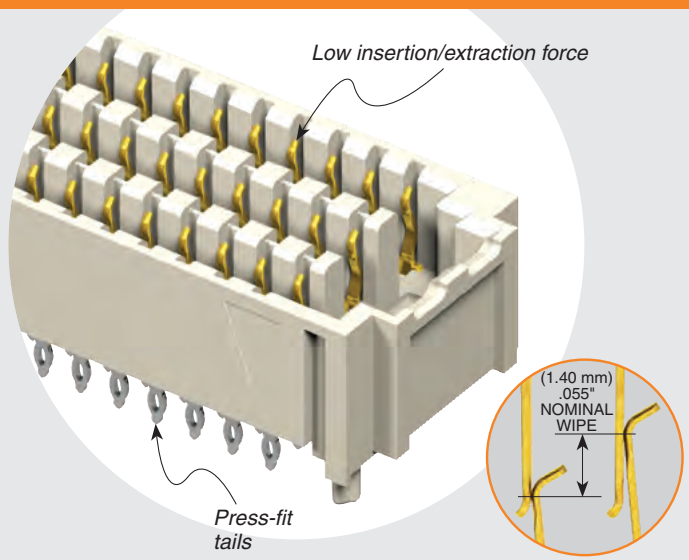
RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

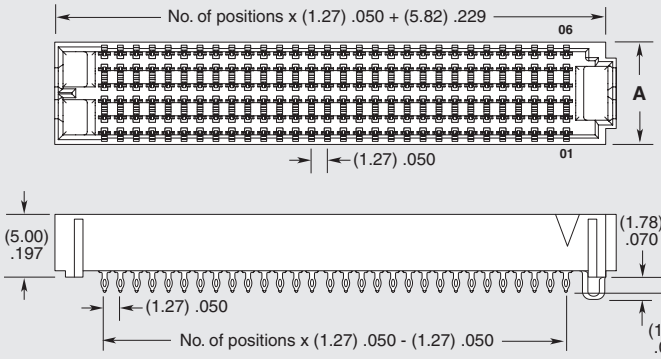
FILE NO. E111594

Board Mates:
SEAM, SEAM-RA, SEAMP

Cable Mates:
SEAC



SEAFP	–	NO. OF POSITIONS PER ROW	–	05.0	–	PLATING OPTION	–	NO. OF ROWS
		–10, –20, –30, –40, –50				–L = 10 µ" (0.25 µm) Gold on contact area, Matte Tin on solder tail –S = 30 µ" (0.76 µm) Gold on contact area, Matte Tin on solder tail		–04 = Four Rows –06 = Six Rows



NO. OF ROWS	A
–04	(5.61) .221
–06	(8.15) .321

TOOLING

- Compliant pin fixture CAT-SEAFP-XX-XX

For more information, visit www.samtec.com/tooling

Notes:
Patented

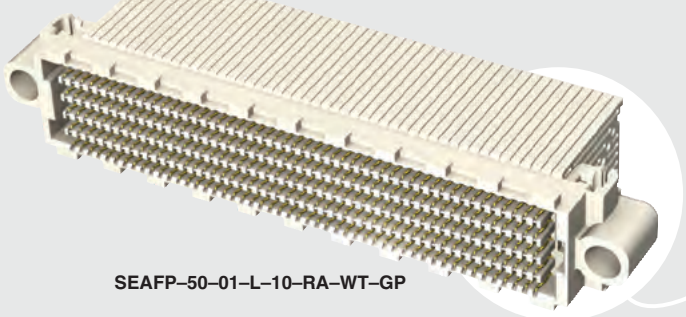
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SEARAY™



SEAFP–50–01–L–10–RA–WT–GP

(1.27 mm) .050"

SEAFP-RA SERIES

HIGH-DENSITY PRESS-FIT OPEN-PIN-FIELD

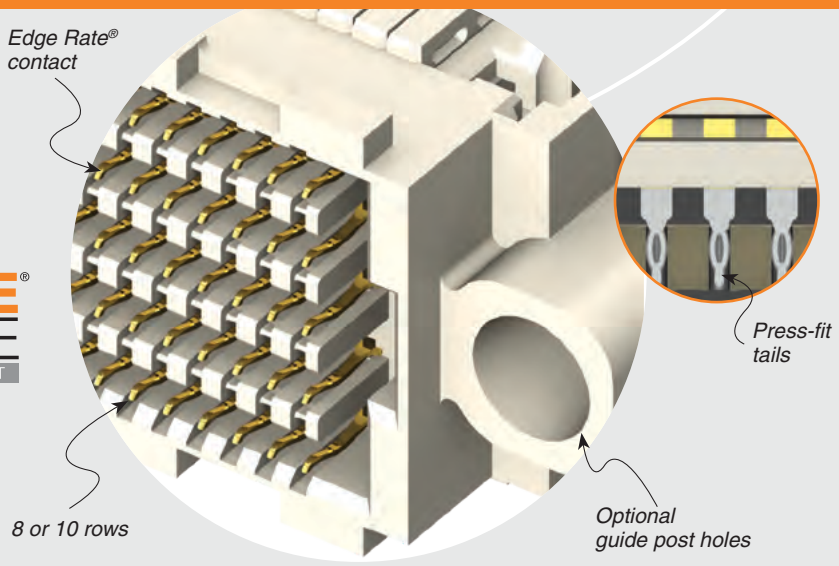
SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?SEAFP-RA

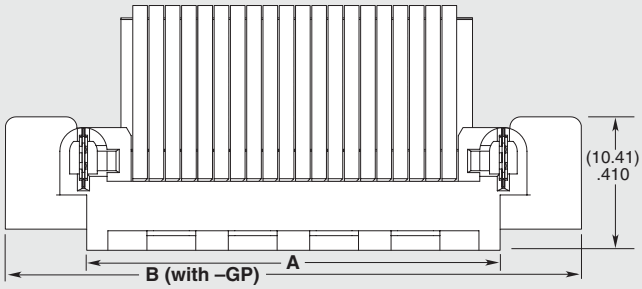
Insulator Material:
Natural LCP
Contact Material:
Copper Alloy
Operating Temp Range:
-55 °C to +125 °C
Current Rating:
1.3 A per pin
(10 adjacent pins powered)
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Working Voltage:
195 VAC/ 275 VDC
RoHS Compliant:
Yes

Mates with:
SEAM, SEAM-RA, SEAMP

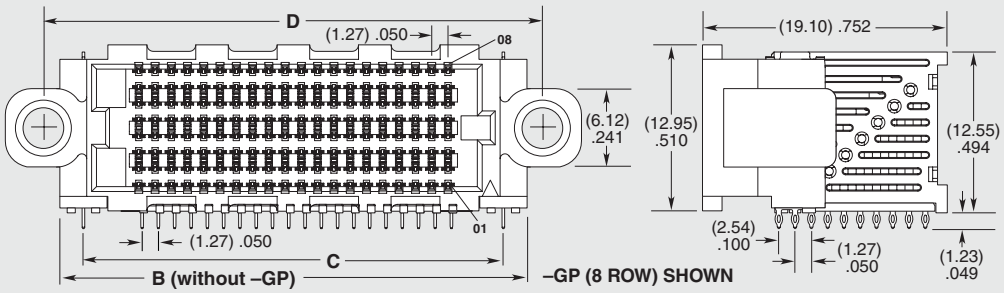
EDGE® RATE CONTACT



SEAFP	NO. OF POSITIONS	01	PLATING OPTION	NO. OF ROWS	RA	WT	OPTION
	–20, –30, –40, –50		–L = 10 µ" (0.25 µm) Gold on contact area, Matte Tin on solder tail –S = 30 µ" (0.76 µm) Gold on contact area, Matte Tin on solder tail	–08 = Eight Rows –10 = Ten Rows		–WT = Weld Tab	–GP = Guide Post Hole



NO. OF POSITIONS	A	B (With -GP)	B (W/O -GP)	C	D
–20	(32.26) 1.270	(44.96) 1.770	(36.45) 1.435	(32.77) 1.290	(39.45) .1.553
–30	(44.96) 1.770	(57.66) 2.270	(49.15) 1.935	(45.47) 1.790	(52.15) 2.053
–40	(57.66) 2.270	(70.36) 2.770	(61.85) 2.435	(58.17) 2.290	(64.85) 2.553
–50	(70.36) 2.770	(83.06) 3.270	(74.55) .2.935	(70.87) 2.790	(77.55) 3.053



–GP (8 ROW) SHOWN

TOOLING

- Compliant pin fixture CAT-SEAFP-XX-XX-RA

For more information, visit www.samtec.com/tooling

Notes:
Applications with varying board thickness refer to Samtec compliant pin termination specifications.

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JSO–1115–03–L


JSO–0515–01


JSO–1615–03–L

JSO SERIES

JACK SCREW STANDOFF

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?JSO

Material:
Stainless Steel
Locking Compound:
Nylon

BOARD STACKER	A	B	BOARD STACK HEIGHT
–0415	(4.15) .163	(2.50) .098	4 mm
–0515	(5.15) .203	(3.50) .138	5 mm
–0715	(7.15) .281	(5.50) .217	7 mm
–0815	(8.15) .321	(6.50) .256	8 mm
–1015	(10.15) .400	(8.50) .335	10 mm
–1115	(11.15) .439	(9.50) .374	11 mm
–1615	(16.15) .636	(14.50) .571	16 mm

ALSO AVAILABLE
(MOQ Required)

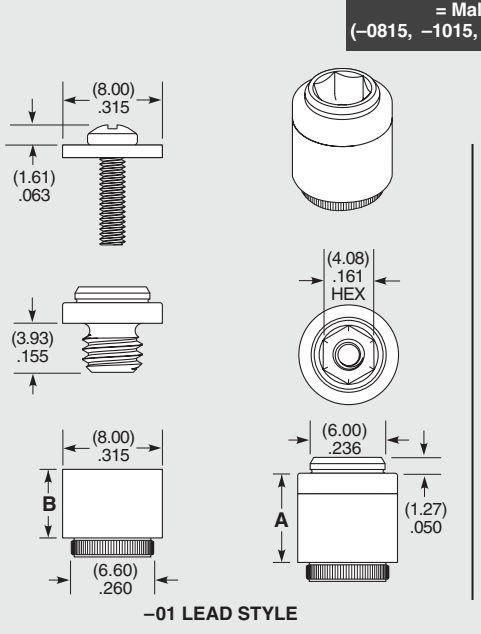
- Other heights
- Locking compound removed

Notes:
Patent Pending

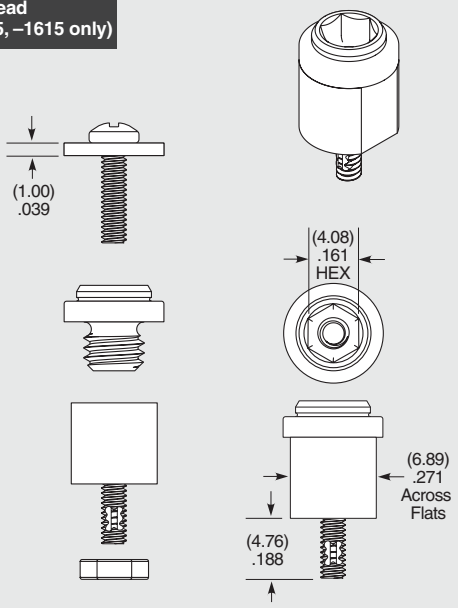
Standoffs are designed, 0.15 mm longer than connector stack heights to allow for processing variables.

Some sizes, styles and options are non-standard, non-returnable.

JSO	BOARD STACKER	LEAD STYLE	LOCKING OPTION
	Specify BOARD STACKER from chart	–01 = Press-In (–0415, –0515, –0715, –0815 only) –03 = Male Thread (–0815, –1015, –1115, –1615 only)	–L = Locking compound (Not available with –01 lead style, Required for –03 lead style)



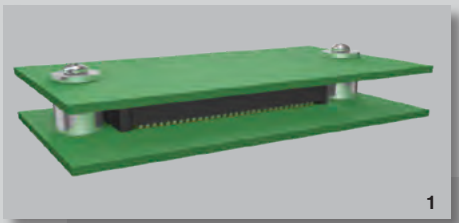
–01 LEAD STYLE

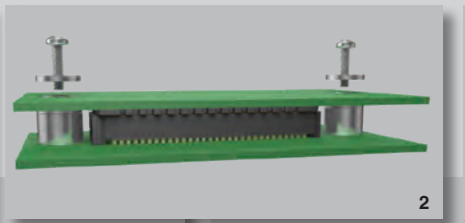


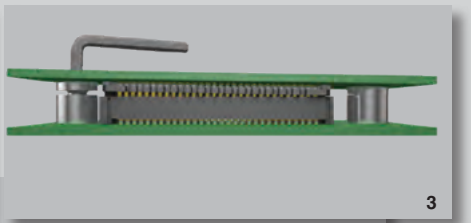
–03 LEAD STYLE

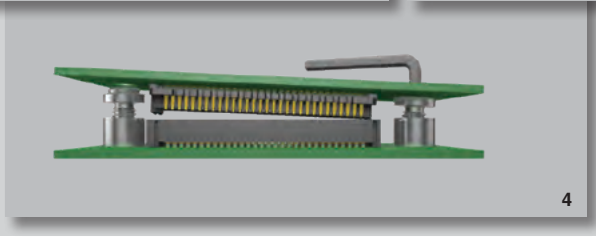
Components are to be packaged in separate bags unassembled.

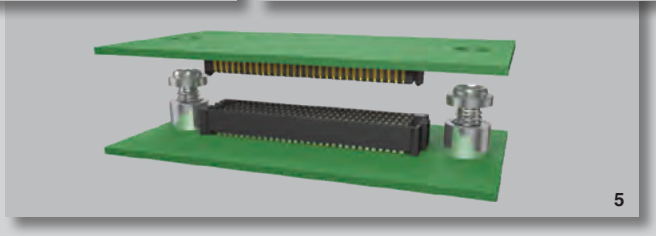
APPLICATION


1


2


3


4

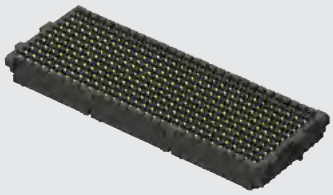

5

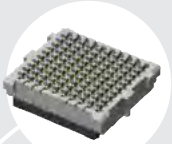
All parts within this catalog are built to Samtec's specifications.
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samtec

SKYRAY™

TPAF–M–H–H–H–0–S–2





TPAF–D–H–0–S–2

(1.50 mm) .059" X (1.75 mm) .069"

TPAF SERIES

HIGH-SPEED ELEVATED ARRAY RECEPTACLE

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?TPAF

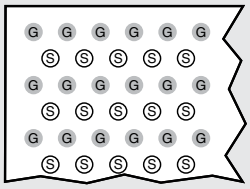
Insulator Material:
Black LCP (TPAF-M)
Gray LCP (TPAF-D)
Contact Material:
Copper Alloy
Ground Plane:
Copper Alloy
Operating Temp Range:
-55 °C to +125 °C
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Working Voltage:
165 VAC / 230 VAC
RoHS Compliant:
Yes
Lead-Free Solderable:
Yes

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

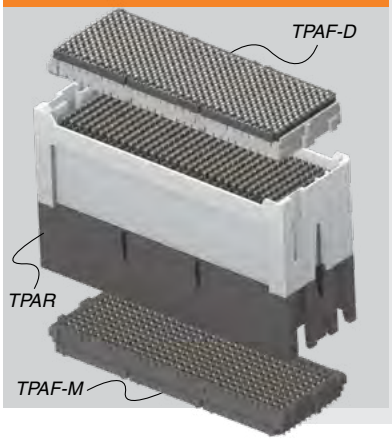
SIGNAL MAPPING

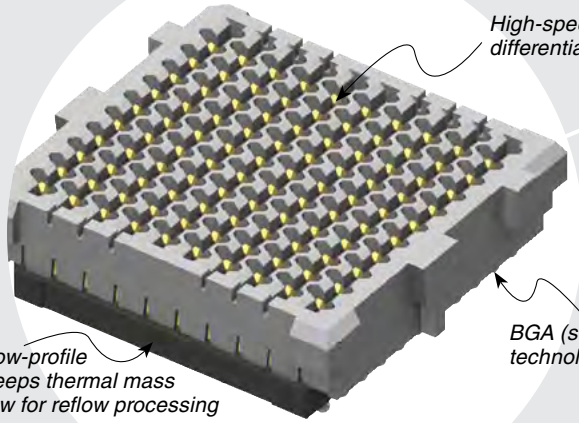


For complete signal mapping, see www.samtec.com?TPAF

Mates with:
TPAR

APPLICATION





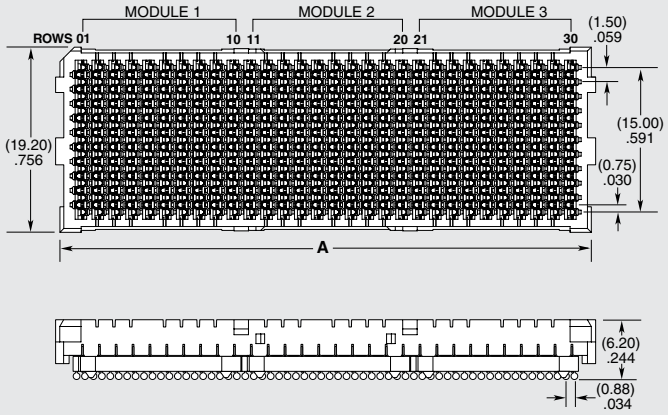
HIGH-SPEED CHANNEL PERFORMANCE

TPAF/TPAR @ 35 mm Stack Height

Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

28 Gbps

TPAF	–	BODY KEY	–	MOD 1	–	MOD 2	–	MOD 3	–	0	–	PLATING OPTION	–	SOLDER TYPE	–	OPTION
		–D = Detachable –M = Mounting		–H = High-speed Differential Pair		–H = High-speed Differential Pair (Leave blank for module 1 only)		–H = High-speed Differential Pair (Leave blank for module 1 or 2 only)				–S = 30 µ" (0.76 µm) Gold on contact area, Matte Tin on solder tail		–2 = Lead-Free Tin Alloy		–TY = Tray



MODULES	PAIRS	A
1	50	(21.00) .827
2	100	(38.50) 1.516
3	150	(56.00) 2.205

Notes:
Entire system requires TPAF-D, TPAF-M and TPAR.

Tape & Reel packaging is standard.

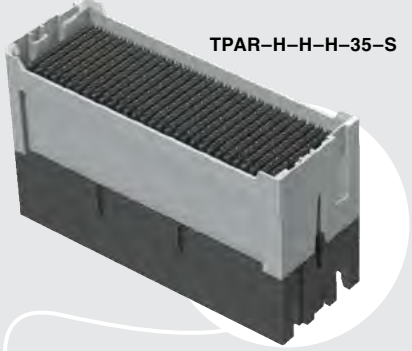
Dual source for Hirose IT5. Some sizes, styles and options are non-standard, non-returnable.

Due to technical progress, all designs, specifications and components are subject to change without notice.

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samtec

SKYRAY™





(1.50 mm) .059" X (1.75 mm) .069"

TPAR SERIES

HIGH-SPEED ELEVATED ARRAY RISER

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?TPAR

Insulator Material:
LCP
Contact Material:
Copper Alloy
Operating Temp Range:
-55 °C to +125 °C
Plating:
Au over 50 µ" (1.27 µm) Ni
Working Voltage:
165 VAC / 230 VAC
RoHS Compliant:
Yes
Lead-Free Solderable:
Yes

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

ALSO AVAILABLE (MOQ Required)

- 18 to 40 mm mated heights

TOOLING

- Installation Cap: CAT-PT-TPAR-X



- Removal Tool: CAT-EX-TPAR-X

Notes:
Entire system requires TPAF-D, TPAF-M and TPAR.

Tray is standard packaging

Dual source for Hirose IT5.

Some sizes, styles and options are non-standard, non-returnable.

Mates with:
TPAF-D, TPAF-M

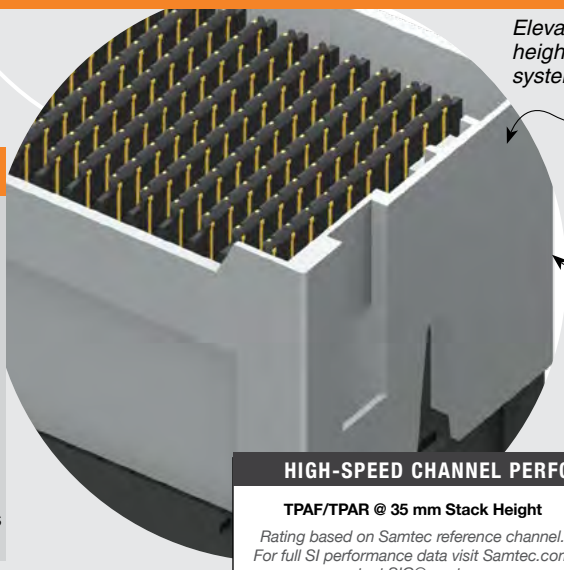
WAFER DESIGN



Cutaway shown for clarity



Polarity-swapping technology greatly reduces crosstalk in 100 Ω, differential applications.



Elevated stack heights allow better system air flow

35 mm standard mated height achieved when mated with TPAF-M and TPAF-D

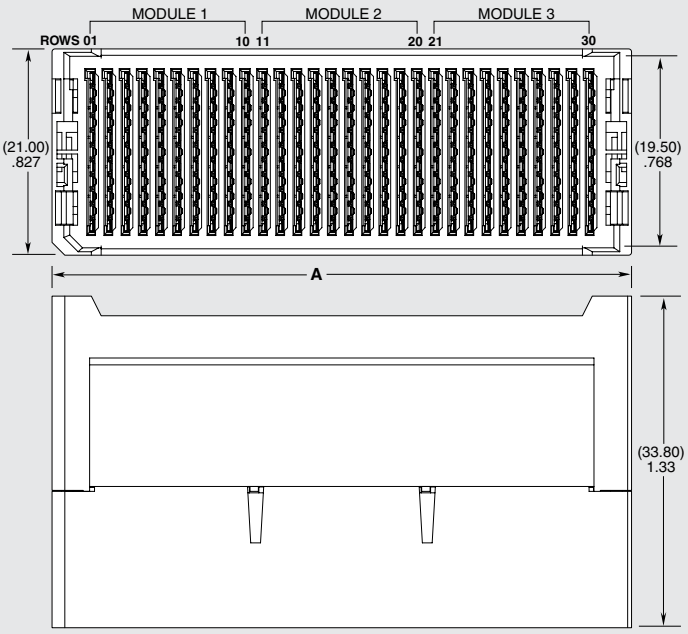
HIGH-SPEED CHANNEL PERFORMANCE

TPAF/TPAR @ 35 mm Stack Height

Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

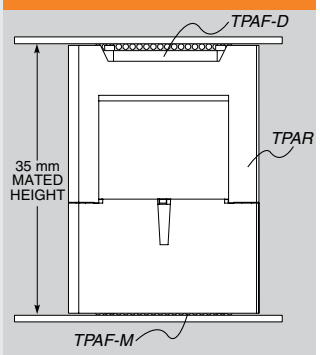
28 Gbps

TPAR	MODULE 1	MODULE 2	MODULE 3	LEAD STYLE	PLATING OPTION
	–H = Helical Crosstalk Cancellation	–H = Helical Crosstalk Cancellation (Leave blank for module 1 only)	–H = Helical Crosstalk Cancellation (Leave blank for module 1 or 2 only)	–35 = 35 mm	–S = 30 µ" (0.76 µm) Gold on contact area



MODULES	PAIRS	A
1	50	(24.00) .945
2	100	(41.50) 1.634
3	150	(59.00) 2.323

MATED HEIGHT



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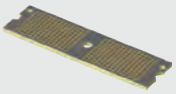
samtec

Z-RAY®

(0.80 mm) .0315"


ZA8–40–2–1.00–Z–10


ZA8–10–2–1.00–Z–10


ZA8–30–2–1.00–Z–10


ZA8–20–1–1.00–Z–10–2

ZA8 SERIES

ULTRA-LOW PROFILE MICRO ARRAYS

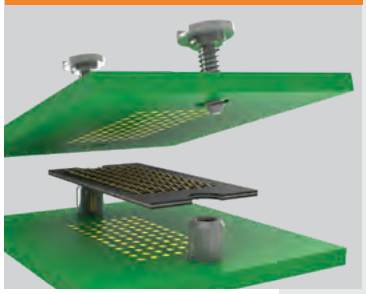
SPECIFICATIONS

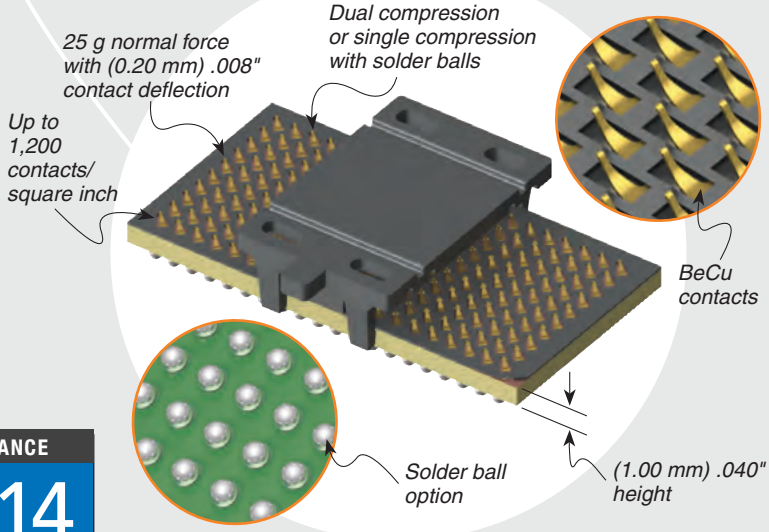
For complete specifications and recommended PCB layouts see www.samtec.com?ZA8

Insulator Material:
FR4
Contact Material:
BeCu
Plating:
Au over 50 µ" (1.27 µm) Ni
Current Rating:
.8 A per pin
(10 pins powered)
Operating Temp Range:
-55 °C to +105 °C
RoHS Compliant:
Yes

Note:
Solder ball parts will come with a pick & place pad.

APPLICATION





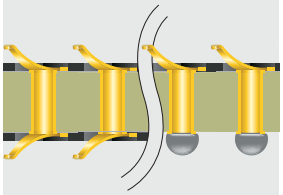
HIGH-SPEED CHANNEL PERFORMANCE

1 mm Stack Height

Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

14 Gbps

APPLICATION



Dual compression or single compression with solder balls

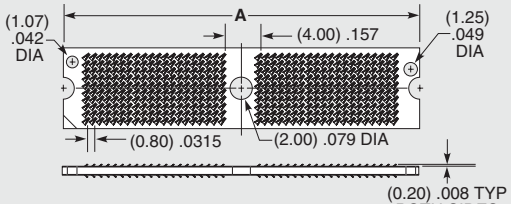
ORDERING INFORMATION

ZA8	–	POSITIONS PER ROW	–	TERMINATION	–	HEIGHT	–	PLATING	–	ROWS	–	SOLDER TYPE
		–10, –20, –30, –40		–1 = Single Compression with Solder Balls (–10 & –20 positions only) –2 = Dual Compression (–10, –20, –30 & –40 positions only)		–1.00 = (1.00 mm) .040" Height		–Z = 6 µ" (0.15 µm) Gold in contact area		–10 = Ten Rows		(Termination –1 only) –1 = Lead –2 = Lead-Free

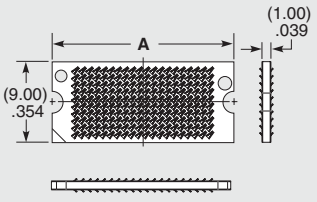
DESIGN FLEXIBILITY

The Z-Ray® platform is highly-customizable:

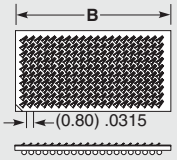
PITCH	≥ 0.65 mm
STACK HEIGHT	0.50 mm to 4.00 mm
DENSITY	Up to 1,200 contacts/square inch
RUGGEDIZING	Latches, Thermal Spreaders, Quick-release Spring Constraints
CONSTRUCTION	Multi-layer FR4 (e.g., Pitch Spreaders)



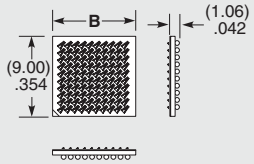
40 X 10 DUAL COMPRESSION



20 x 10 DUAL COMPRESSION



20 X 10 COMPRESSION WITH SOLDER BALLS



10 x 10 COMPRESSION WITH SOLDER BALLS

POSITIONS PER ROW	A	B
–10	(12.50) .492	(9.35) .368
–20	(20.50) .807	(17.35) .683
–30	(31.70) 1.248	N/A
–40	(39.70) 1.563	N/A

Note:
Some lengths, styles and options are non-standard, non-returnable.

Due to technical progress, all designs, specifications and components are subject to change without notice.

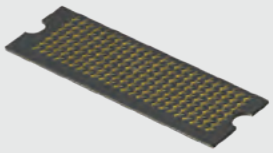
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samtec

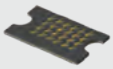
ZRAY

(0.80 mm) .0315"

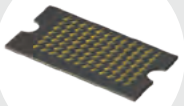
ZA8H–24–0.33–Z–07



ZA8H–06–0.33–Z–04



ZA8H–12–0.33–Z–07



ZA8H SERIES

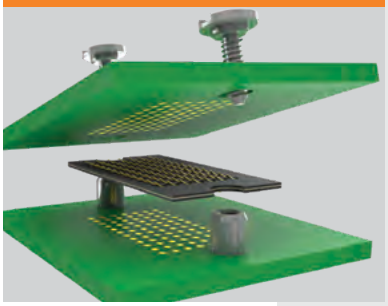
HIGH-SPEED DUAL COMPRESSION ARRAYS

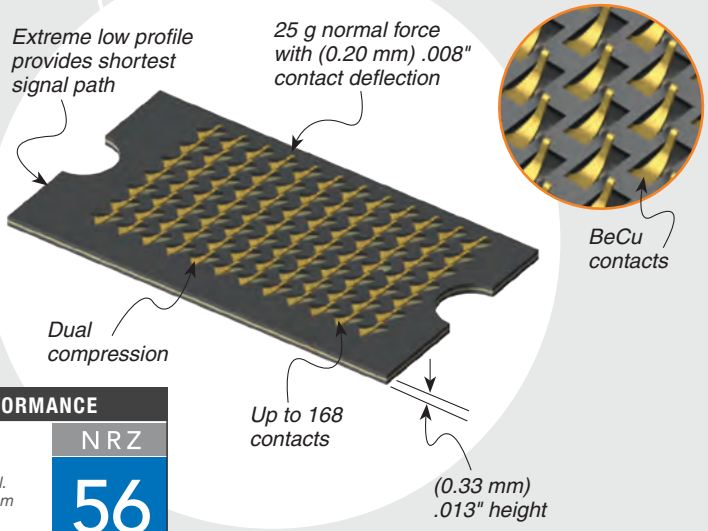
SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?ZA8H

Contact Material:
BeCu
Plating:
Au over 50 µ" (1.27 µm) Ni
Core:
Polyimide
Overlay:
Polyimide
Current Rating:
Testing Now!
Operating Temp Range:
Testing Now!
RoHS Compliant:
Yes

APPLICATION





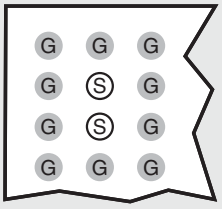
HIGH-SPEED CHANNEL PERFORMANCE

0.33 mm Stack Height

Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

NRZ
56
Gbps

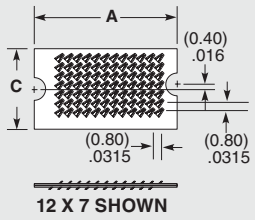
SIGNAL MAPPING



To meet 56 Gbps performance, footprint must meet specific signal/ground configurations. Contact the Signal Integrity Group at SIG@samtec.com for recommended signal routing.

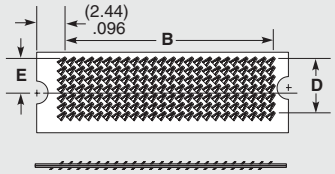
ZA8H	–	NO. OF POSITIONS	–	HEIGHT	–	PLATING	–	ROWS
		–06, –12, –24 (See Chart Below For Number Of Pairs)		–0.33 = (0.33 mm) .013" Height		–Z = 6 µ" (0.15 µm) Gold on contact over 40 µ" to 100 µ" (1.02 µm–2.54 µm) Nickel		–04 = Four Rows –07 = Seven Rows

ARRAY	PAIR COUNT
06 X 04	2
12 X 04	4
12 X 07	8
24 X 07	16



12 X 7 SHOWN

NO. OF POSITIONS	A	B
–06	(7.80) .307	(4.000) .1575
–12	(12.60) .496	(8.800) .3465
–24	(22.20) 874	(18.400) 7244



24 X 7 SHOWN

NO. OF ROWS	C	D	E
–04	(4.70) .185	(2.400) .0945	(1.75) .069
–07	(7.10) .280	(4.800) .1890	(2.95) .116

Note:
Some lengths, styles and options are non-standard, non-returnable.

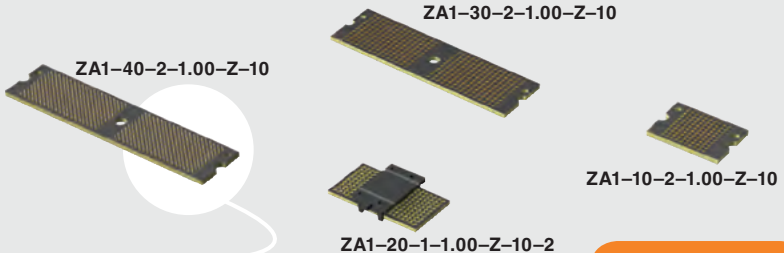
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samtec

Z-RAY®

(1.00 mm) .0394"



ZA1 SERIES

ULTRA-LOW PROFILE MICRO ARRAYS

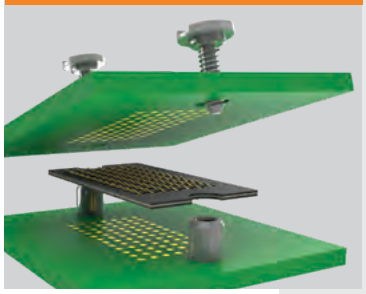
SPECIFICATIONS

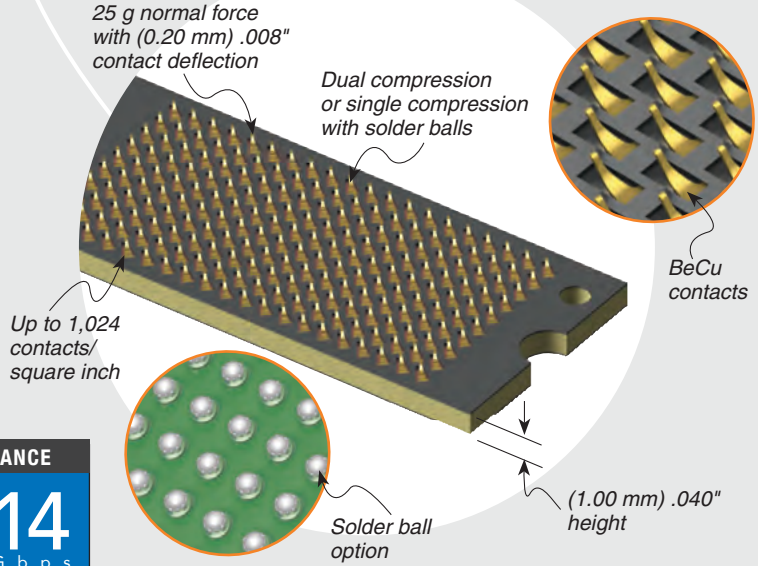
For complete specifications and recommended PCB layouts see www.samtec.com?ZA1

Insulator Material:
FR4
Contact Material:
BeCu
Plating:
Au over 50 µ" (1.27 µm) Ni
Current Rating:
1 A per pin
(10 pins powered)
Operating Temp Range:
-55 °C to +105 °C
RoHS Compliant:
Yes

Note:
Solder ball parts will come with a pick & place pad.

APPLICATION





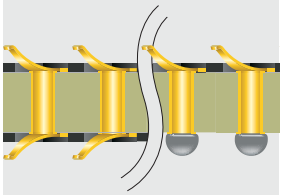
HIGH-SPEED CHANNEL PERFORMANCE

1 mm Stack Height

Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

14 Gbps

APPLICATION



Dual compression or single compression with solder balls

ZA1 – POSITIONS PER ROW – TERMINATION – HEIGHT – PLATING – ROWS – SOLDER TYPE

POSITIONS PER ROW: –10, –20, –30, –40

TERMINATION:
–1 = Single Compression with Solder Balls (–10 & –20 positions only)
–2 = Dual Compression (–10, –20, –30 & –40 positions only)

HEIGHT: –1.00 = (1.00 mm) .040" Height

PLATING: –Z = 6 µ" (0.15 µm) Gold in contact area

ROWS: –10 = Ten Rows

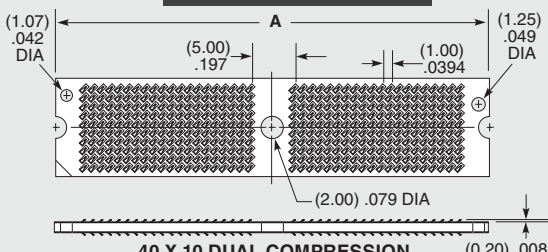
SOLDER TYPE: (Termination –1 only)
–1 = Lead
–2 = Lead-Free

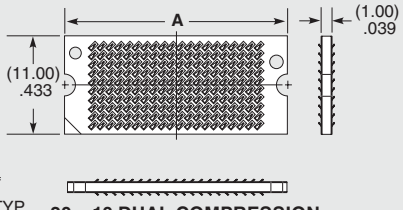
DESIGN FLEXIBILITY

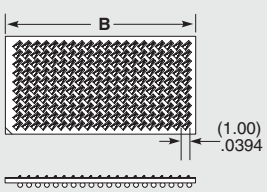
The Z-Ray® platform is highly-customizable:

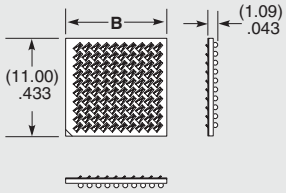
PITCH	≥ 0.65 mm
STACK HEIGHT	0.50 mm to 4.00 mm
DENSITY	Up to 1,024 contacts/square inch
RUGGEDIZING	Latches, Thermal Spreaders, Quick-release Spring Constraints
CONSTRUCTION	Multi-layer FR4 (e.g., Pitch Spreaders)

Note:
Some lengths, styles and options are non-standard, non-returnable.









POSITIONS PER ROW	A	B
–10	(14.30) .563	(11.40) .449
–20	(24.30) .957	(21.40) .843
–30	(38.30) 1.508	N/A
–40	(48.30) 1.902	N/A

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Z-RAY®



ZSO, ZD, ZHSI SERIES

Z-RAY® PRESS-FIT ALIGNMENT HARDWARE

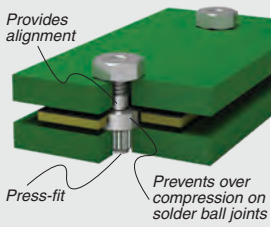
SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?ZSO, www.samtec.com?ZD or www.samtec.com?ZHSI

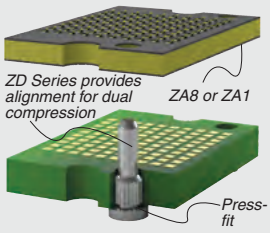
Material:
Brass
Plating:
100 µ" (2.54 µm) Ni

APPLICATIONS

ZSO APPLICATION

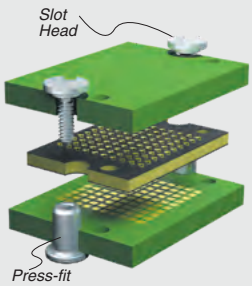


ZD APPLICATION



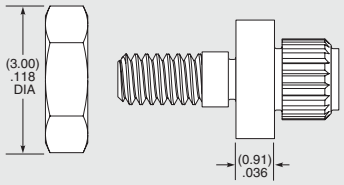
PCB cutaway for clarity

ZHSI APPLICATION



ZSO – STACK HEIGHT – 01

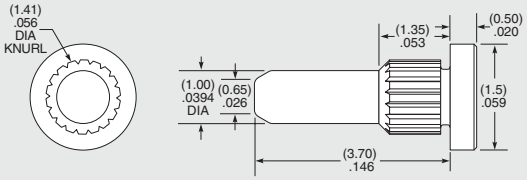
–0100
= 1.00 mm (.0394")



ZD – DIAMETER – LENGTH

–1.00
= 1.00 mm (.0394")

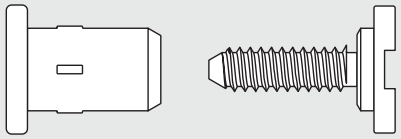
–03.7
= 03.7 mm (.146")



ZHSI – STACK HEIGHT – HEAD SPECIFICATION

Specify STACK HEIGHT from chart below.

–01
= Slot Head



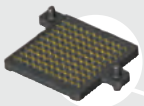
ººSTACK HEIGHT	PCB 1 THICKNeSS	PCB 2 THICKNeSS	INTERPOSER HEIGHT
–01	(1.57) 0.062	(1.57) 0.062	(1.00) 0.039
–02	(2.36) 0.093	(1.57) 0.062	(1.00) 0.039
–02	(2.36) 0.093	(2.36) 0.065	(1.00) 0.039
–02	(3.18) 0.125	(1.57) 0.062	(1.00) 0.039
–03	(3.18) 0.125	(2.36) 0.093	(1.00) 0.039

Note: Overtightening may cause screw damage. Contact Samtec for specific torque details.

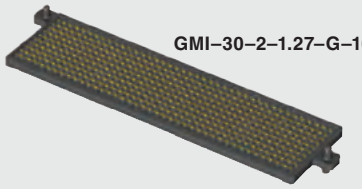
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GMI–10–2–1.27–G–10



GMI–30–2–1.27–G–10

(1.00 mm) .0394"

GMI SERIES

LOW-PROFILE ONE-PIECE ARRAY

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?GMI

Insulator Material:
Black LCP
Contact Material:
Copper Alloy
Plating:
Au over 50 µ" (1.27 µm) Ni
Current Rating:
.89 A per pin
(10 pins powered)
Operating Temp Range:
Testing Now!
RoHS Compliant:
Yes

PROCESSING

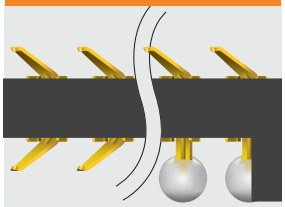
Lead-Free Solderable:
Yes
SMT Lead Coplanarity:
(0.05 mm) .002" (10-20)*
(0.08 mm) .003" (30)*
*(.004" stencil solution may be available; contact IPG@samtec.com)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

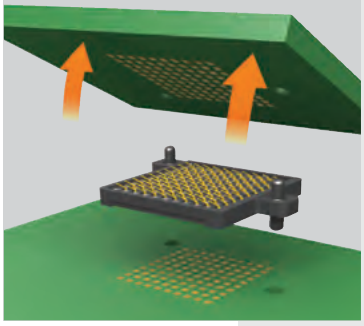
FILE NO. E111594

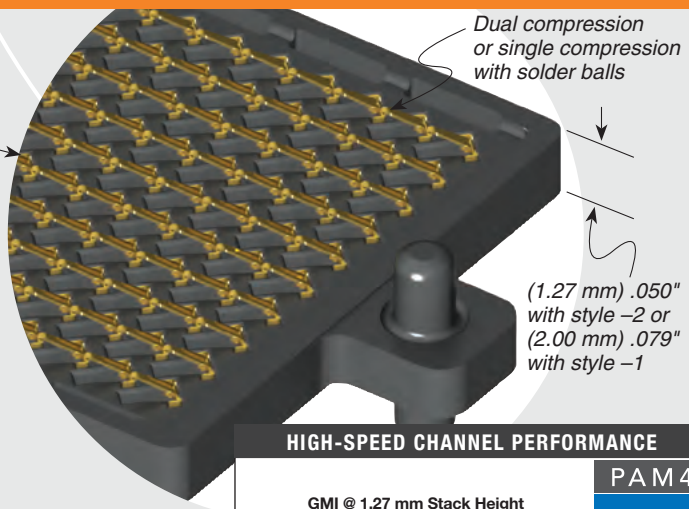
APPLICATION



Dual compression or single compression with solder balls

APPLICATION





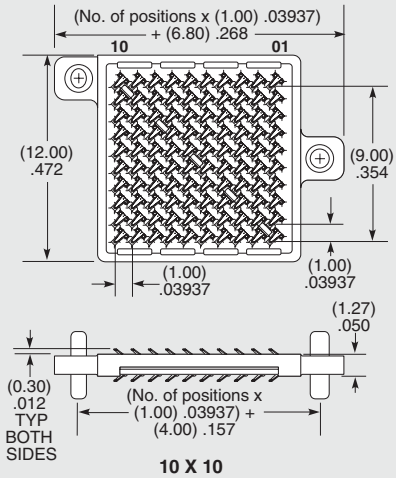
HIGH-SPEED CHANNEL PERFORMANCE

GMI @ 1.27 mm Stack Height
Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

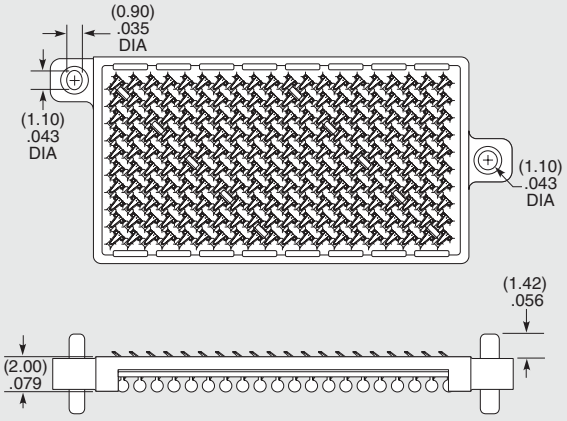
PAM4
56
Gbps

GMI	POSITIONS PER ROW	STYLE	BOARD SPACING	PLATING	ROWS	SOLDER TYPE	OTHER OPTION
	–10, –20, –30, –40	–1 = Single Compression with Solder Ball –2 = Dual Compression	–1.27 = (1.27 mm) .050" Board space (Style –2 only) –2.00 = (2.00 mm) .079" Board space (Style –1 only)	–G = 10 µ" (0.25 µm) Gold in contact area	–10 = Ten Rows	(Style –1 only) –2 = Lead-Free 96.5% Sn/ 3% Ag/.5% Cu	(Style –1 only) –P = Pick & Place Pad

–20, –30 POSITIONS PRELIMINARY



10 X 10
DUAL COMPRESSION
(STYLE –2)

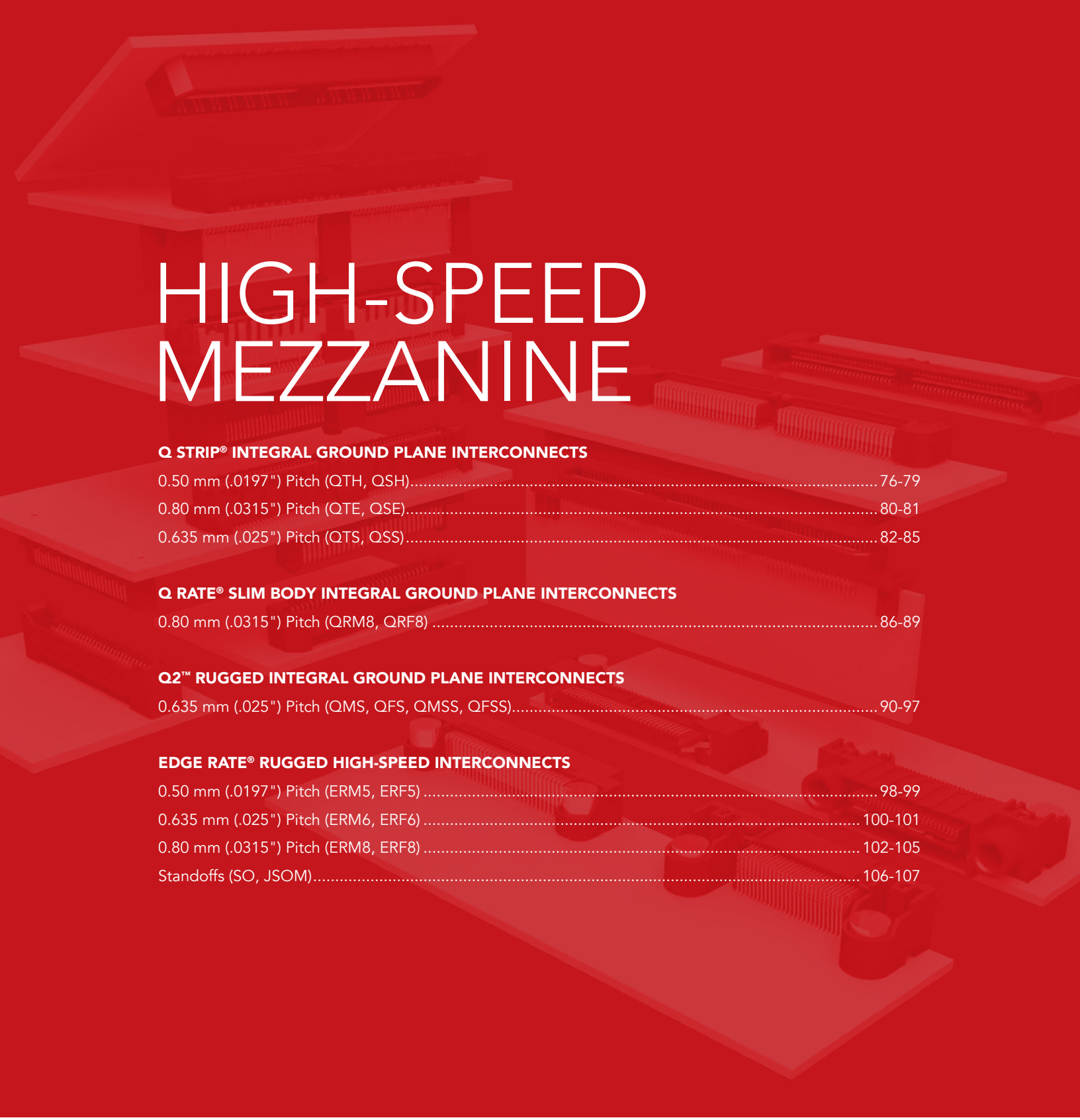


20 X 10
SINGLE COMPRESSION WITH SOLDER BALLS
(STYLE –1)

Note:
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HIGH-SPEED MEZZANINE

Q STRIP® INTEGRAL GROUND PLANE INTERCONNECTS

0.50 mm (.0197") Pitch (QTH, QSH) 76-79

0.80 mm (.0315") Pitch (QTE, QSE) 80-81

0.635 mm (.025") Pitch (QTS, QSS) 82-85

Q RATE® SLIM BODY INTEGRAL GROUND PLANE INTERCONNECTS

0.80 mm (.0315") Pitch (QRM8, QRF8) 86-89

Q2™ RUGGED INTEGRAL GROUND PLANE INTERCONNECTS

0.635 mm (.025") Pitch (QMS, QFS, QMSS, QFSS) 90-97

EDGE RATE® RUGGED HIGH-SPEED INTERCONNECTS

0.50 mm (.0197") Pitch (ERM5, ERF5) 98-99

0.635 mm (.025") Pitch (ERM6, ERF6) 100-101

0.80 mm (.0315") Pitch (ERM8, ERF8) 102-105

Standoffs (SO, JSOM) 106-107

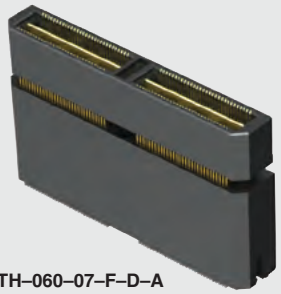
APPLICATIONS

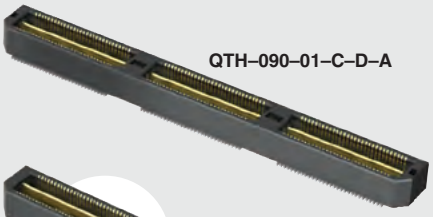
High-Speed Board-to-Board Systems 14-15

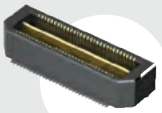
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QSTRIP®

(0.50 mm) .0197"


QTH–060–07–F–D–A


QTH–090–01–C–D–A


QTH–030–01–L–D–A

QTH SERIES

HIGH-SPEED GROUND PLANE HEADER

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?QTH

Insulator Material:
Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Plating:
Au or Sn over 50 µ" (1.27 µm) Ni
Current Rating:
Contact:
2 A per pin
(2 pins powered)
Ground Plane:
25 A per ground plane
(1 ground plane powered)
Operating Temp Range:
-55 °C to +125 °C
Voltage Rating:
175 VAC (5 mm Stack Height)
Max Cycles: 100
RoHS Compliant: Yes

PROCESSING

Lead–Free Solderable: Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (030-060)
(0.15 mm) .006" max (090)*
*(.004" stencil solution may be available; contact IPG@samtec.com)
Board Stacking:
For applications requiring more than two connectors per board contact ipg@samtec.com

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

STANDARDS

- PISMO™ 1

Visit www.samtec.com/standards for more information.

ALSO AVAILABLE
(MOQ Required)

- 15 mm, 22 mm and 30 mm stack height
- 30 µ" (0.76 µm) Gold (Specify -H plating for Data Rate cable mating applications.)
- Edge Mount & Guide Posts
- 80 (-DP), 120, 150 positions per row
- Retention Option

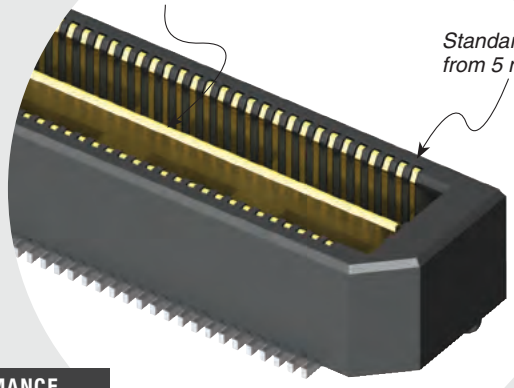
Note:
Some lengths, styles and options are non-standard, non-returnable.

Board Mates:
QSH
Cable Mates:
HQCD, HQDP
(See Also Available Note)
Standoffs:
SO

10 YEAR MFG WITH 50 µ" GOLD
EXTENDED LIFE PRODUCT
HIGH MATING CYCLES

Integral metal plane for power or ground

Standard Stack Heights from 5 mm to 25 mm



HIGH-SPEED CHANNEL PERFORMANCE

QTH/QSH @ 5 mm Mated Stack Height
Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

25 Gbps

POWER/SIGNAL APPLICATION



Compatible with UMPT/UMPS for flexible two-piece power/signal solutions

QTH	–	PINS PER ROW NO. OF PAIRS	–	LEAD STYLE	–	PLATING OPTION	–	TYPE	–	A	–	OTHER OPTION

–030, –060, –090
(60 total pins per bank = –D)
–020, –040, –060
(20 pairs per bank = –D–DP)

Specify LEAD STYLE from chart

–F
= Gold Flash on Signal Pins and Ground Plane, Matte Tin on tails

–L
= 10 µ" (0.25 µm) Gold on Signal Pins and Ground Plane, Matte Tin on tails

–C*
= Electro-Polished Selective 50 µ" (1.27 µm) min Au over 150 µ" (3.81 µm) Ni on Signal Pins in contact area, 10 µ" (0.25 µm) min Au over 50 µ" (1.27 µm) Ni on Ground Plane in contact area, Matte Tin over 50 µ" (1.27 µm) min Ni on all solder tails

***Note:**
–C Plating passes 10 year MFG testing

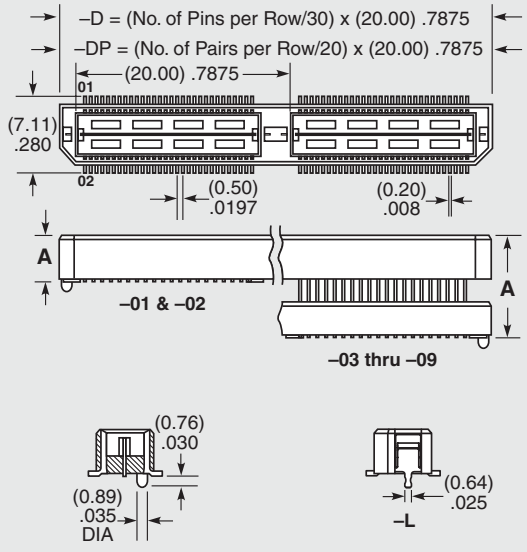
–D
= Single-Ended

–D–DP
= Differential Pair (–01 only)

–K
= (7.00 mm) .275" DIA Polyimide film Pick & Place Pad (N/A with -05 & -07 lead style)

–TR
= Tape & Reel (–090 positions maximum)

–L
= Latching Option (–01 lead style only) (N/A on –060 (–D–DP) & –090)



QTH LEAD STYLE	A	HEIGHT WITH QSH*
–01	(4.27) .168	(5.00) .197
–02	(7.26) .286	(8.00) .315
–03	(10.27) .404	(11.00) .433
–04	(15.25) .600	(16.00) .630
–05	(18.26) .718	(19.00) .748
–07	(24.24) .954	(25.00) .984
–09	(13.26) .522	(14.00) .551

*Processing conditions will affect mated height. See SO Series for board space tolerances

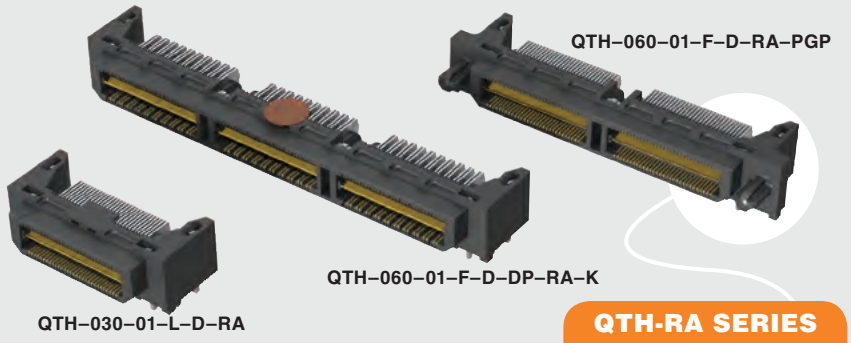
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QSTRIP®

(0.50 mm) .0197"



QTH-RA SERIES

RIGHT-ANGLE GROUND PLANE HEADER

SPECIFICATIONS

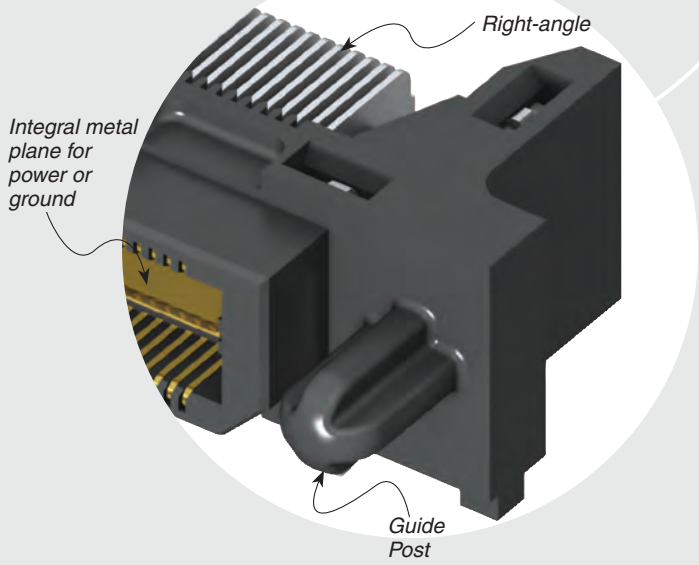
For complete specifications and recommended PCB layouts see www.samtec.com?QTH-RA or www.samtec.com?QTH-DP-RA

Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Weld Tab:
Phosphor Bronze
Ground Plane:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Current Rating:
Contact:
2.2 A per pin
(2 pins powered)
Ground Plane:
21.8 A per ground plane
(1 ground plane powered)
Operating Temp Range:
-55 °C to +125 °C
Voltage Rating:
220 VAC
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (020-090)

Board Mates:
QSH



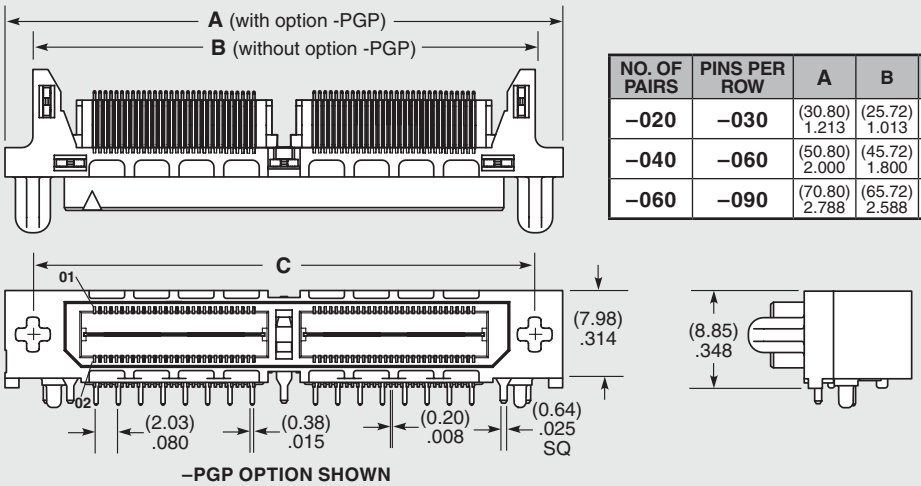
QTH	–	PINS PER ROW NO. OF PAIRS	–	01	–	PLATING OPTION	–	TYPE	–	RA	–	OTHER OPTION

PINS PER ROW NO. OF PAIRS
–030, –060, –090
–D = (60 total pins per bank)
–020, –040, –060
–D–DP = (20 pairs per bank)

PLATING OPTION
–F = Gold Flash on contact, Matte Tin on tails
–L = 10 µ" (0.25 µm) Gold contact, Matte Tin on tails

TYPE
–D = Single-Ended
–D–DP = Differential Pair

OTHER OPTION
–PGP = Plastic Guide Post
–K = (7.00 mm) .275" DIA Polyimide film Pick & Place Pad



–PGP OPTION SHOWN

NO. OF PAIRS	PINS PER ROW	A	B	C
–020	–030	(30.80) 1.213	(25.72) 1.013	(25.72) 1.013
–040	–060	(50.80) 2.000	(45.72) 1.800	(45.72) 1.800
–060	–090	(70.80) 2.788	(65.72) 2.588	(65.72) 2.588

Note:
Some lengths, styles and options are non-standard, non-returnable.

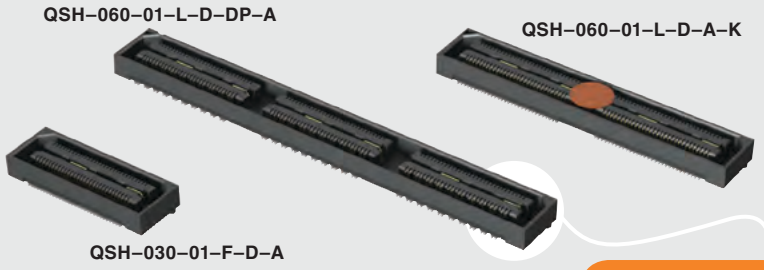
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QSTRIP®

(0.50 mm) .0197"



QSH SERIES

HIGH-SPEED GROUND PLANE SOCKET

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?QSH

Insulator Material:
Liquid Crystal Polymer
Contact Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Current Rating:
Contact:
2 A per pin
(2 pins powered)
Ground Plane:
25 A per ground plane
(1 ground plane powered)
Operating Temp Range:
-55 °C to +125 °C
Voltage Rating:
175 VAC (5 mm Stack Height)
Max Cycles:
100
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (020-060)
Board Stacking:
For applications requiring more than two connectors per board contact ipg@samtec.com

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

STANDARDS

- PISMO™ 1

Visit www.samtec.com/standards for more information.

ALSO AVAILABLE
(MOQ Required)

- 15 mm, 22 mm and 30 mm stack height
- 30 µ" (0.76 µm) Gold (Specify -H plating for Data Rate cable mating applications.)
- Edge Mount & Guide Posts
- 80 (-DP), 120, 150 positions per row
- Retention Option

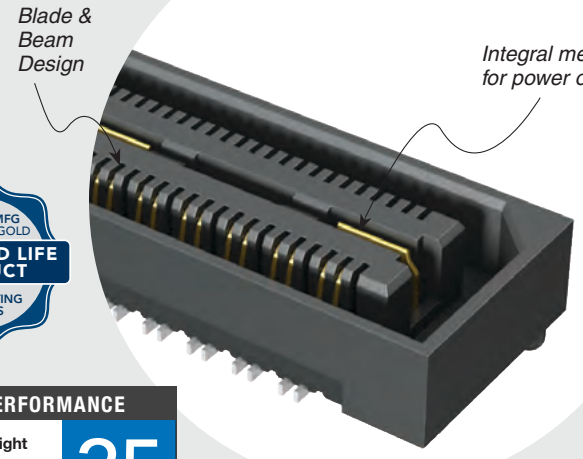
Note:
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Board Mates:
QTH

Cable Mates:
HQCD, HQDP
(See Also Available Note)

Standoffs:
SO

10 YEAR MFG WITH 50 µ" GOLD
EXTENDED LIFE PRODUCT
HIGH MATING CYCLES



HIGH-SPEED CHANNEL PERFORMANCE

QTH/QSH @ 5 mm Mated Stack Height
Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

25 Gbps

POWER/SIGNAL APPLICATION



Compatible with UMPT/UMPS for flexible two-piece power/signal solutions

QSH	–	PINS PER ROW NO. OF PAIRS	–	01	–	PLATING OPTION	–	TYPE	–	A	–	OTHER OPTION

–030, –060, –090
(60 total pins per bank = –D)

–020, –040, –060
(20 pairs per bank = –D–DP)

–F
= Gold Flash on Signal Pins and Ground Plane, Matte Tin on tails

–L
= 10 µ" (0.25 µm) Gold on Signal Pins and Ground Plane, Matte Tin on tails

–C*
= Electro-Polished Selective
50 µ" (1.27 µm) min Au over 150 µ" (3.81 µm) Ni on Signal Pins in contact area,
10 µ" (0.25 µm) min Au over 50 µ" (1.27 µm) Ni on Ground Plane in contact area,
Matte Tin over 50 µ" (1.27 µm) min Ni on all solder tails

***Note:**
–C Plating passes 10 year MFG testing

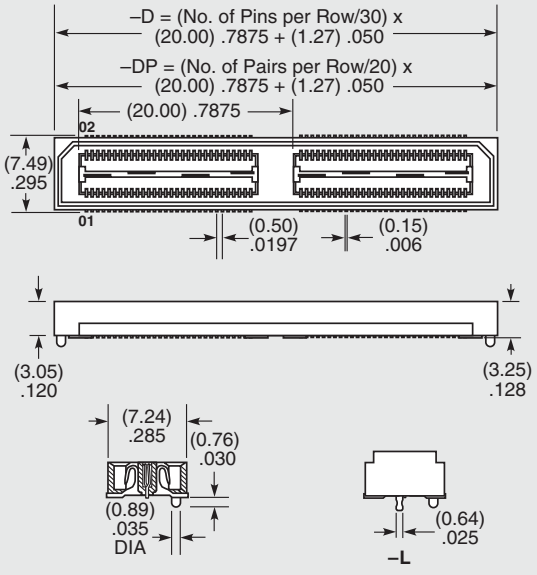
–D
= Single-Ended

–D–DP
= Differential Pair (–01 only)

–K
= (8.25 mm) .325" DIA Polyimide Film Pick & Place Pad

–TR
= Tape & Reel (–090 positions maximum)

–L
= Latching Option (Not available on –060 (–D–DP) & –090 positions)



QTH LEAD STYLE	MATED HEIGHT WITH QSH*
–01	(5.00) .197
–02	(8.00) .315
–03	(11.00) .433
–04	(16.00) .630
–05	(19.00) .748
–07	(25.00) .984
–09	(14.00) .551

*Processing conditions will affect mated height. See SO Series for board space tolerances

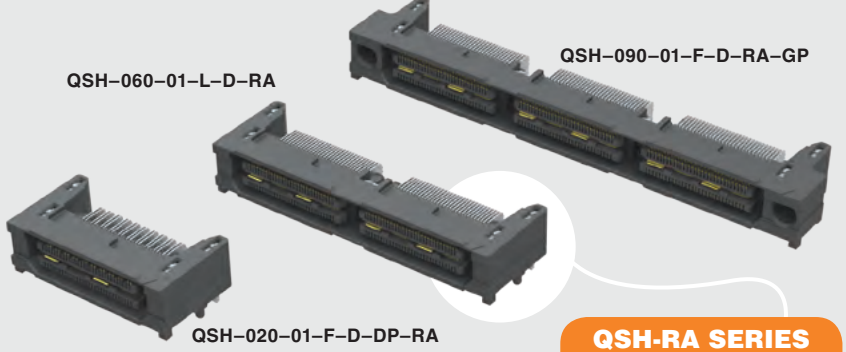
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QSTRIP®

(0.50 mm) .0197"



QSH-RA SERIES

RIGHT-ANGLE GROUND PLANE SOCKET

SPECIFICATIONS

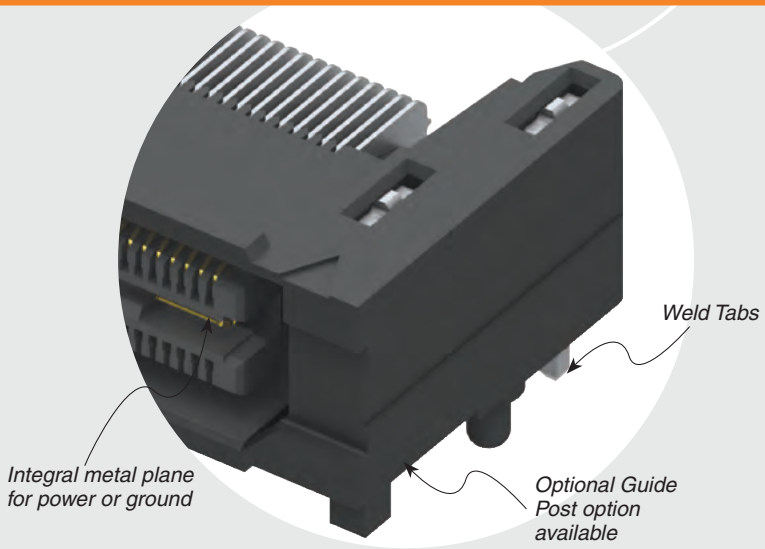
For complete specifications and recommended PCB layouts see www.samtec.com?QSH-RA or www.samtec.com?QSH-DP-RA

Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Weld Tab:
Phosphor Bronze
Ground Plane:
Phosphor Bronze
Plating:
Au or Sn over 50 µ" (1.27 µm) Ni
Current Rating:
Contact:
2.2 A per pin
(2 pins powered)
Ground Plane:
21.8 A per ground plane
(1 ground plane powered)
Operating Temp Range:
-55 °C to +125 °C
Voltage Rating:
220 VAC
RoHS Compliant:
Yes

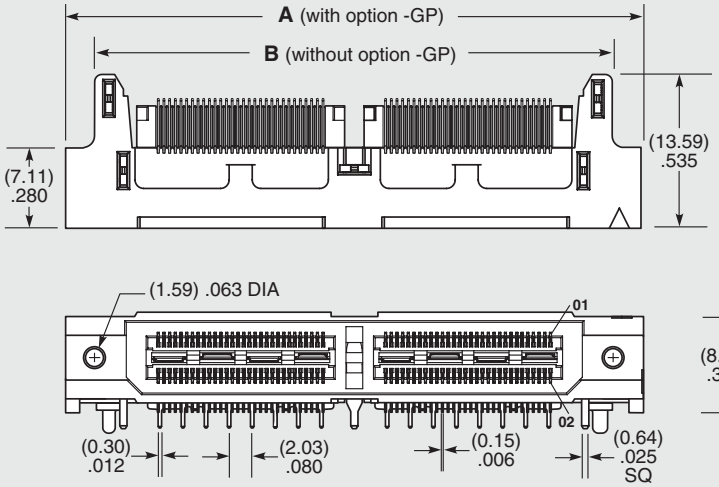
PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (020-090)

Board Mates:
QTH



QSH	–	PINS PER ROW NO. OF PAIRS	–	01	–	PLATING OPTION	–	TYPE	–	RA	–	OTHER OPTION
		–030, –060, –090 –D = (60 total pins per bank) –020, –040, –060 –D–DP = (20 pairs per bank)				–F = Gold Flash on contact, Matte Tin on tails –L = 10 µ" (0.25 µm) Gold contact, Matte Tin on tails		–D = Single-Ended –D–DP = Differential Pair				–GP = Guide Post Holes –K = (6.50 mm) .256" DIA Polyimide film Pick & Place Pad



NO. OF PAIRS	PINS PER ROW	A	B
–020	–030	(30.80) 1.213	(25.72) 1.013
–040	–060	(50.80) 2.000	(45.72) 1.800
–060	–090	(70.80) 2.788	(65.72) 2.588

–GP OPTION SHOWN

Note:
Some lengths, styles and options are non-standard, non-returnable.

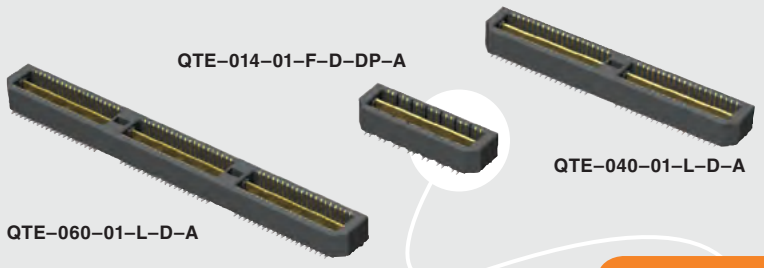
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QSTRIP®

(0.80 mm) .0315"



QTE SERIES

HIGH-SPEED GROUND PLANE HEADER

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?QTE

Insulator Material:
Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Current Rating:
Contact:
2 A per pin
(2 pins powered)
Ground Plane:
23 A per ground plane
(1 ground plane powered)
Operating Temp Range:
-55 °C to +125 °C
Voltage Rating:
225 VAC mated with QSE
& 5 mm Stack Height
Max Cycles:
100
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (020-060)
Board Stacking:
For applications requiring more than two connectors per board contact ipg@samtec.com

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

ALSO AVAILABLE (MOQ Required)

- 15 mm, 22 mm and 30 mm stack height
- 30 µ" (0.76 µm) Gold (Specify -H plating for Data Rate cable mating applications.)
- Edge Mount, Guide Posts, Screw Down & Friction Lock
- 56 (-DP), 80, 100 positions per row
- Retention Option

Note:
Some lengths, styles and options are non-standard, non-returnable.

Board Mates:
QSE

Cable Mates:
EQCD, EQDP
(See Also Available Note)

Standoffs:
SO

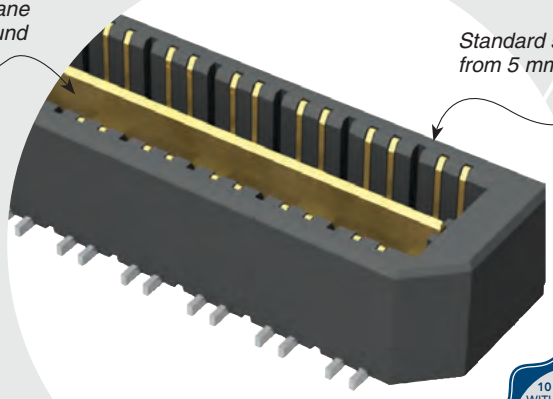
POWER/SIGNAL APPLICATION



Compatible with UMPT/UMPS for flexible two-piece power/signal solutions

Integral metal plane for power or ground

Standard stack heights from 5 mm to 25 mm



10 YEAR MFG WITH 50 µ" GOLD
EXTENDED LIFE PRODUCT
HIGH MATING CYCLES

HIGH-SPEED CHANNEL PERFORMANCE		
QTE-D/QSE-D or QTE-DP/QSE-DP @ 5 mm Mated Stack Height *Rating based on Samtec reference channel.For full SI performance data visit Samtec.comor contact SIG@samtec.com*	QTE-D/QSE-D	QTE-DP/QSE-DP
	14 Gbps	28 Gbps

QTE	–	PINS PER ROW NO. OF PAIRS	–	LEAD STYLE	–	PLATING OPTION	–	TYPE	–	A	–	OTHER OPTION

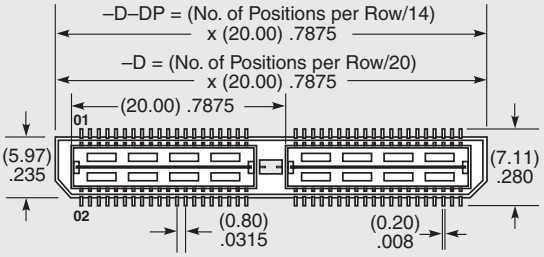
PINS PER ROW NO. OF PAIRS
–020, –040, –060
(40 total pins per bank = –D)
–014, –028, –042
(14 pairs per bank = –D–DP)

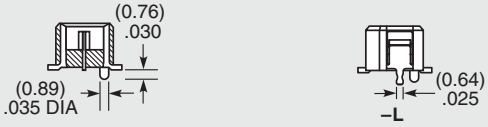
LEAD STYLE
Specify LEAD STYLE from chart

PLATING OPTION
–F
= Gold Flash on Signal Pins and Ground Plane, Matte Tin on tails
–L
= 10 µ" (0.25 µm) Gold on Signal Pins and Ground Plane, Matte Tin on tails
–C*
= Electro-Polished Selective 50 µ" (1.27 µm) min Au over 150µ" (3.81 µm) Ni on Signal Pins in contact area, 10 µ" (0.25 µm) min Au over 50 µ" (1.27 µm) Ni on Ground Plane in contact area, Matte Tin over 50µ" (1.27 µm) min Ni on all solder tails

TYPE
–D
= Single-Ended
–D–DP
= Differential Pair (–01 only)

OTHER OPTION
–K
= (7.00 mm) .275" DIA Polyimide Film Pick & Place Pad
–TR
= Tape & Reel Packaging (N/A –05 & –07 lead style)
–L
= Latching Option (N/A on –042 & –060 positions)





*Note:
–C Plating passes
10 year MFG testing

QTE LEAD STYLE	A	HEIGHT WITH QSE*
–01	(4.27) .168	(5.00) .197
–02	(7.26) .286	(8.00) .315
–03	(10.27) .404	(11.00) .433
–04	(15.25) .600	(16.00) .630
–05	(18.26) .718	(19.00) .748
–07	(24.24) .954	(25.00) .984
–09	(13.26) .522	(14.00) .551

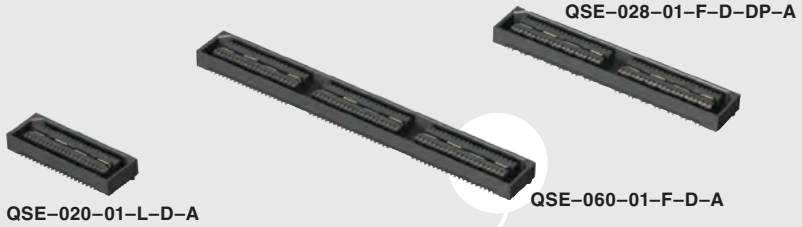
*Processing conditions will affect mated height. See SO Series for board space tolerances

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QSTRIP®



(0.80 mm) .0315"

QSE SERIES

HIGH-SPEED GROUND PLANE SOCKET

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?QSE

Insulator Material:
Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Plating:
Au or Sn over 50 µ" (1.27 µm) Ni
Current Rating:
Contacts:
2 A per pin
(2 pins powered)
Ground Plane:
23 A per ground plane
(1 ground plane powered)
Operating Temp Range:
-55 °C to +125 °C
Voltage Rating:
225 VAC (5 mm Stack Height)
Max Cycles:
100
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (020-060)
Board Stacking:
For applications requiring more than two connectors per board contact ipg@samtec.com

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

ALSO AVAILABLE (MOQ Required)

- 15 mm, 22 mm and 30 mm stack height
- 30 µ" (0.76 µm) Gold (Specify -H plating for Data Rate cable mating applications.)
- Edge Mount
- 56 (-DP), 80, 100 positions per row
- Retention, Guide Posts and Friction Lock options.

Note:
Some lengths, styles and options are non-standard, non-returnable.

Board Mates:
QTE

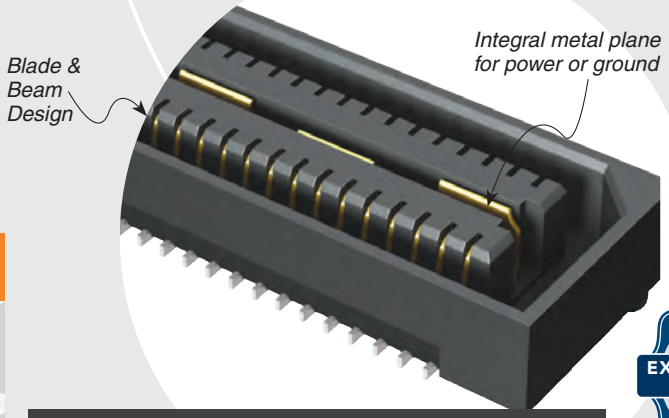
Cable Mates:
EQCD, EQDP
(See Also Available Note)

Standoffs:
SO

POWER/SIGNAL APPLICATION



Compatible with UMPT/UMPS for flexible two-piece power/signal solutions



10 YEAR MFG WITH 50 µ" GOLD
EXTENDED LIFE PRODUCT
HIGH MATING CYCLES

HIGH-SPEED CHANNEL PERFORMANCE

QTE-D/QSE-D or QTE-DP/QSE-DP @ 5 mm Mated Stack Height	QSE-D/QTE-D	QSE-DP/QTE-DP
Rating based on Samtec reference channel.For full SI performance data visit Samtec.comor contact SIG@samtec.com	14 Gbps	28 Gbps

QSE	PINS PER ROW NO. OF PAIRS	01	PLATING OPTION	TYPE	A	OTHER OPTION

–020, –040, –060
(40 total pins per bank = –D)

–014, –028, –042
(14 pairs per bank = –D–DP)

–F
= Gold Flash on Signal Pins and Ground Plane, Matte Tin on tails

–L
= 10 µ" (0.25 µm) Gold on Signal Pins and Ground Plane, Matte Tin on tails

–C*
= Electro-Polished Selective 50 µ" (1.27 µm) min Au over 150 µ" (3.81 µm) Ni on Signal Pins in contact area, 10 µ" (0.25 µm) min Au over 50 µ" (1.27 µm) Ni on Ground Plane in contact area, Matte Tin over 50 µ" (1.27 µm) min Ni on all solder tails

***Note:**
–C Plating passes 10 year MFG testing

–D
= Single-Ended

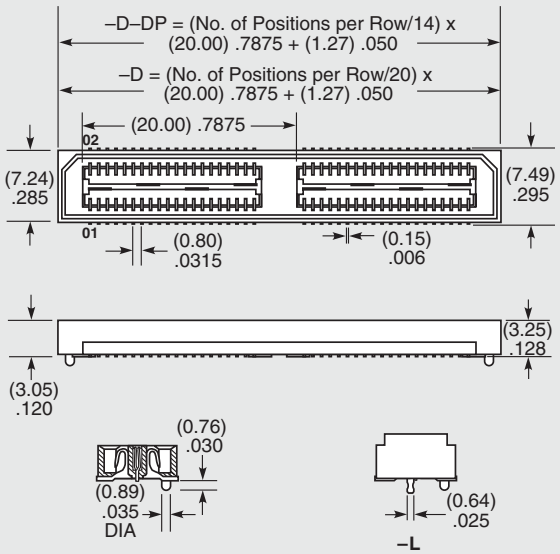
–D–DP
= Differential Pair (–01 only)

–GP
= Guide Post (–020 only)

–K
= (8.25 mm) .325" DIA Polyimide Film Pick & Place Pad

–TR
= Tape & Reel Packaging

–L
= Latching Option (N/A on –042 & –060 positions)



QTE LEAD STYLE	MATED HEIGHT WITH QSE*
–01	(5.00) .197
–02	(8.00) .315
–03	(11.00) .433
–04	(16.00) .630
–05	(19.00) .748
–07	(25.00) .984
–09	(14.00) .551

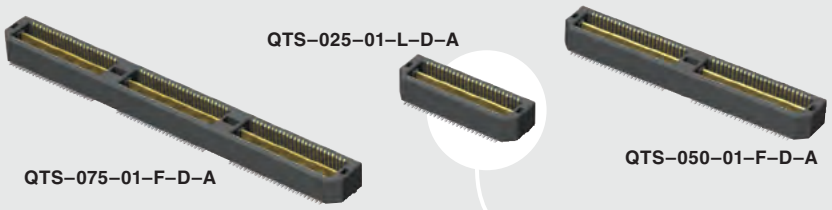
*Processing conditions will affect mated height. See SO Series for board space tolerances

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QSTRIP®



(0.635 mm) .025"

QTS SERIES

HIGH-SPEED GROUND PLANE HEADER

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?QTS

Insulator Material:
Liquid Crystal Polymer
Contact Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Current Rating:
Contact:
1.8 A per pin
(2 pins powered)
Ground Plane:
23.1 A per ground plane
(1 ground plane powered)
Operating Temp:
-55 °C to +125 °C
Voltage Rating:
285 VAC
Max Cycles:
100
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (025-075)
Board Stacking:
For applications requiring more than two connectors per board contact ipg@samtec.com

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

ALSO AVAILABLE (MOQ Required)

- 11 mm & 16 mm stack height
- 30 µ" (0.76 µm) Gold
- Differential Pair and "Partitionable" (combine differential & single-ended banks in same connector) available.
- 100 & 125 positions per row
- Edge Mount

Note:
Some lengths, styles and options are non-standard, non-returnable.

Board Mates:
QSS

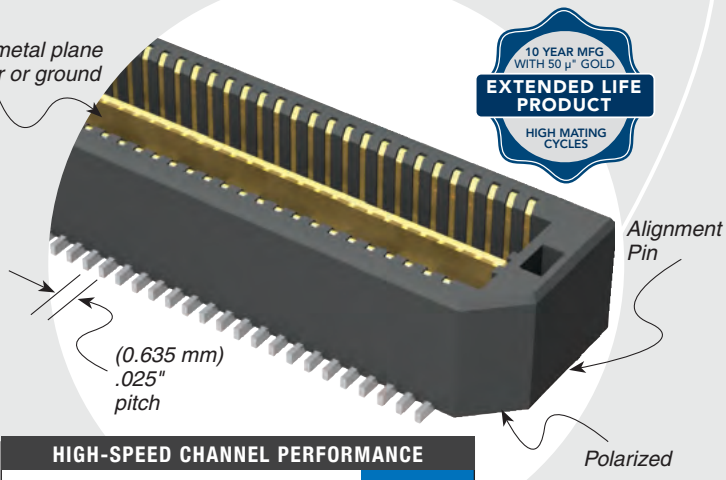
Cable Mates:
SQCD

Standoffs:
SO

POWER/SIGNAL APPLICATION



Compatible with UMPT/UMPS for flexible two-piece power/signal solutions



HIGH-SPEED CHANNEL PERFORMANCE

QTS/QSS @ 5 mm Mated Stack Height
Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

25 Gbps

QTS	–	NO. OF POSITIONS PER ROW	–	LEAD STYLE	–	PLATING OPTION	–	D	–	A	–	OTHER OPTION

–025, –050, –075
(50 total positions per bank)

Specify LEAD STYLE from chart.

–F
= Gold Flash on Signal Pins and Ground Plane, Matte Tin on tails

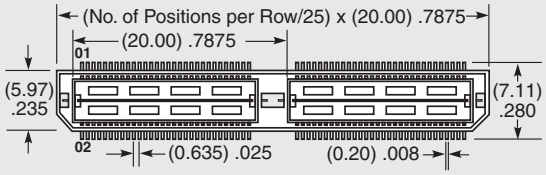
–L
= 10 µ" (0.25 µm) Gold on Signal Pins and Ground Plane, Matte Tin on tails

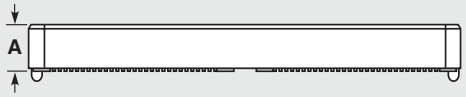
–C*
= Electro-Polished Selective 50 µ" (1.27 µm) min Au over 150 µ" (3.81 µm) Ni on Signal Pins in contact area, 10 µ" (0.25 µm) min Au over 50 µ" (1.27 µm) Ni on Ground Plane in contact area, Matte Tin over 50 µ" (1.27 µm) min Ni on all solder tails

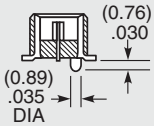
***Note:** –C Plating passes 10 year MFG testing

–K
= (7.00 mm) .275" DIA Polyimide film Pick & Place Pad

–TR
= Tape & Reel







LEAD STYLE	A	MATED HEIGHT
–01	(4.27) .168	(5.00) .197
–02	(7.26) .286	(8.00) .315

Processing conditions will affect mated height. See SO Series for board space tolerances

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Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.

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QSTRIP®

(0.635 mm) .025"



QTS–050–01–F–D–RA–WT



QTS–025–01–F–D–RA

QTS-RA SERIES

RIGHT-ANGLE GROUND PLANE HEADER

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?QTS-RA

Insulator Material:
Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Current Rating:
Contact:
2 A per pin
(2 pins powered)
Ground Plane:
15.7 A per ground plane
(1 ground plane powered)
Operating Temp Range:
-55 °C to +125 °C
Voltage Rating:
275 VAC mated with QSS-RA
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (025-075)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

ALSO AVAILABLE
(MOQ Required)

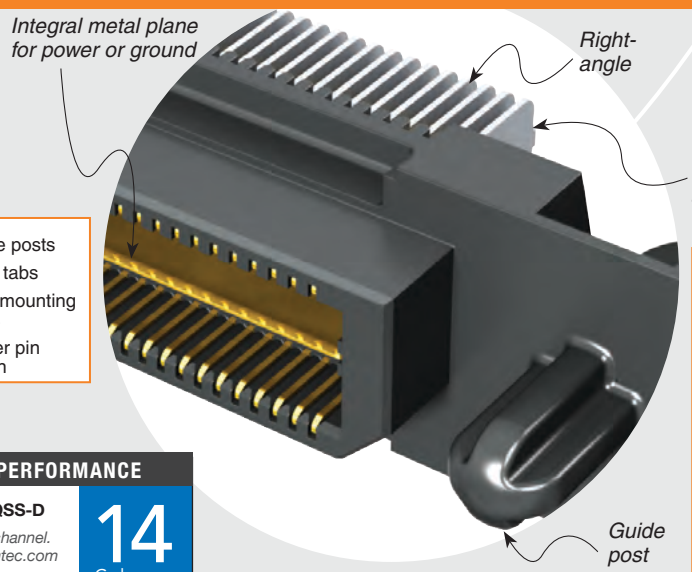
- 30 µ" (0.76 µm) Gold
- Differential Pair
- "Partitionable" (combine differential & single-ended banks in same connector)
- Lead Style for (2.36 mm) .093" thick board
- –LS1 Locking Screw (Mates with QSS-RA-LS1)
- –LS2 Locking Screw (Mates with QSS-LS2)
- 100 positions per row

Note:
Some lengths, styles and options are non-standard, non-returnable.

Board Mates:
QSS

RUGGEDIZED BY SAMTEC

- Guide posts
- Weld tabs
- PCB mounting holes
- Solder pin option



APPLICATIONS



HIGH-SPEED CHANNEL PERFORMANCE

QTS-RA/QSS-RA or QTS-RA/QSS-D

Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

14 Gbps

QTS	–	NO. OF POSITIONS PER ROW	–	01	–	PLATING OPTION	–	D	–	RA	–	WT	–	OTHER OPTION

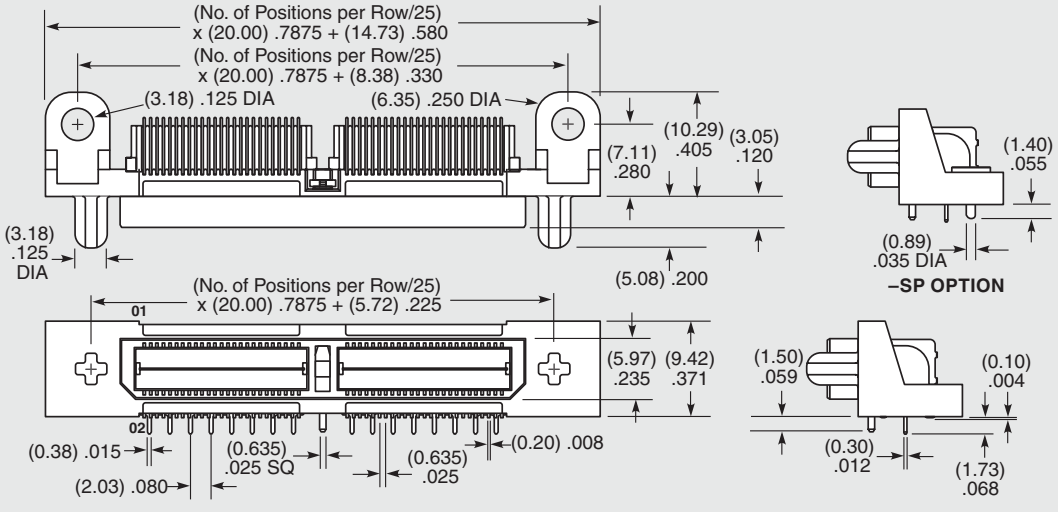
–025, –050, –075
(50 total positions per bank)

–F
= Gold Flash on Signal Pins and Ground Plane, Matte Tin on tails

–L
= 10 µ" (0.25 µm) Gold on Signal Pins and Ground Plane, Matte Tin on tails

–WT
= Weld Tab (Not available on 25 positions)

–SP
= Solder Pin

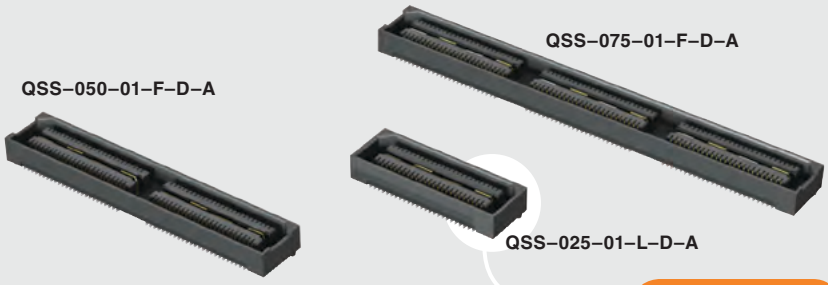


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samtec

QSTRIP®



(0.635 mm) .025"

QSS SERIES

HIGH-SPEED GROUND PLANE SOCKET

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?QSS

Insulator Material:
Liquid Crystal Polymer
Contact Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Current Rating:
Contact: 1.8 A per pin
(2 pins powered)
Ground Plane:
23.1 A per ground plane
(1 ground plane powered)
Operating Temp:
-55 °C to +125 °C
Voltage Rating:
285 VAC
Max Cycles:
100
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (025-050)
(0.15 mm) .006" max (075)*
*(.004" stencil solution may be available; contact IPG@samtec.com)
Board Stacking:
For applications requiring more than two connectors per board contact ipg@samtec.com

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

ALSO AVAILABLE
(MOQ Required)

- 11 mm & 16 mm stack height
- 30 µ" (0.76 µm) Gold
- Differential Pair and "Partitionable" (combine differential & single-ended banks in same connector) available.
- 100 & 125 positions per row
- Edge Mount
- –LS2 Locking screw hole for QTS–RA–LS2

Note:
Some lengths, styles and options are non-standard, non-returnable.

Board Mates:
QTS

Cable Mates:
SQCD

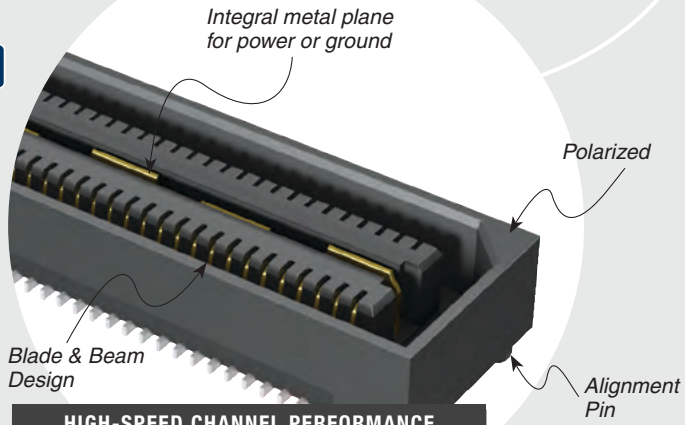
Standoffs:
SO

10 YEAR MFG WITH 50 µ" GOLD
EXTENDED LIFE PRODUCT
HIGH MATING CYCLES

POWER/SIGNAL APPLICATION



Compatible with UMPT/UMPS for flexible two-piece power/signal solutions



HIGH-SPEED CHANNEL PERFORMANCE

QSS/QTS @ 5 mm Mated Stack Height

Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

25 Gbps

ORDERING INFORMATION

QSS	–	NO. OF POSITIONS PER ROW	–	01	–	PLATING OPTION	–	D	–	A	–	OTHER OPTION

–025, –050, –075
(50 total positions per bank)

–F
= Gold Flash on Signal Pins and Ground Plane, Matte Tin on tails

–L
= 10 µ" (0.25 µm) Gold on Signal Pins and Ground Plane, Matte Tin on tails

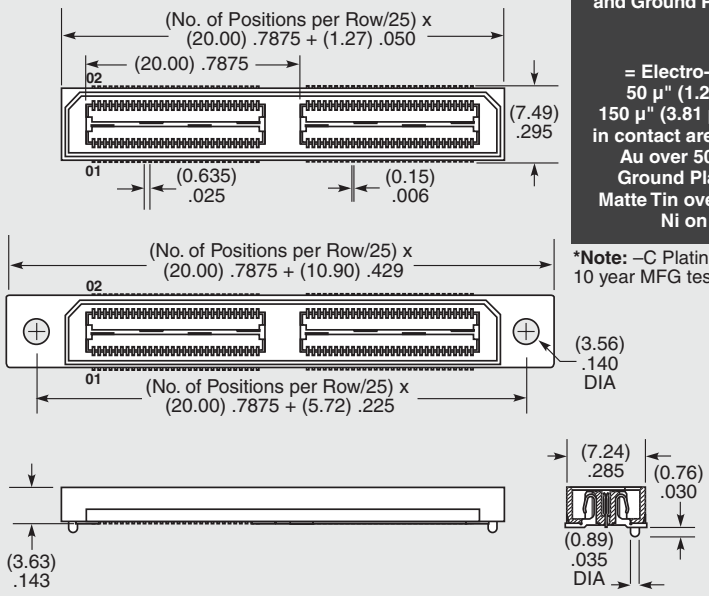
–C*
= Electro-Polished Selective 50 µ" (1.27 µm) min Au over 150 µ" (3.81 µm) Ni on Signal Pins in contact area, 10 µ" (0.25 µm) min Au over 50 µ" (1.27 µm) Ni on Ground Plane in contact area, Matte Tin over 50 µ" (1.27 µm) min Ni on all solder tails

***Note:** –C Plating passes 10 year MFG testing

–GP
= Guide Holes for mating with QTS-RA

–K
= (8.25 mm) .325" DIA Polyimide Film Pick & Place Pad

–TR
= Tape & Reel



QTS LEAD STYLE	MATED HEIGHT WITH QSS
–01	(5.00) .197
–02	(8.00) .315

Processing conditions will affect mated height. See SO Series for board space tolerances

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samtec

QSTRIP®



QSS–050–01–L–D–RA–WT



QSS–025–01–L–D–RA

(0.635 mm) .025"

QSS-RA SERIES

RIGHT-ANGLE GROUND PLANE SOCKET

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?QSS-RA

Insulator Material:
Liquid Crystal Polymer
Contact Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Current Rating:
Contact:
2 A per pin
(2 pins powered)
Ground Plane:
15.7 A per ground plane
(1 ground plane powered)
Operating Temp:
-55 °C to +125 °C
Voltage Rating:
275 VAC mated with QTS-RA
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (025-075)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

ALSO AVAILABLE
(MOQ Required)

- 30 µ" (0.76 µm) Gold
- Tray Packaging
- Lead style for (2.36 mm) .093" thick board
- Threaded insert (-MTI) for mating with SQCD with captive screws
- –LS1 Locking Screw Hole for mating with QTS-RA-LS1
- 100 positions per row

Note:
Some sizes, styles and options are non-standard, non-returnable.

Board Mates:
QTS

Cable Mates:
SQCD

APPLICATIONS
HORIZONTAL

RUGGEDIZED BY SAMTEC

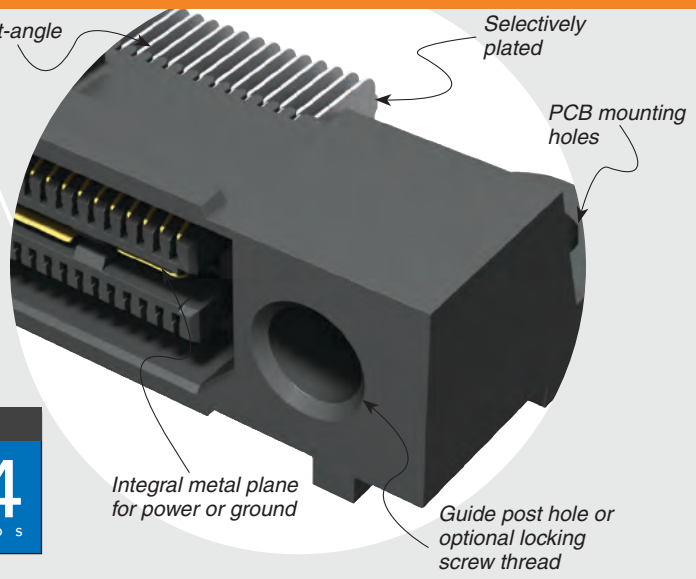
- Guide posts
- Weld tabs
- PCB mounting holes
- Solder pin option

HIGH-SPEED CHANNEL PERFORMANCE

QSS-RA/QTS-RA

Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

14 Gbps



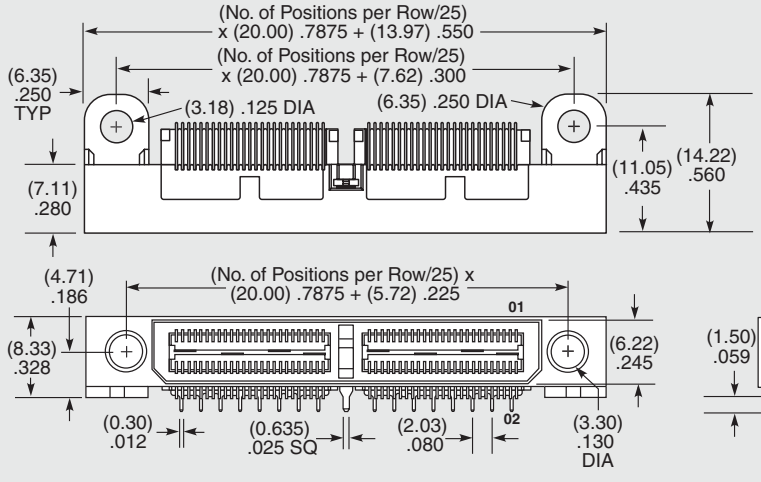
QSS	–	NO. OF POSITIONS PER ROW	–	01	–	PLATING OPTION	–	D	–	RA	–	WT

–025, –050, –075
(50 total positions per bank)

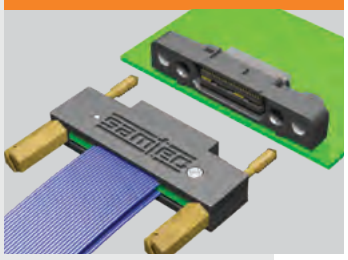
–F
= Gold Flash on Signal Pins and Ground Plane, Matte Tin on tails

–L
= 10 µ" (0.25 µm) Gold on Signal Pins and Ground Plane, Matte Tin on tails

–WT
= Weld Tab (Not available on 25 position)



APPLICATION



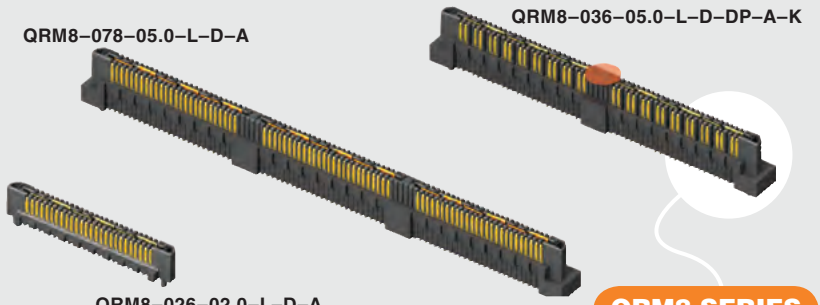
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samtec

QRATE®

(0.80 mm) .0315"



QRM8 SERIES

SLIM BODY GROUND PLANE HEADER

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?QRM8

Insulator Material:
Black LCP
Terminal & Ground
Plane Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Current Rating:
Contact:
2.2 A per pin
(2 pins powered)
Ground:
8.5 A per ground plane
(1 ground plane powered)
Operating Temp Range:
-55 °C to +125 °C
Voltage Rating:
215 VAC
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (018-026)
(0.15 mm) .006" max (036-078)*
*(.004" stencil solution may be available; contact IPG@samtec.com)

RECOGNITIONS

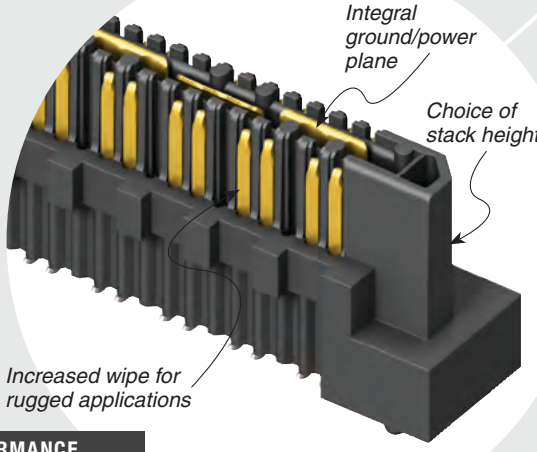
For complete scope of recognitions see www.samtec.com/quality

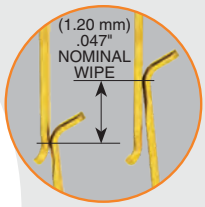
FILE NO. E111594

Board Mates:
QRF8

Cable Mates:
EQRD

EDGE® RATE CONTACT





10 YEAR MFG WITH 30 µ" GOLD
EXTENDED LIFE PRODUCT
HIGH MATING CYCLES

RUGGEDIZED BY SAMTEC

- Edge Rate® contacts
- Increased contact wipe
- 10 year MFG
- Guide post option

HIGH-SPEED CHANNEL PERFORMANCE

QRM8-DP/QRF8-DP @ 10 mm Mated Stack Height

Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

28 Gbps

ALSO AVAILABLE (MOQ Required)

- Other platings

QRM8	–	PINS PER ROW NO. OF PAIRS	–	LEAD STYLE	–	PLATING OPTION	–	TYPE	–	A	–	OTHER OPTION

PINS PER ROW NO. OF PAIRS
–026, –052, –078
(52 total pins per bank = –D)
–018, –036, –054
(18 pairs per bank = –D–DP)

LEAD STYLE
–02.0 = 2 mm Body Height (Not available with –054 & –078 positions)
–05.0 = 5 mm Body Height
–07.0 = 7 mm Body Height

PLATING OPTION
–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

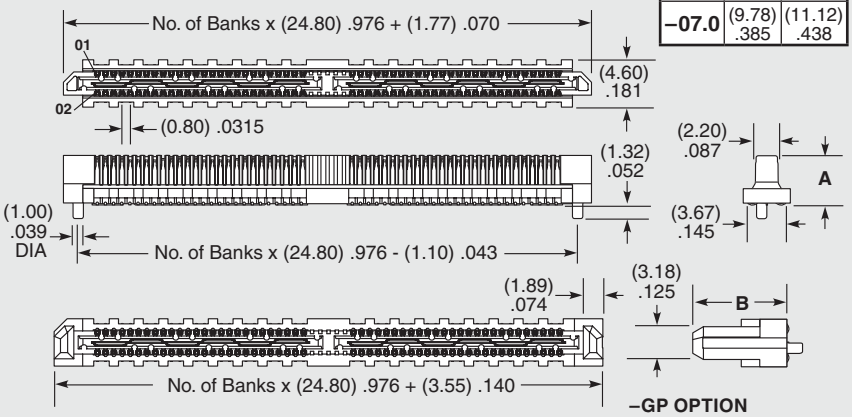
TYPE
–D = Single-Ended
–D–DP = Differential Pair

OTHER OPTION
–GP = Guide Post (Requires –GP on mating connector)
–K = (5.00 mm) .197" DIA Polyimide Film Pick & Place Pad
–TR = Tape & Reel (–018, –026, –036, –052 only)

LEAD STYLE	A	B
–02.0	(4.81) .189	(6.12) .241
–05.0	(7.81) .307	(9.12) .359
–07.0	(9.78) .385	(11.12) .438

MATED HEIGHT*		
QRM8 LEAD STYLE	QRF8 LEAD STYLE –05.0	QRF8 LEAD STYLE –07.0
–02.0	(7.00) .276	(9.00) .354
–05.0	(10.00) .394	(12.00) .472
–07.0	(12.00) .472	(14.00) .551

*Processing conditions will affect mated height. See SO Series for board space tolerances.



POWER/SIGNAL APPLICATION



Compatible with UMPT/UMPS for flexible two-piece power/signal solutions

Notes:
Patented

Some lengths, styles and options are non-standard, non-returnable.

All parts within this catalog are built to Samtec's specifications.
Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.

samtec

QRATE®



(0.80 mm) .0315"

QRM8-RA SERIES

RIGHT-ANGLE GROUND PLANE HEADER

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?QRM8-RA

Insulator Material:
Black LCP
Terminal & Ground
Plane Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C
Voltage Rating:
230 VAC/325 VDC
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (026-052)
(0.15 mm) .006" max (078)*
*(.004" stencil solution may be available; contact IPG@samtec.com)

RECOGNITIONS

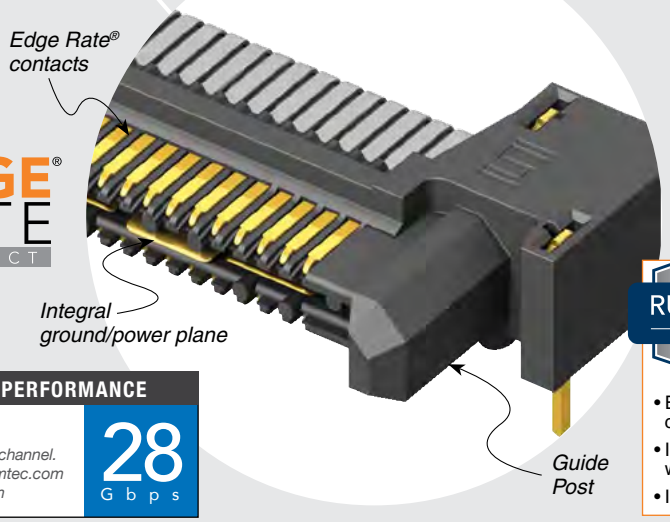
For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

ALSO AVAILABLE
(MOQ Required)

- Other platings

Board Mates:
QRF8 (–GP required)



EDGE® RATE CONTACT

HIGH-SPEED CHANNEL PERFORMANCE

QRM8-RA/QRF8-RA

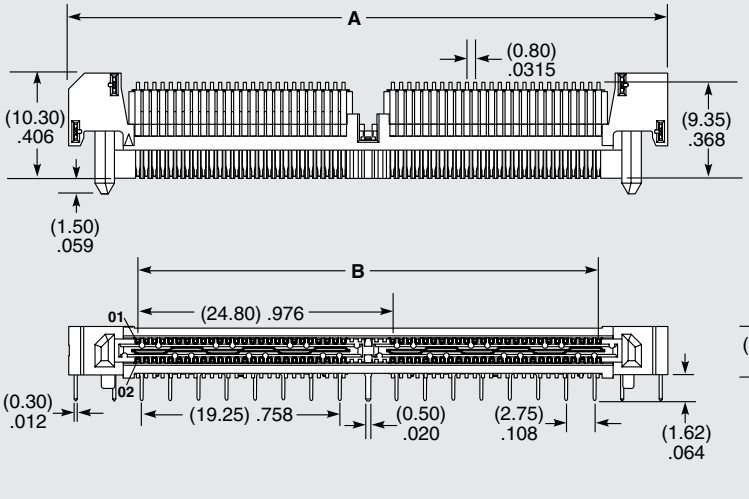
Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

28 Gbps

RUGGEDIZED BY SAMTEC

- Edge Rate® contacts
- Increased contact wipe
- Integral guide post

QRM8	–	POSITIONS PER ROW	–	01	–	PLATING OPTION	–	RA	–	GP	–	OPTION
		–026, –052, –078 (52 total positions per bank)				–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail				–GP = Guide Post (Requires –GP on mating connector)		–K = (7.00 mm) .275" DIA Polyimide film Pick & Place Pad (–052 only) –TR = Tape & Reel (–026 & –052 only)



POSITIONS PER ROW	A	B
–026	(33.46) 1.317	(20.00) .787
–052	(58.26) 2.294	(44.80) 1.764
–078	(83.06) 3.270	(69.60) 2.740

Notes:
Patented

For –GP (Guide Post option) to –GP (Guide Post option) mating.

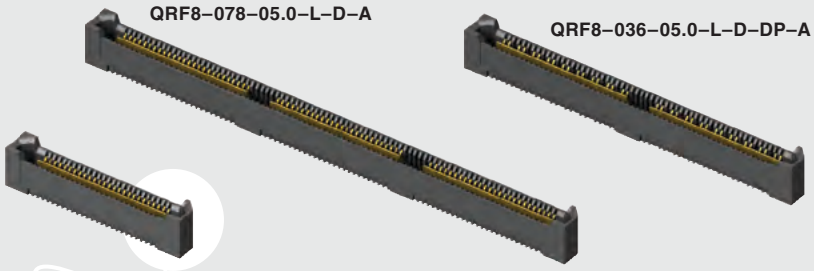
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samtec

QRATE®



(0.80 mm) .0315"

QRF8 SERIES

SLIM BODY GROUND PLANE SOCKET

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?QRF8

Insulator Material:
Black LCP
Contact Material:
BeCu
Ground Plane Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Current Rating:
Contact:
2.2 A per pin
(2 pins powered)
Ground Plane:
8.5 A per ground plane
(1 ground plane powered)
Operating Temp Range:
-55 °C to +125 °C
Voltage Rating:
215 VAC
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (018-026)
(0.15 mm) .006" max (036-078)*
*(.004" stencil solution may be available; contact IPG@samtec.com)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

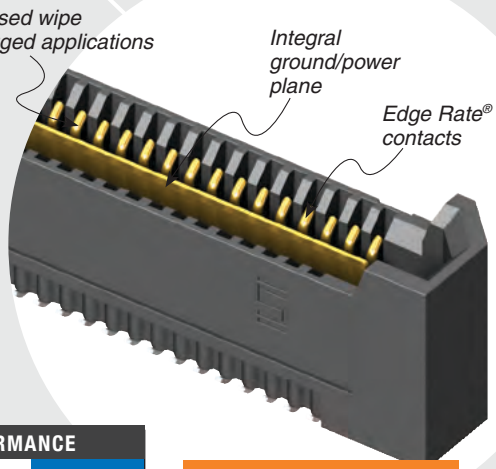
FILE NO. E111594

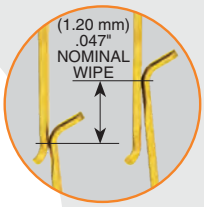
Board Mates:
QRM8

Cable Mates:
EQRD

EDGE® RATE CONTACT

10 YEAR MFG WITH 30 µ" GOLD
EXTENDED LIFE PRODUCT
HIGH MATING CYCLES





HIGH-SPEED CHANNEL PERFORMANCE

QRM8-DP/QRF8-DP @ 10 mm Mated Stack Height

Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

28 Gbps

ALSO AVAILABLE (MOQ Required)

- Other platings

POWER/SIGNAL APPLICATION



Compatible with UMPT/UMPS for flexible two-piece power/signal solutions

QRF8	–	PINS PER ROW NO. OF PAIRS	–	LEAD STYLE	–	PLATING OPTION	–	TYPE	–	A	–	OTHER OPTION

–026, –052, –078
(52 total pins per bank = –D)

–018, –036, –054
(18 pairs per bank = –D–DP)

–05.0
= 5 mm Body Height

–07.0
= 7 mm Body Height

–L
= 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

–D
= Single-Ended

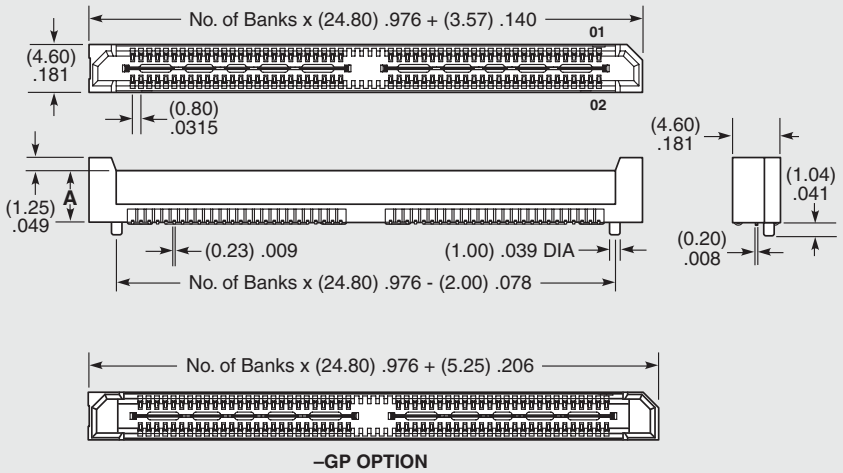
–D–DP
= Differential Pair

–GP
= Guide Post (Requires –GP on mating connector)

–K
= (5.00 mm) .197" DIA Polyimide Film Pick & Place Pad

–TR
= Tape & Reel (–018, –026, –036, –052 only)

LEAD STYLE	A
–05.0	(5.01) .197
–07.0	(7.01) .276



–GP OPTION

MATED HEIGHT*			
QRF8 LEAD STYLE	QRM8 LEAD STYLE		
	–02.0	–05.0	–07.0
–05.0	(7.00) .276	(10.00) .394	(12.00) .472
–07.0	(9.00) .354	(12.00) .472	(14.00) .551

*Processing conditions will affect mated height. See SO Series for board space tolerances.

RUGGEDIZED BY SAMTEC

- Edge Rate® contacts
- Increased contact wipe
- 10 year MFG
- Guide post option

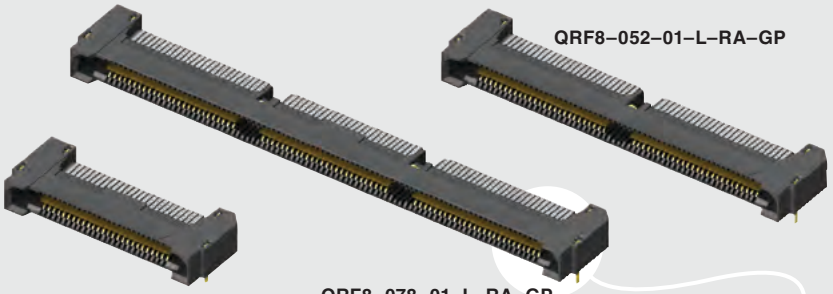
Notes:
Patented

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samtec

QRATE®



(0.80 mm) .0315"

QRF8-RA SERIES

RIGHT-ANGLE GROUND PLANE SOCKET

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?QRF8-RA

Insulator Material:
Black LCP
Contact Material:
BeCu
Ground Plane Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Current Rating (QRF8-RA/QRM8):
Contact:
2.2 A per pin
(2 pins powered)
Ground Plane:
8.6 A per ground plane
(1 ground plane powered)
Operating Temp Range:
-55 °C to +125 °C
Voltage Rating:
230 VAC / 325 VDC
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (026-052)
(0.15 mm) .006" max (078)*
*(.004" stencil solution may be available; contact IPG@samtec.com)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

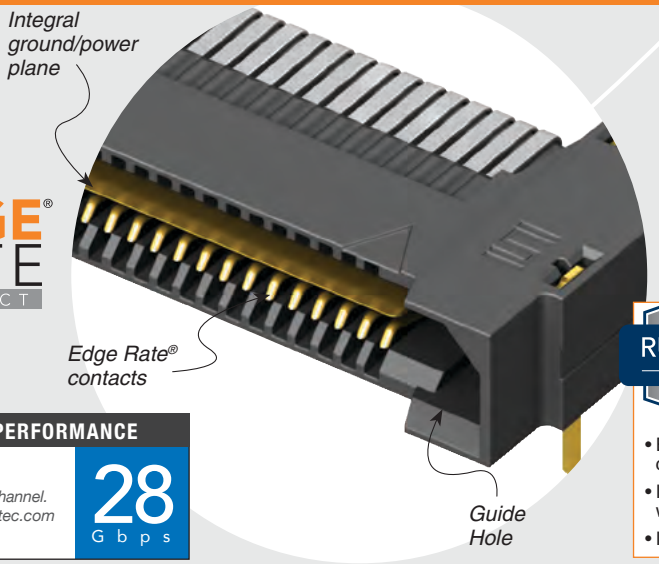
FILE NO. E111594

ALSO AVAILABLE
(MOQ Required)

- Other platings

Board Mates:
QRM8 (–GP required)

EDGE® RATE CONTACT



RUGGEDIZED BY SAMTEC

- Edge Rate® contacts
- Increased contact wipe
- Integral guide post

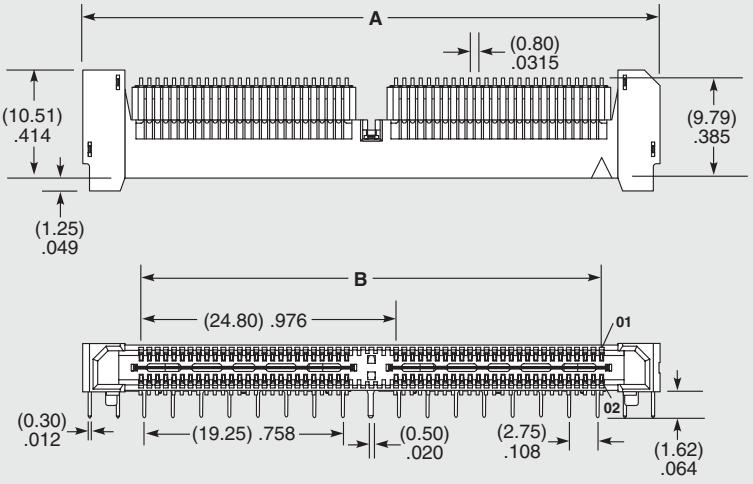
HIGH-SPEED CHANNEL PERFORMANCE

QRM8-RA/QRF8-RA

Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

28 Gbps

QRF8	–	POSITIONS PER ROW	–	01	–	PLATING OPTION	–	RA	–	GP	–	OPTION
		–026, –052, –078 (52 total positions per bank)				–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail				–GP = Guide Post (Requires –GP on mating connector)		–K = (7.00 mm) .275" DIA Polyimide film Pick & Place Pad (–052 only) –TR = Tape & Reel (–026, –052 only)



POSITIONS PER ROW	A	B
–026	(31.35) 1.234	(20.00) .787
–052	(56.15) 2.211	(44.80) 1.764
–078	(80.95) 3.187	(69.60) 2.740

Notes:
Patented

For –GP (Guide Post option) to –GP (Guide Post option) mating.

Some lengths, styles and options are non-standard, non-returnable.

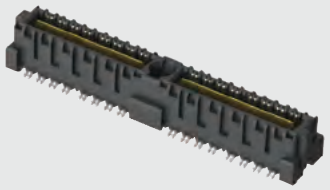
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samtec

Q2™

QMS–032–06.75–L–D–DP–A





QMS–026–06.75–L–D–A

(0.635 mm) .025"

QMS SERIES

RUGGED GROUND PLANE HEADER

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?QMS

Insulator Material:
Liquid Crystal Polymer
Terminal & Ground
Plane Material:
Phosphor Bronze
Plating:
Au over 50 µ" (1.27 µm) Ni
(Tin on Ground Plane Tail)
Current Rating:
Contact:
2.6 A per pin
(2 pins powered)
Ground Plane:
15.7 A per ground plane
(1 ground plane powered)
Operating Temp:
-55 °C to +125 °C
Voltage Rating:
300 VAC mated with QFS
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (026-052)
(0.15 mm) .006" max (078)*
*(.004" stencil solution may be available; contact IPG@samtec.com)
Board Stacking:
For applications requiring more than two connectors per board, contact ipg@samtec.com

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

STANDARDS

- SUMIT™
- PCI/104-Express™
- PCI/104-Express™ OneBank

Visit www.samtec.com/standards for more information.

Note:
Some lengths, styles and options are non-standard, non-returnable.

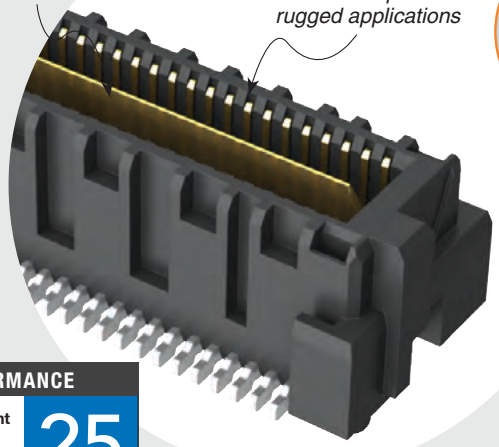
Board Mates:
QFS
Cable Mates:
6QCD
Standoffs:
SO, JSOM

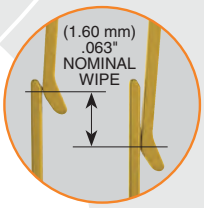
ALSO AVAILABLE
(MOQ Required)

- Other platings
- Guide Posts
- Without PCB Alignment Pins (05.75 and 06.75 only)
- Hot Pluggable
- 64 (-DP) and 104 positions per row

Integral metal plane for power or ground

Increased insertion depth for rugged applications





HIGH-SPEED CHANNEL PERFORMANCE

QMS-DP/QFS-DP @ 10 mm Mated Stack Height

Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

25 Gbps

POWER/SIGNAL APPLICATION



Compatible with UMPT/UMPS for flexible two-piece power/signal solutions

QMS – PINS PER ROW NO. OF PAIRS – LEAD STYLE – PLATING OPTION – TYPE – A – OTHER OPTION

–026, –052, –078
(52 total pins per bank = –D)

–016, –032, –048
(16 pairs per bank = –D–DP)

(–078 & –048 Not available with –09.75 lead style)

LEAD STYLE
Specify LEAD STYLE from chart

PLATING OPTION

–L
(–05.75 and –06.75 lead style only)
= 10 µ" (0.25 µm) Gold on Signal Pins and Ground Plane
(Tin on Signal Pin tails, and Ground Plane tails)

–SL
(–09.75 lead style only)
= 10 µ" (0.25 µm) Gold on Signal Pins and Ground Plane
(Tin on Signal Pin tails, and Ground Plane tails)

TYPE

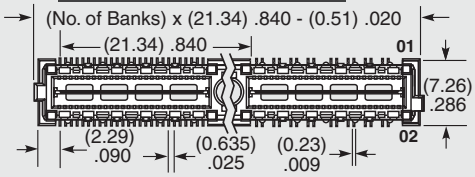
–D
= Single-Ended

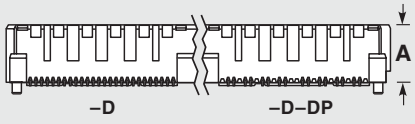
–D–DP
= Differential Pair

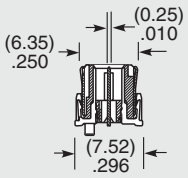
A

OTHER OPTION

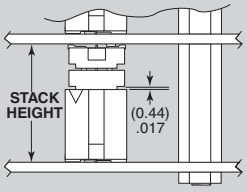
–K
= (5.50 mm) .217" DIA Polyimide film Pick & Place Pad







APPLICATION



Requires Standoff SO-1524-03-01-01-L or JSOM-1524-02 for 15.24 mm or SO-2215-02-01-01-L for 22 mm board spacing. Connectors designed to not fully seat when mated.

MATED HEIGHT*

LEAD STYLE	A	QFS LEAD STYLE –04.25	QFS LEAD STYLE –06.25
–05.75	(5.38) .212	10 mm	12 mm
–06.75	(6.35) .250	11 mm	13 mm
–09.75	(9.35) .368	14 mm	16 mm

*Processing conditions will affect mated height. See SO Series for board space tolerances.

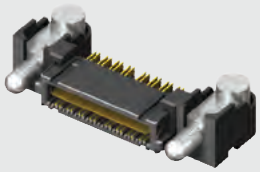
INDUSTRY STANDARD	INTERCONNECTS TERMINAL	SOCKET	BANKS	STACK HEIGHT
SUMIT™	ASP-129637-01	ASP-129646-01	1	15.24 mm
PCI/104-Express™	ASP-129637-03	ASP-129646-03	3	15.24 mm
PCI/104-Express™	ASP-129637-13	ASP-129646-22	1	15.24 mm
PCI/104-Express™	ASP-142781-01	ASP-129646-01	1	22 mm
PCI/104-Express™	ASP-142781-02	ASP-129646-02	2	22 mm
PCI/104-Express™	ASP-142781-03	ASP-129646-03	3	22 mm

Due to technical progress, all designs, specifications and components are subject to change without notice.

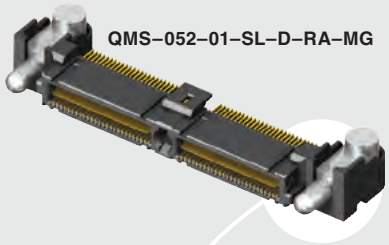
All parts within this catalog are built to Samtec's specifications.
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samtec

Q2™



QMS–016–01–SL–D–DP–RA–MG



QMS–052–01–SL–D–RA–MG

(0.635 mm) .025"

QMS-RA SERIES

RIGHT-ANGLE GROUND PLANE HEADER

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?QMS-RA

Insulator Material:
Liquid Crystal Polymer
Terminal & Ground
Plane Material:
Phosphor Bronze
Plating:
Au over 50 µ" (1.27 µm) Ni
(Tin on Ground Plane Tail)
Voltage Rating:
300 VAC
Operating Temp:
-55 °C to +125 °C
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (026-052)
(0.15 mm) .006" max (078)*
*(.004" stencil solution may be available; contact IPG@samtec.com)

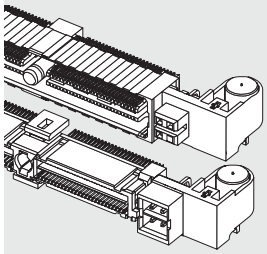
RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

OTHER SOLUTIONS

Combination Signal/Power
See QMS-RA-PC Series or QFS-RA-PC Series



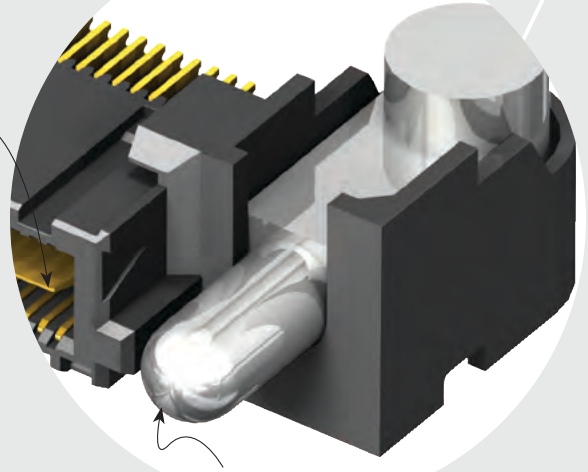
Note:
Some lengths, styles and options are non-standard, non-returnable.

Board Mates:
QFS

RUGGEDIZED BY SAMTEC

- Increased insertion depth
- Integral guide post
- PCB mounting pins

Integral metal plane for power or ground



Metal guide post option

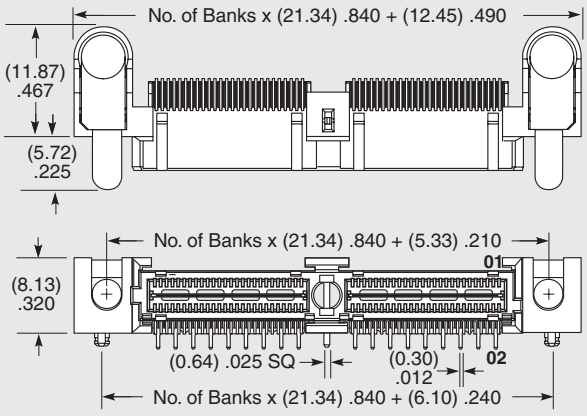
HIGH-SPEED CHANNEL PERFORMANCE

QMS-RA/QFS-RA

Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

14 Gbps

QMS	–	PINS PER ROW NO. OF PAIRS	–	01	–	PLATING OPTION	–	TYPE	–	RA	–	MG	–	OTHER OPTION
		–026, –052, –078 (52 total pins per bank = –D) –016, –032, –048 (16 pairs per bank = –D–DP)				–SL = 10 µ" (0.25 µm) Gold on Signal Pins and Ground Plane, Matte Tin on tails		–D = Single-Ended –D–DP = Differential Pair				–MG = Metal Guide Post		–K = Polyimide film Pick & Place Pad –TR = Tape & Reel (–016, –026, –032 & –052 positions only)



ALSO AVAILABLE
(MOQ Required)

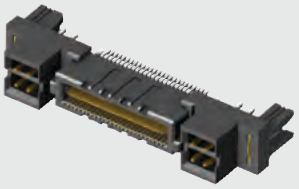
- Other platings
- Plastic Guide Post option
- –02 lead style for (2.36 mm) .093" thick board
- 64 (-DP) and 104 positions per row

Due to technical progress, all designs, specifications and components are subject to change without notice.

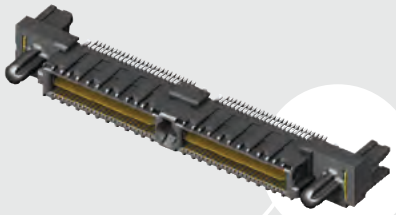
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Q2™



QMS–026–01–SL–D–EM2–PC4



QMS–052–01–SL–D–EM2

(0.635 mm) .025"

QMS-EM SERIES

EDGE MOUNT GROUND PLANE HEADER

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?QMS-EM

Insulator Material:
Liquid Crystal Polymer
Terminal & Ground
Plane Material:
Phosphor Bronze
Plating:
Au over 50 µ" (1.27 µm) Ni
(Tin on Ground Plane Tail)
Voltage Rating:
300 VAC
Operating Temp:
-55 °C to +125 °C
RoHS Compliant:
Yes
Lead–Free Solderable:
Yes

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

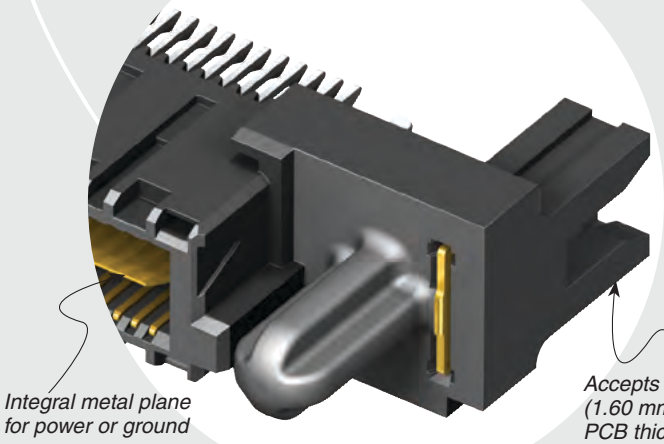
ALSO AVAILABLE
(MOQ Required)

- Other platings
- 8 Power pins per end
- Differential Pairs
- 104 positions per row

Board Mates:
QFS

RUGGEDIZED BY SAMTEC

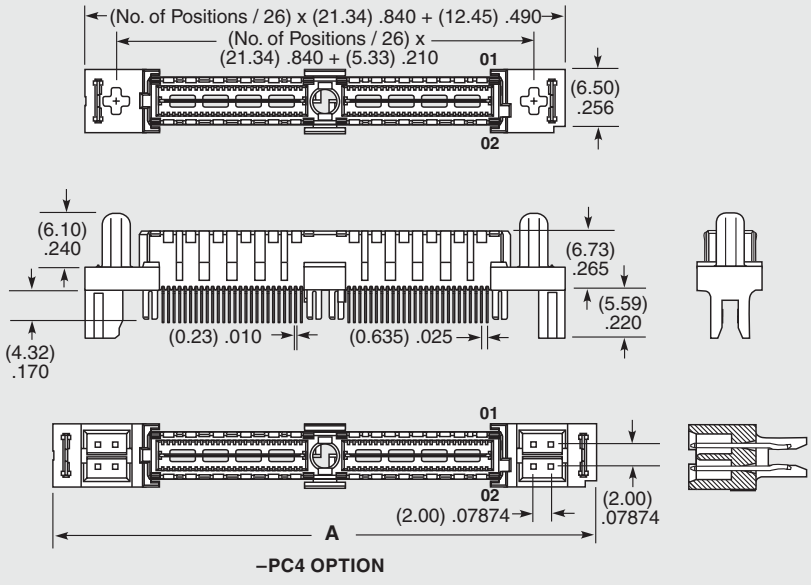
- Increased insertion depth
- Integral guide post



Integral metal plane for power or ground

Accepts (1.60 mm) .062" PCB thickness

QMS	–	NO. OF POSITIONS	–	01	–	PLATING OPTION	–	D	–	EM2	–	END OPTION	–	OTHER OPTION
		–026, –052, –078 (Per Row)				–SL = 10 µ" (0.25 µm) Gold on Signal Pins and Ground Plane, Matte Tin on tails						–PC4 = 4 Power Pins per End		–TR = Tape & Reel Packaging (–026 & –052 positions only)



–PC4 OPTION

NO. OF POSITION	A
–026	(41.05) 1.616
–052	(62.38) 2.456
–078	(83.72) 3.296

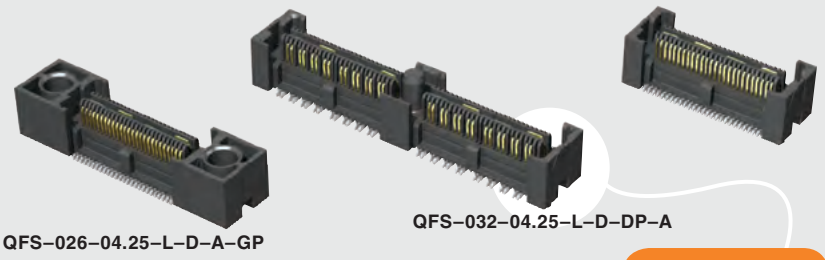
Note:
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Q2™



(0.635 mm) .025"

QFS SERIES

RUGGED GROUND PLANE SOCKET

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?QFS

Insulator Material:
Liquid Crystal Polymer
Contact & Ground
Plane Material:
Phosphor Bronze
Plating:
Au over 50 µ" (1.27 µm) Ni
(Tin on Ground Plane Tail)
Current Rating:
Contact:
2.6 A per pin
(2 pins powered)
Ground Plane:
15.7 A per ground plane
(1 ground plane powered)
Voltage Rating:
300 VAC mated with QMS
Operating Temp:
-55 °C to +125 °C
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (026-078)
Board Stacking:
For applications requiring more than two connectors per board contact ipg@samtec.com

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

STANDARDS

- SUMIT™
- PCI/104-Express™
- PCI/104-Express™ OneBank

Visit www.samtec.com/standards for more information.

Note:
Some lengths, styles and options are non-standard, non-returnable.

Board Mates:
QMS

Cable Mates:
6QCD

Standoffs:
SO, JSOM

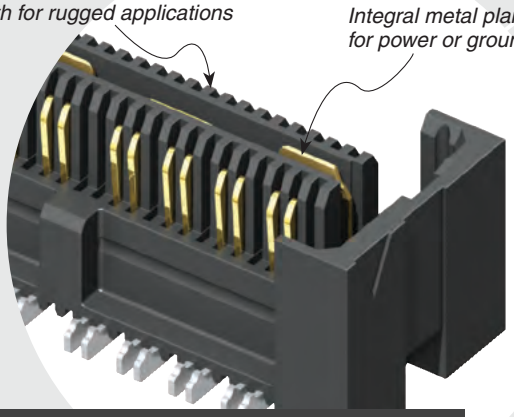
POWER/SIGNAL APPLICATION

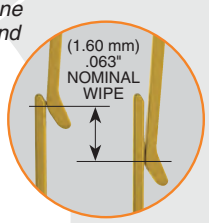


Compatible with UMPT/UMPS for flexible two-piece power/signal solutions

Increased insertion depth for rugged applications

Integral metal plane for power or ground





HIGH-SPEED CHANNEL PERFORMANCE

QMS-DP/QFS-DP @ 10 mm Mated Stack Height

Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

25 Gbps

ALSO AVAILABLE (MOQ Required)

- Other platings
- Without PCB Alignment Pins
- Hot Pluggable
- 4 banks (104 -SE, 64 -DP)

ORDERING INFORMATION

QFS	–	PINS PER ROW NO. OF PAIRS	–	LEAD STYLE	–	PLATING OPTION	–	TYPE	–	A	–	OTHER OPTION

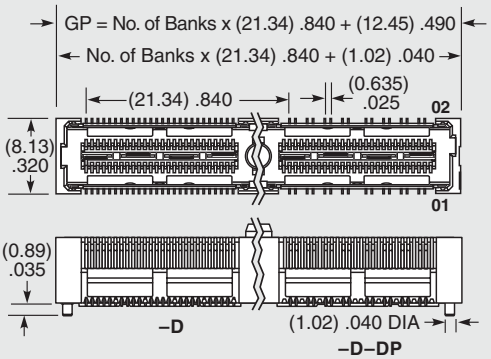
PINS PER ROW NO. OF PAIRS
–026, –052, –078
(52 total pins per bank = –D)
–016, –032, –048
(16 pairs per bank = –D–DP)

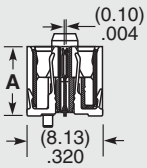
LEAD STYLE
Specify LEAD STYLE from chart

PLATING OPTION
–L
(–04.25 lead style only)
= 10 µ" (0.25 µm) Gold on Signal Pins and Ground Plane (Tin on Signal Pin tails, and Ground Plane tails)
–SL
(–06.25 lead style only)
= 10 µ" (0.25 µm) Gold on Signal Pins and Ground Plane (Tin on Signal Pin tails, and Ground Plane tails)

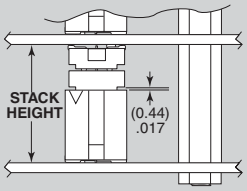
TYPE
–D
= Single-Ended
–D–DP
= Differential Pair
(–04.25 lead style only)

OTHER OPTION
–GP
= Guide Holes (–04.25 lead style only)





APPLICATION



Requires Standoff SO-1524-03-01-01-L or JSOM-1524-02 for 15.24 mm or SO-2215-02-01-01-L for 22 mm board spacing. Connectors designed to not fully seat when mated.

MATED HEIGHT*

LEAD STYLE	A	QMS LEAD STYLE		
		–05.75	–06.75	–09.75
–04.25	(7.44) .293	10 mm	11 mm	14 mm
–06.25	(9.42) .371	12 mm	13 mm	16 mm

*Processing conditions will affect mated height. See SO Series for board space tolerances.

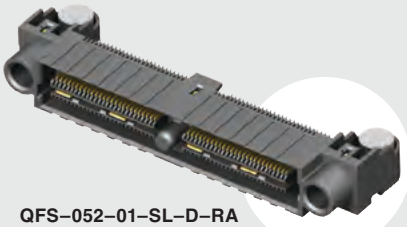
INDUSTRY STANDARD	INTERCONNECTS			
	TERMINAL	SOCKET	BANKS	STACK HEIGHT
SUMIT™	ASP-129637-01	ASP-129646-01	1	15.24 mm
PCI/104-Express™	ASP-129637-03	ASP-129646-03	3	15.24 mm
PCI/104-Express™	ASP-129637-13	ASP-129646-22	1	15.24 mm
PCI/104-Express™	ASP-142781-01	ASP-129646-01	1	22 mm
PCI/104-Express™	ASP-142781-02	ASP-129646-02	2	22 mm
PCI/104-Express™	ASP-142781-03	ASP-129646-03	3	22 mm

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Q2™



QFS–052–01–SL–D–RA

QFS–016–01–SL–D–DP–RA



(0.635 mm) .025"

QFS-RA SERIES

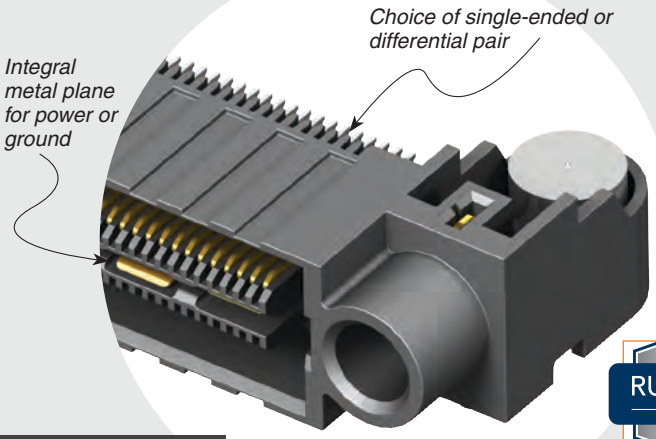
RIGHT-ANGLE GROUND PLANE SOCKET

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?QFS-RA

Insulator Material:
Liquid Crystal Polymer
Terminal & Ground
Plane Material:
Phosphor Bronze
Plating:
Au over 50 µ" (1.27 µm) Ni
(Tin on Ground Plane Tail)
Voltage Rating:
300 VAC
Operating Temp:
-55 °C to +125 °C
RoHS Compliant:
Yes

Board Mates:
QMS



RUGGEDIZED BY SAMTEC

- Increased insertion depth
- Integral guide post
- PCB mounting pins

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (026-052)
(0.15 mm) .006" max (078)*
*(.004" stencil solution may be available; contact IPG@samtec.com)

HIGH-SPEED CHANNEL PERFORMANCE

QFS-RA/QMS or QFS-RA/QMS-RA
Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

14 Gbps

RECOGNITIONS

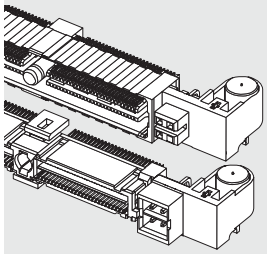
For complete scope of recognitions see www.samtec.com/quality

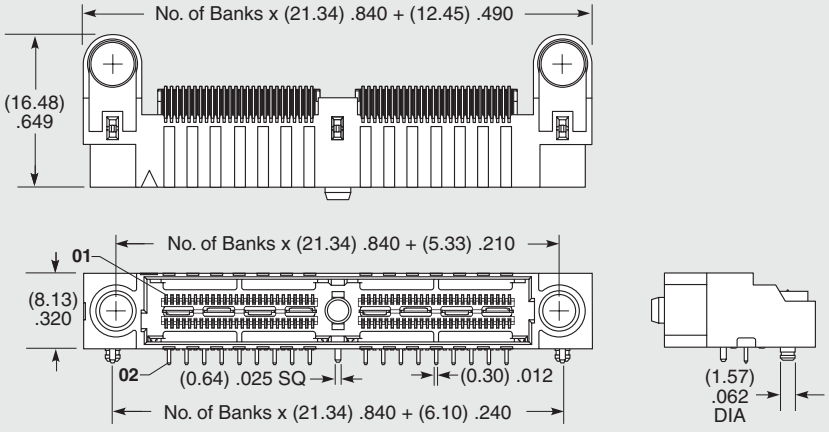
FILE NO. E111594

QFS	–	PINS PER ROW NO. OF PAIRS	–	01	–	PLATING OPTION	–	TYPE	–	RA	–	OTHER OPTION
		–026, –052, –078 (52 total pins per bank = –D) –016, –032, –048 (16 pairs per bank = –D–DP)				–SL = 10 µ" (0.25 µm) Gold on Signal Pins and Ground Plane, Matte Tin on tails		–D = Single-Ended –D–DP = Differential Pair				–K = Polyimide film Pick & Place Pad –TR = Tape & Reel (–016, –026, –032 & –052 positions only)

OTHER SOLUTIONS

Combination Signal/Power
See QMS-RA-PC Series or QFS-RA-PC Series





ALSO AVAILABLE (MOQ Required)

- Other platings
- Plastic Guide Post option
- –02 lead style for (2.36 mm) .093" thick board
- 64 (-DP) and 104 positions per row

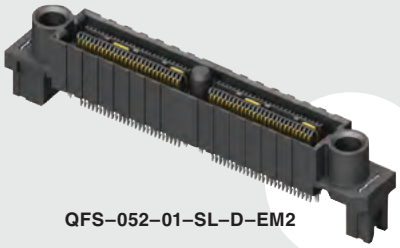
Note:
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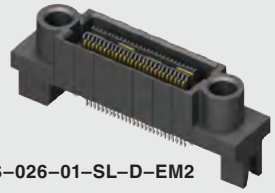
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Q2™



QFS–052–01–SL–D–EM2

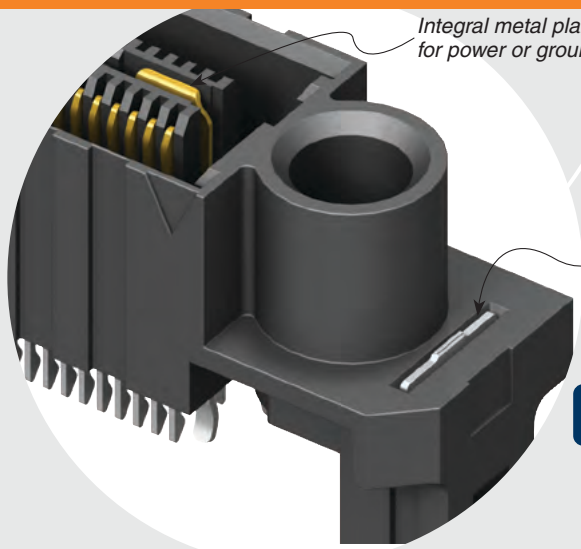


QFS–026–01–SL–D–EM2

(0.635 mm) .025"

QFS-EM SERIES

EDGE MOUNT GROUND PLANE SOCKET



RUGGEDIZED BY SAMTEC

- Increased insertion depth
- Integral guide post

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?QFS-EM

Insulator Material:
Liquid Crystal Polymer
Terminal & Ground
Plane Material:
Phosphor Bronze
Plating:
Au over 50 µ" (1.27 µm) Ni
(Tin on Ground Plane Tail)
Voltage Rating:
300 VAC
Operating Temp:
-55 °C to +125 °C
RoHS Compliant:
Yes
Lead–Free Solderable:
Yes

Mates with:
QMS

RECOGNITIONS

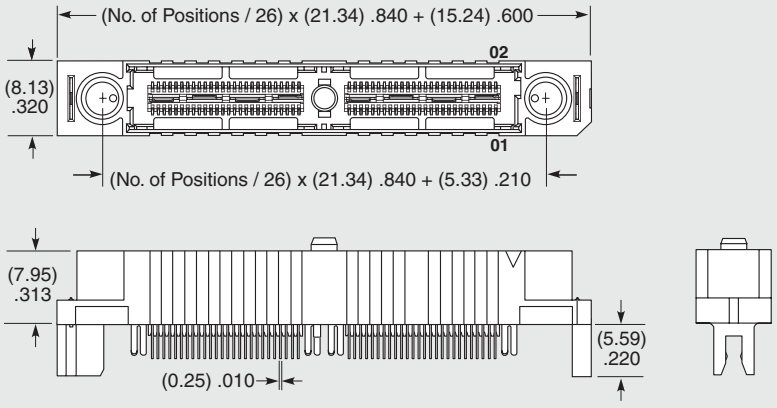
For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

ALSO AVAILABLE
(MOQ Required)

- Other platings
- Differential Pairs
- 104 positions per row

QFS	–	NO. OF POSITIONS	–	01	–	PLATING OPTION	–	D	–	EM2	–	OTHER OPTION
		–026, –052, –078 (Per Row)				–SL = 10 µ" (0.25 µm) Gold on Signal Pins and Ground Plane, Matte Tin on tails				–TR = Tape & Reel Packaging (–026 & –052 positions only)		



Note:
Some lengths, styles and options are non-standard, non-returnable.

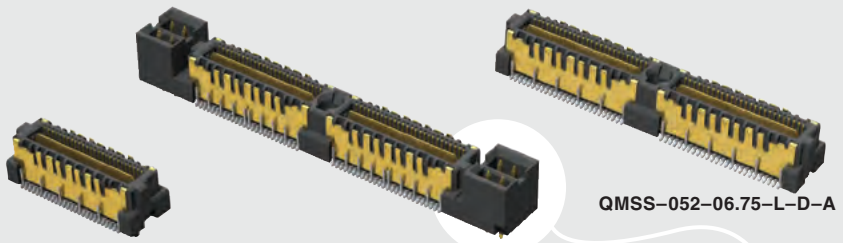
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Q2™

QMSS–032–06.75–L–D–DP–PC4



QMSS–026–06.75–L–D–A

QMSS–052–06.75–L–D–A

(0.635 mm) .025"

QMSS SERIES

SHIELDED GROUND PLANE HEADER

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?QMSS

Insulator Material:
Liquid Crystal Polymer
Terminal, Ground Plane & Shield Material:
Phosphor Bronze
Plating:
Au over 50 µ" (1.27 µm) Ni
(Tin on Ground Plane Tail)
Voltage Rating:
300 VAC mated with QFSS
Operating Temp:
-55 °C to +125 °C
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (026-078)
Board Stacking:
For applications requiring more than two connectors per board, contact ipg@samtec.com

RECOGNITIONS

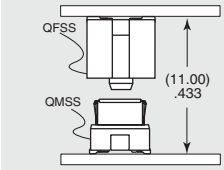
For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

ALSO AVAILABLE (MOQ Required)

- Headers without Alignment Pins
- 8 Power Pins/End
- 4 or 8 Power Pins/End for (2.36 mm) .093" thick board
- Guide Post
- Edge Mount
- 64 (-DP) and 104 pins per row

APPLICATION



Notes:
Patented

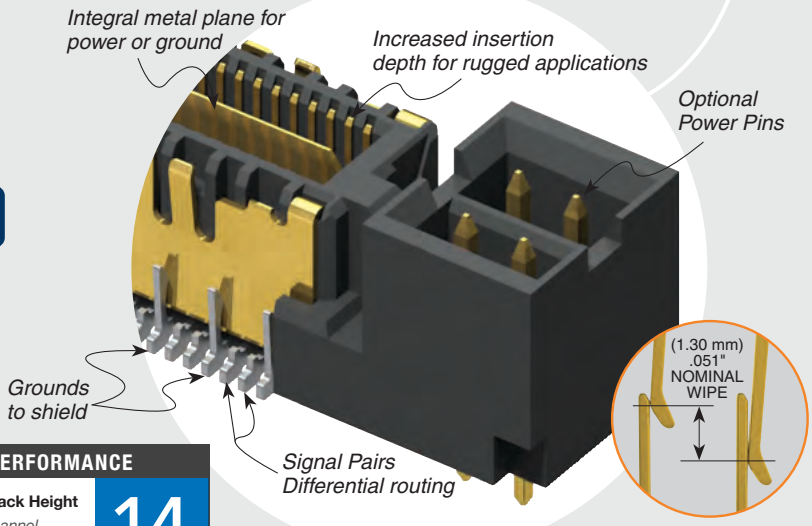
Some lengths, styles and options are non-standard, non-returnable.

Board Mates:
QFSS

Standoffs:
SO

RUGGEDIZED BY SAMTEC

- Increased insertion depth
- Integral guide post



HIGH-SPEED CHANNEL PERFORMANCE

QMSS-DP/QFSS-DP @ 11 mm Mated Stack Height

Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

14 Gbps

QMSS	–	PINS PER ROW NO. OF PAIRS	–	06.75	–	PLATING OPTION	–	TYPE	–	A	–	OTHER OPTION

–026, –052, –078
(52 total pins per bank
40 signals + 12 grounds to shield = –D)

–016, –032, –048
(16 pairs per bank = –D–DP)

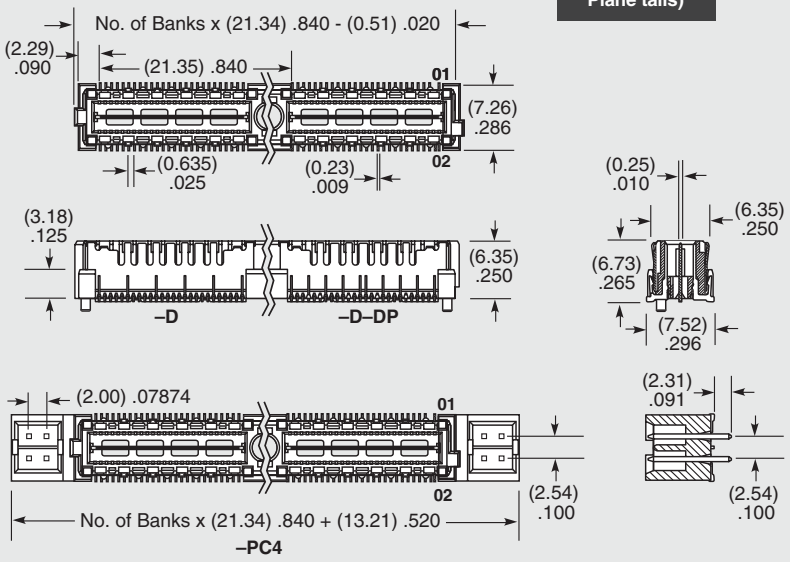
–L
= 10 µ" (0.25 µm) Gold on Signal Pins, Shield and Ground Plane
(Tin on Signal Pin tails, and Ground Plane tails)

–D
= Single-Ended

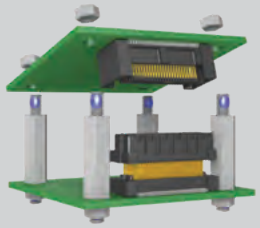
–D–DP
= Differential Pair

–K
= (5.50 mm) .217" DIA Polyimide film Pick & Place Pad (N/A with –PC4)

–PC4
= 4 Power Pins/End (N/A with –A)



OTHER SOLUTIONS

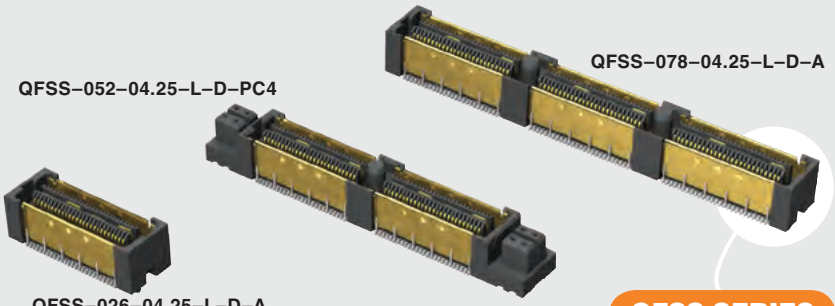


See SO Series for precision machined standoffs.

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Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.

samtec

Q2™



(0.635 mm) .025"

QFSS SERIES

SHIELDED GROUND PLANE SOCKET

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?QFSS

Insulator Material:
Liquid Crystal Polymer
Contact, Ground
Plane & Shield Material:
Phosphor Bronze
Plating:
Au over 50 µ" (1.27 µm) Ni
(Tin on Ground Plane tails)
Voltage Rating:
300 VAC mated with QMSS
Operating Temp:
-55 °C to +125 °C
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (026-078)
Board Stacking:
For applications requiring more than two connectors per board, contact ipg@samtec.com

RECOGNITIONS

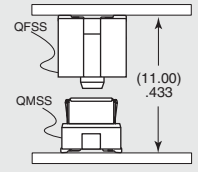
For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

ALSO AVAILABLE
(MOQ Required)

- Headers without Alignment Pins
- 8 Power Pins/End
- 4 or 8 Power Pins/End for (2.36 mm) .093" thick board
- Guide Holes
- 64 (-DP) and 104 pins per row

APPLICATION



Notes:
Patented

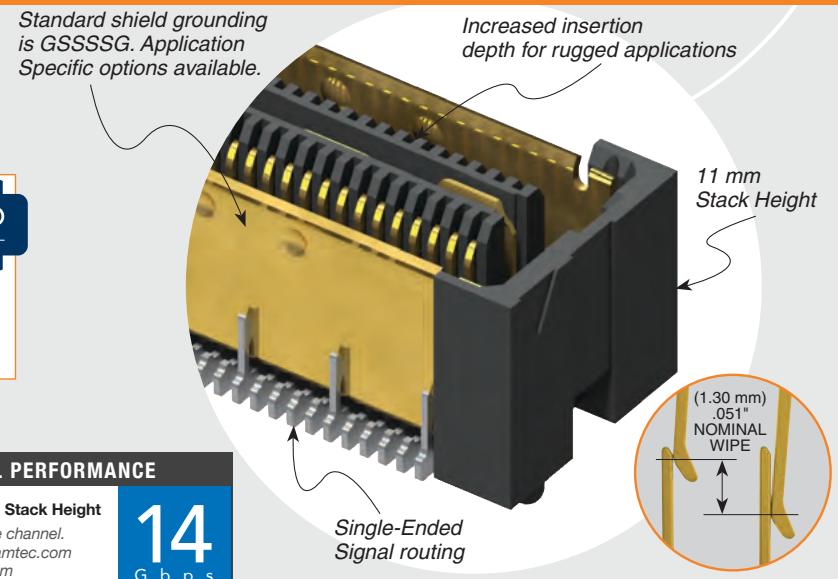
Some lengths, styles and options are non-standard, non-returnable.

Board Mates:
QMSS

Standoffs:
SO

RUGGEDIZED BY SAMTEC

- Increased insertion depth
- Integral guide post



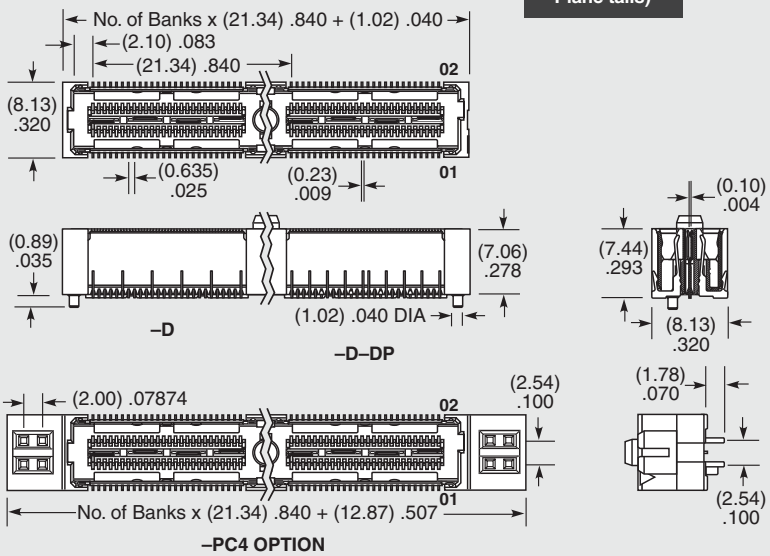
HIGH-SPEED CHANNEL PERFORMANCE

QMSS-DP/QFSS-DP @ 11 mm Mated Stack Height

Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

14 Gbps

QFSS	–	PINS PER ROW NO. OF PAIRS	–	04.25	–	PLATING OPTION	–	TYPE	–	A	–	OTHER OPTION
		–026, –052, –078 (52 total pins per bank 40 signals + 12 grounds to shield = –D) **–016, –032, –048** (16 pairs per bank = –D–DP)				**–L** = 10 µ" (0.25 µm) Gold on Signal Pins, Shield and Ground Plane (Tin on Signal Pin tails, and Ground Plane tails)		**–D** = Single-Ended **–D–DP** = Differential Pair				**–PC4** = 4 Power Pins/End (N/A with –A)



OTHER SOLUTIONS

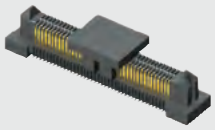


See SO Series for precision machined standoffs.

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samtec

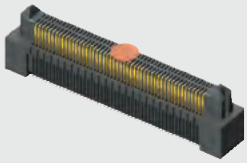
EDGE® RATE SYSTEM



ERM5–040–02.0–L–DV–P–TR



ERM5–020–05.0–L–DV–K–TR



ERM5–050–05.0–L–DV–K–TR

(0.50 mm) .0197"

ERM5 SERIES

RUGGED HIGH-SPEED HEADER

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?ERM5

Insulator Material:
Black LCP
Terminal Material:
Phosphor Bronze or BeCu
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Current Rating (-DV to -DV):
1.5 A per pin
(2 pins powered)
Current Rating (-DV to -RA):
1.6 A per pin
(2 pins powered)
Operating Temp Range:
-55 °C to +125 °C
Voltage Rating:
194 VAC mated with ERF5
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (010-040)
(0.13 mm) .005" max (050-075)*
*(.004" stencil solution may be available; contact IPG@samtec.com)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

ALSO AVAILABLE
(MOQ Required)

- Friction Lock
- Weld Tab
- Other platings

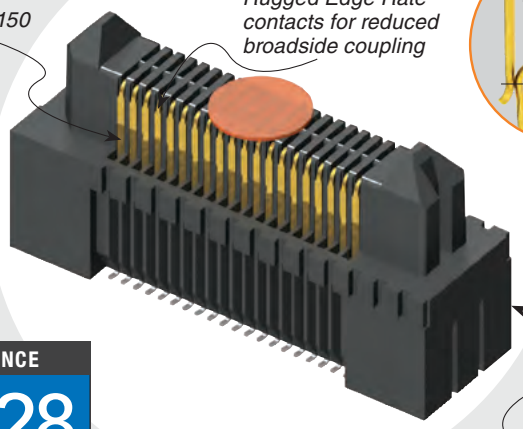
Notes:
Patented

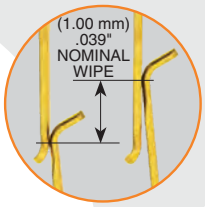
Some lengths, styles and options are non-standard, non-returnable.

Mates with:
ERF5

RUGGEDIZED BY SAMTEC

- Edge Rate® contacts
- High contact wipe





HIGH-SPEED CHANNEL PERFORMANCE

ERM5/ERF5 @ 7 mm Mated Stack Height

Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

28 Gbps

ERM5	NO. OF POSITIONS PER ROW	LEAD STYLE	PLATING OPTION	DV	PICK & PLACE PAD	TR

–010, –020, –030, –040, –050, –060, –070, –075

–02.0
= 2 mm Body Height

–04.0
= 4 mm Body Height

–05.0
= 5 mm Body Height

–L
= 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

(Required in callout)

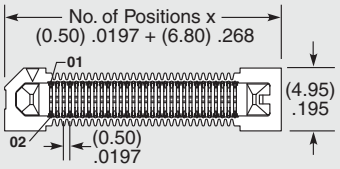
–K
= (3.50 mm) .138" DIA Polyimide Film Pick & Place Pad (–04.0 & –05.0 lead style only)

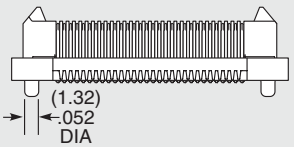
–P
= Plastic Pick & Place Pad (–02.0 lead style only) (–010 postions not available)

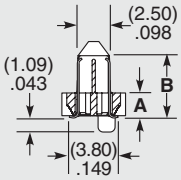
MATED HEIGHT*		
ERM5 LEAD STYLE	ERF5 LEAD STYLE	
	–05.0	–07.0
–02.0	(7.00) .276	(9.00) .354
–04.0	(9.00) .354	(11.00) .433
–05.0	(10.00) .394	(12.00) .472

*Processing conditions will affect mated height.

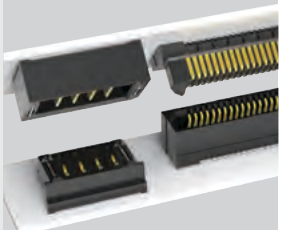
LEAD STYLE	A	B
–02.0	(1.94) .076	(4.84) .191
–04.0	(3.94) .155	(6.84) .269
–05.0	(4.94) .194	(7.84) .309







POWER/SIGNAL APPLICATION



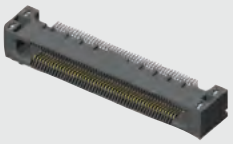
Compatible with UMPT/UMPS for flexible two-piece power/signal solutions

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EDGE® RATE SYSTEM

ERF5–050–01–L–D–RA–TR





ERF5–010–01–L–D–RA–TR



ERF5–010–05.0–L–DV–K–TR

(0.50 mm) .0197"

ERF5, ERF5-RA SERIES

RUGGED HIGH-SPEED SOCKET

Mates with:
ERM5

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?ERF5 or www.samtec.com?ERF5-RA

Insulator Material:
Black LCP
Terminal Material:
BeCu
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Current Rating (-DV to -DV):
1.5 A per pin
(2 pins powered)
Current Rating (-DV to -RA):
1.6 A per pin
(2 pins powered)
Operating Temp Range:
-55 °C to +125 °C
Voltage Rating:
194 VAC mated with ERM5
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (010-040)
(0.13 mm) .005" max (050-075)*
*(.004" stencil solution may be available; contact IPG@samtec.com)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

ALSO AVAILABLE (MOQ Required)

- Friction Lock (–DV only)
- Weld Tab (–DV only)
- Other platings

MATED HEIGHT*			
ERF5 LEAD STYLE	ERM5 LEAD STYLE		
	–02.0	–04.0	–05.0
–05.0	(7.00) .276	(9.00) .354	(10.00) .394
–07.0	(9.00) .354	(11.00) .433	(12.00) .472

*Processing conditions will affect mated height.

Notes:
Patented

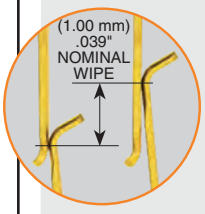
Some lengths, styles and options are non-standard, non-returnable.

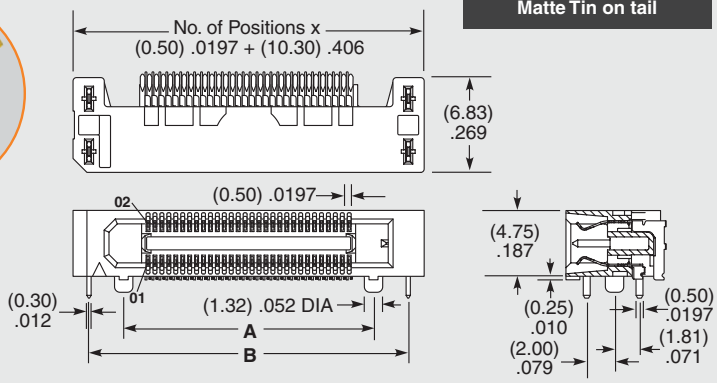
ERF5	–	NO. OF POSITIONS PER ROW	–	01	–	PLATING OPTION	–	D	–	RA	–	TR

–010, –020, –030, –040, –050

–L
= 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

–TR
= Tape & Reel Packaging





NO. OF POSITIONS	A	B
–010	(8.00) .315	(13.00) .512
–020	(13.00) .512	(18.00) .709
–030	(18.00) .709	(23.00) .906
–040	(23.00) .906	(28.00) 1.102
–050	(28.00) 1.102	(33.00) 1.299

HIGH-SPEED CHANNEL PERFORMANCE

ERM5/ERF5 @ 7 mm Mated Stack Height

Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

28 Gbps

ERF5	–	NO. OF POSITIONS PER ROW	–	LEAD STYLE	–	PLATING OPTION	–	DV	–	K	–	TR

–010, –020, –030, –040, –050, –060, –070, –075

–05.0
= 5 mm Body Height

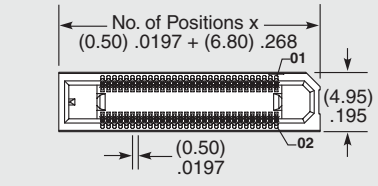
–07.0
= 7 mm Body Height

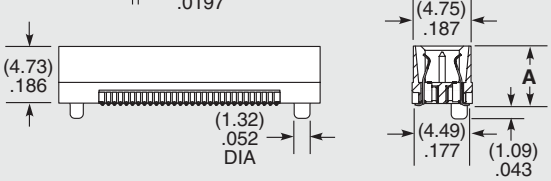
(Available up to 50 positions only)

–L
= 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

–K
= (6.00 mm) .236" DIA Polyimide Film Pick & Place Pad

–TR
= Tape & Reel Packaging





LEAD STYLE	A
–05.0	(4.91) .193
–07.0	(6.91) .272

POWER/SIGNAL APPLICATION



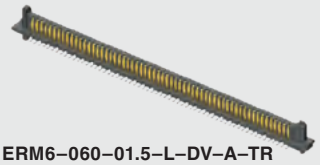
Compatible with UMPT/UMPS for flexible two-piece power/signal solutions

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samtec

EDGE® RATE SYSTEM



ERM6–060–01.5–L–DV–A–TR



ERM6–030–01.5–L–DV–A–TR

ERM6–010–01.5–L–DV–A–TR

(0.635 mm) .025"

*ERM6 SERIES

RUGGED HIGH-SPEED HEADER

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?ERM6

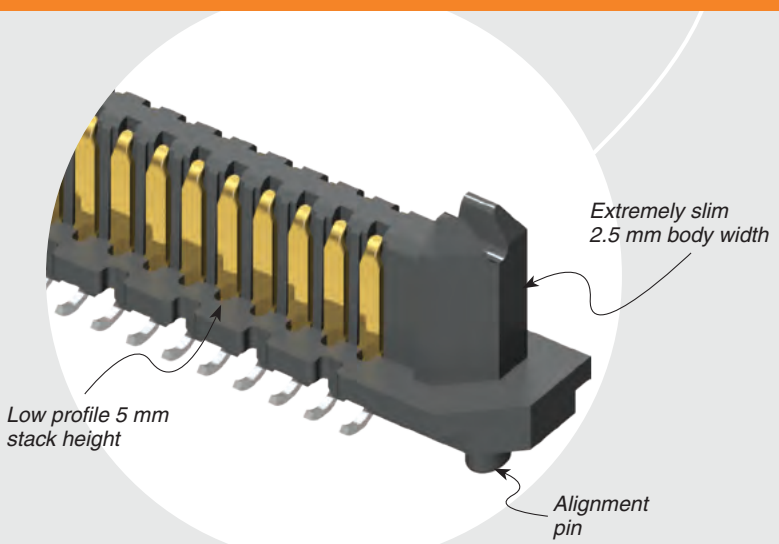
Insulator Material:
Black LCP
Contact Material:
Copper Alloy
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Operating Temp Range:
Testing Now!
Current Rating:
Testing Now!
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max

Mates with:
ERF6

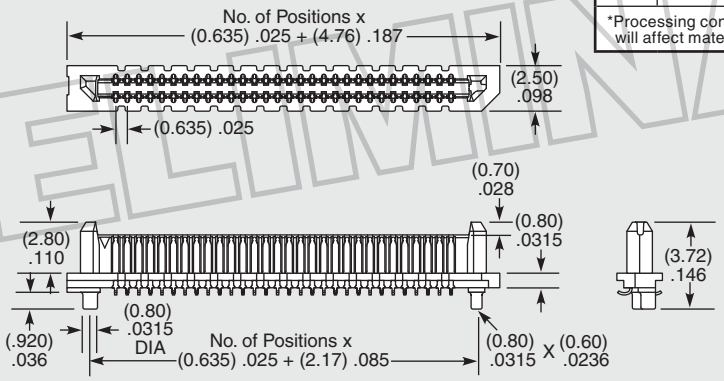
PAM4
56
Gbps



ERM6	NO. OF POSITIONS	01.5	PLATING OPTION	DV	A	OPTION	TR
	–010, –020, –030, –040, –050, –060 (Per Row) (Standard Sizes)		–L = 10 µ" (0.76 µm) Gold on contact area, Matte Tin on tail		Leave blank for no weld tab pin –WT = Weld Tab		–TR = Tape & Reel Packaging

MATED HEIGHT*	
ERF6 LEAD STYLE	ERM6 LEAD STYLE –01.5
–03.5	(5.00) .197

*Processing conditions will affect mated height.



ERM6–030–01.5–L–DV–A SHOWN

ALSO AVAILABLE
(MOQ Required)

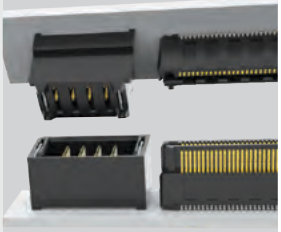
- Other lead styles
- Other sizes
- Other plating options

* ERM6 Series was previously ESM6 Series

Notes:
Kapton pad and tape & reel packaging are standard.

Some sizes, styles and options are non-standard, non-returnable.

POWER/SIGNAL APPLICATION



Compatible with UMPT/UMPS for flexible two-piece power/signal solutions

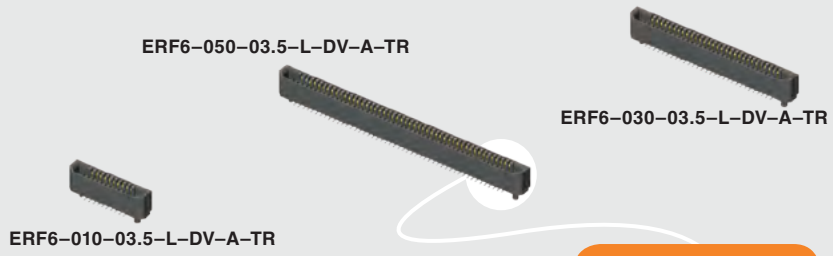
PRELIMINARY

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EDGE® RATE SYSTEM



(0.635 mm) .025"

*ERF6 SERIES

RUGGED HIGH-SPEED SOCKET

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?ERF6

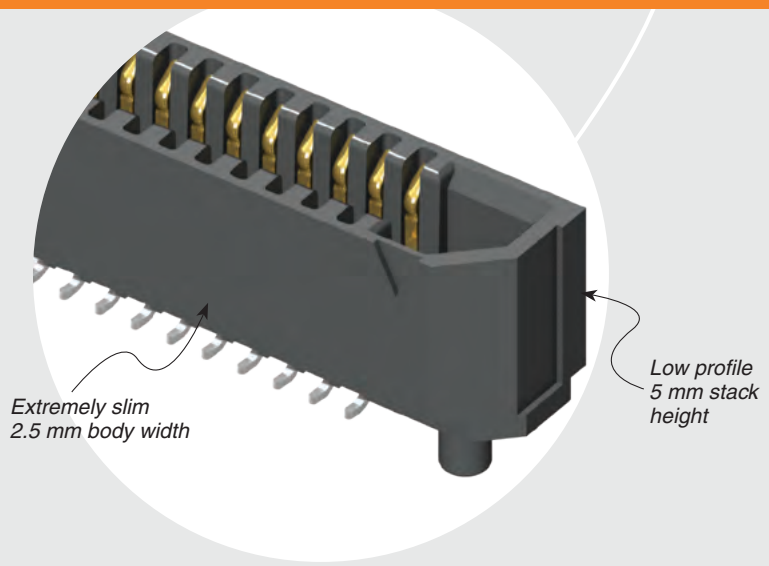
Insulator Material:
Black LCP
Contact Material:
Copper Alloy
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Operating Temp Range:
Testing Now!
Current Rating:
Testing Now!
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max

Mates with:
ERM6

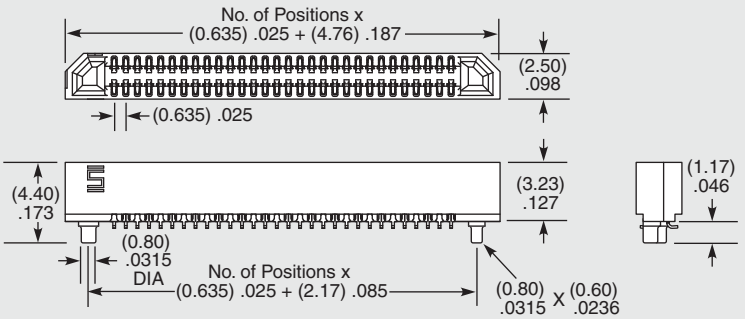
PAM4 56 Gbps



ERF6	NO. OF POSITIONS	03.5	PLATING OPTION	DV	A	OPTION	TR
	–010, –020, –030, –040, –050, –060 (Per Row) (Standard Sizes)		–L = 10 µ" (0.76 µm) Gold on contact area, Matte Tin on tail		Leave blank for no weld tab pin –WT = Weld Tab		–TR = Tape & Reel Packaging

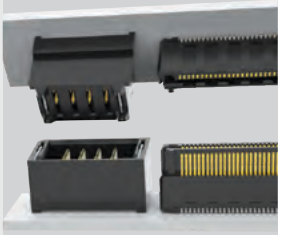
MATED HEIGHT*	
ERF6 LEAD STYLE	ERM6 LEAD STYLE –01.5
–03.5	(5.00) .197

*Processing conditions will affect mated height.



ERF6–030–03.5–L–DV–A SHOWN

POWER/SIGNAL APPLICATION



Compatible with UMPT/UMPS for flexible two-piece power/signal solutions

ALSO AVAILABLE (MOQ Required)

- Other lead styles
- Other sizes
- Other plating options

* ERF6 Series was previously ESF6 Series

Notes:
Kapton pad and tape & reel packaging are standard.

Some sizes, styles and options are non-standard, non-returnable.

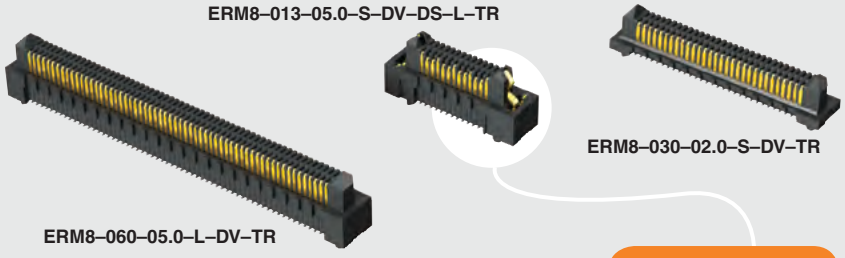
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EDGE® RATE SYSTEM

(0.80 mm) .0315"



ERM8 SERIES

RUGGED HIGH-SPEED HEADER

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?ERM8

Insulator Material:
Black LCP
Terminal Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Current Rating:
2.2 A per per pin
(2 pins powered)
Operating Temp Range:
-55 °C to +125 °C
Voltage Rating:
225 VAC / 318 VDC
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (005-030)
(0.12 mm) .005" max (040-060)*
(0.15 mm) .006" max (070-100)*
*(.004" stencil solutions may be available; contact IPG@samtec.com)

RECOGNITIONS

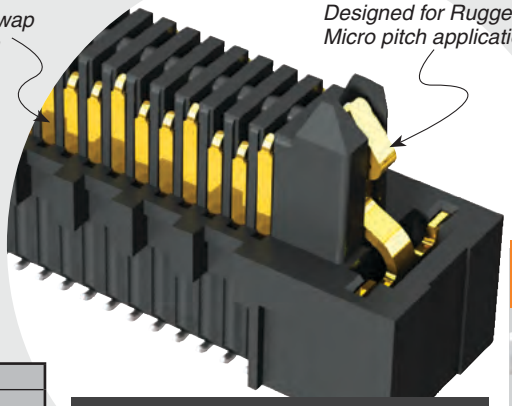
For complete scope of recognitions see www.samtec.com/quality

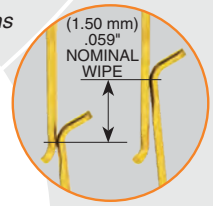
FILE NO. E111594

Board Mates:
ERF8

Cable Mates:
ERCD, ERDP

10 YEAR MFG WITH 30 µ" GOLD
EXTENDED LIFE PRODUCT
HIGH MATING CYCLES





MATED HEIGHT*			
ERM8 LEAD STYLE	ERF8 LEAD STYLE		
	–05.0	–07.0	–09.0
–02.0	(7.00) .276	(9.00) .354	(11.00) .453
–05.0	(10.00) .394	(12.00) .472	(14.00) .551
–08.0	(13.00) .512	(15.00) .591	(17.00) .669
–09.0	(14.00) .551	(16.00) .629	(18.00) .709

*Processing conditions will affect mated height.

HIGH-SPEED CHANNEL PERFORMANCE

ERM8/ERF8 @ 7 mm Mated Stack Height

Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

PAM4 56 Gbps

POWER/SIGNAL APPLICATION



Compatible with UMPT/UMPS for flexible two-piece power/signal solutions

ERM8	POSITIONS PER ROW	LEAD STYLE	PLATING OPTION	DV	OTHER OPTION	TR

–005, –010, –011, –013, –020, –025, –030, –035, –040, –049, –050, –060, –070, –075, –100
(Available with –09.0 lead style only)

Specify LEAD STYLE from chart

–L
= 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

–S
= 30 µ" (0.76 µm) Gold on contact, Matte Tin on tail

–DS
= Differential Pair
(–05.0 lead style only)
(–010, –013, –025, –049 Positions only)

–K
= (4.00 mm) .157" DIA
Polyimide Film Pick & Place Pad

–L
= Latching
(–05.0 & –09.0 lead styles only)
(Not available with –EGP & –EGPS options)

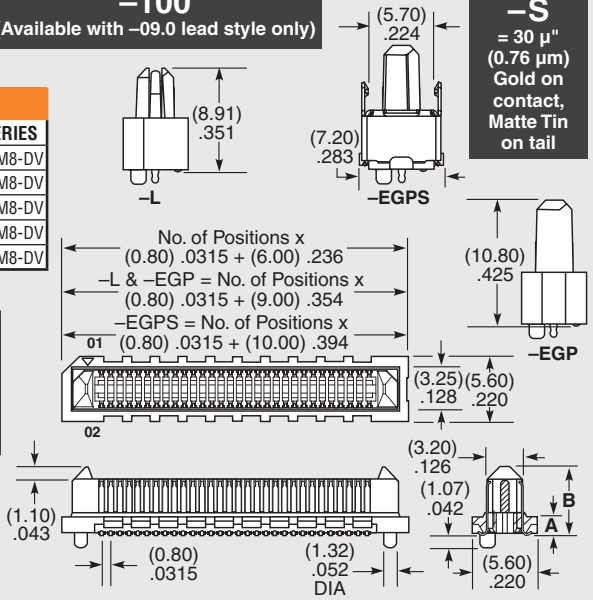
–EGP
= Extended Guide Post
(–05.0 lead style only)
(Not available with –L option)

–EGPS
= Extended Guide Post Shield
(–05.0 & -09.0 lead style only)
(–010, –020, –025, –030 Positions only)
(Not available with –L option)

–DSP
= Differential Pair + Extended Guide Post
(–05.0 lead styles only)
(–013 & –025 Positions only)

–DSS
= Differential Pair + Extended Guide Post Shield
(–05.0 lead styles only)
(–025 positions only)

–TR
= Tape & Reel Packaging (Not available with 100 positions)



APPLICATIONS

STANDARD	POS.	PART NOs.	SERIES
NEXUS5001™.org POWER.org™	11	ASP-137968-01	ERM8-DV
	17	ASP-137972-01	ERM8-DV
ARM/HSSTP	20	ASP-130365-01	ERM8-DV
NEXUS5001™.org POWER.org™	23	ASP-130366-01	ERM8-DV
	35	ASP-135020-01	ERM8-DV

LEAD STYLE	A	B
–02.0	(1.61) .063	(5.97) .235
–05.0	(4.61) .181	(8.91) .351
–08.0	(7.61) .300	(11.91) .469
–09.0	(8.61) .339	(12.91) .508

Notes:
Patented

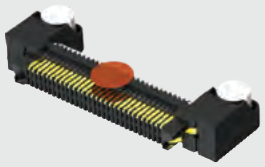
Some lengths, styles and options are non-standard, non-returnable.

Due to technical progress, all designs, specifications and components are subject to change without notice.

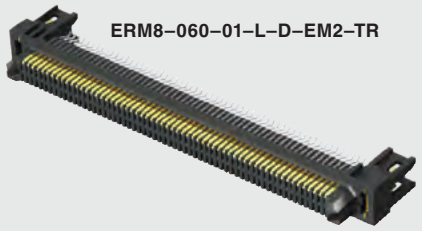
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EDGE® RATE SYSTEM



ERM8–030–01–L–D–RA–L–K–TR



ERM8–060–01–L–D–EM2–TR

(0.80 mm) .0315"

ERM8-RA, ERM8-EM SERIES

RUGGED EDGE RATE® STRIPS

ERM8-RA / ERM8-EM Board Mates:
ERF8

ERM8-RA Cable Mates:
ERCD

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?ERM8-RA or www.samtec.com?ERM8-EM

Insulator Material: Black LCP
Terminal Material: Phosphor Bronze
Latch Material: BeCu
Plating: Au or Sn over 50 µ" (1.27 µm) Ni
Current Rating: 2.2 A per pin (2 pins powered)
Operating Temp Range: -55 °C to +125 °C
Voltage Rating: 235 VAC / 318 VDC
RoHS Compliant: Yes

PROCESSING

Lead–Free Solderable: Yes
SMT Lead Coplanarity (ERM8-RA):
(0.10 mm) .004" max (010-050)
(0.15 mm) .006" max (060-075)*
SMT Lead Coplanarity (ERM8-EM):
(0.10 mm) .004" max (005-030)
(0.12 mm) .005" max (040-075)*
*(.004" stencil solution may be available; contact IPG@samtec.com)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

ALSO AVAILABLE (MOQ Required)

- Other Positions
- Solder leads & weld tab for (2.36 mm) .093" thick board
- Other platings

APPLICATIONS

STANDARD	POS.	PART NOs.	SERIES
NEXUS5001™.org POWER.org™	11	ASP-137971-01	ERM8-EM
	17	ASP-137974-01	ERM8-EM
ARM/HSSTP	20	ASP-133811-01	ERM8-EM
NEXUS5001™.org POWER.org™	23	ASP-133811-02	ERM8-EM
	35	ASP-135040-01	ERM8-EM

Notes:
Patented

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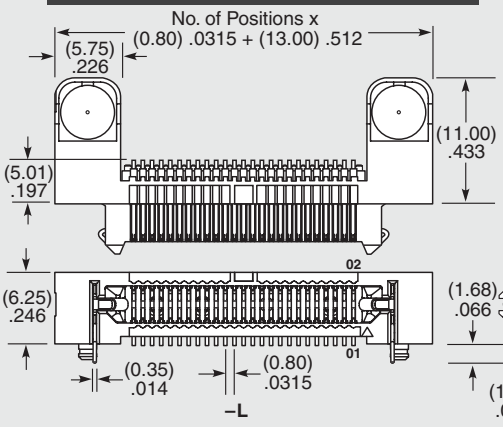
ERM8 - NO. OF POSITIONS PER ROW - 01 - PLATING OPTION - D - RA - OTHER OPTION - TR

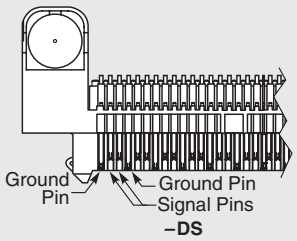
NO. OF POSITIONS PER ROW: –010, –013, –020, –025, –030, –040, –049, –050, –060, –070, –075

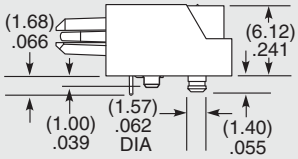
PLATING OPTION: –L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

OTHER OPTION:
–K = (6.00 mm) .236" DIA Polyimide Film Pick & Place Pad
–L = Latching
–DS = Differential Pair (–013, –025 positions only) (Hot swap)

TR: –TR = Tape & Reel







HIGH-SPEED CHANNEL PERFORMANCE

ERM8-RA/ERF8-RA

Rating based on Samtec reference channel.For full SI performance data visit Samtec.com or contact SIG@samtec.com

28 Gbps

ERM8 - NO. OF POSITIONS PER ROW - 01 - PLATING OPTION - D - EM2 - OTHER OPTION - TR

NO. OF POSITIONS PER ROW: –005, –010, –013, –020, –025, –030, –040, –049, –050, –060, –070, –075

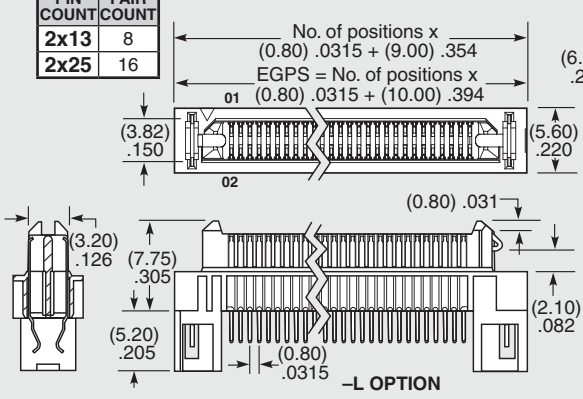
PLATING OPTION: –L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

EM2: –EM2 = (1.60 mm) .062" Thick PCB

OTHER OPTION:
–L = Latching (Mates to ERF8 Lead Style –05.0 or –RA only)
–DS = Differential Pair (–013, –025 pos.only) (Hot Swap)
–EGPS = Extended Guide Post Shield (–010, –020, –025, –030 pos.only)
–DSS = Differential Pair + Extended Guide Post Shield (–025 pos. only) (Hot Swap)

TR: –TR = Tape & Reel

–DS OPTION	
PIN COUNT	PAIR COUNT
2x13	8
2x25	16



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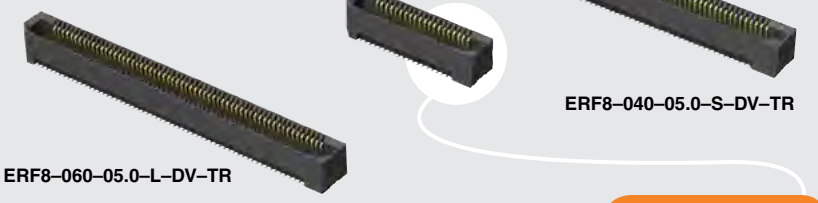
samtec

EDGE® RATE SYSTEM

(0.80 mm) .0315"

ERF8 SERIES

RUGGED HIGH-SPEED SOCKET



SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?ERF8

Insulator Material:
Black LCP
Contact Material:
BeCu
Plating:
Au or Sn over 50 µ" (1.27 µm) Ni
Current Rating:
2.2 A per pin
(2 pins powered)
Operating Temp Range:
-55 °C to + 125 °C
Voltage Rating:
225 VAC / 318 VDC
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (005-030)
(0.12 mm) .005" max (040-060)*
(0.15 mm) .006" max (070-100)*
*(.004" stencil solution may be available; contact IPG@samtec.com)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

ALSO AVAILABLE (MOQ Required)

- Mezzanine stack heights

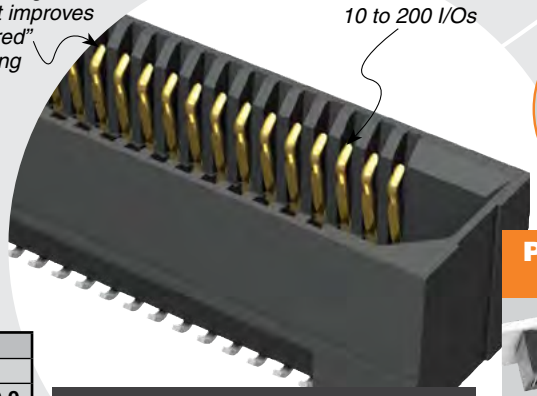
Board Mates:
ERM8

Cable Mates:
ERCD, ERDP

10 YEAR MFG WITH 30 µ" GOLD
EXTENDED LIFE PRODUCT
HIGH MATING CYCLES

Robust Edge Rate® contact improves "Zippered" unmating

10 to 200 I/Os





POWER/SIGNAL APPLICATION



Compatible with UMPT/UMPS for flexible two-piece power/signal solutions

MATED HEIGHT*				
ERF8 LEAD STYLE	ERM8 LEAD STYLE			
	–02.0	–05.0	–08.0	–09.0
–05.0	(7.00) .276	(10.00) .394	(13.00) .512	(14.00) .551
–07.0	(9.00) .354	(12.00) .472	(15.00) .591	(16.00) .629
–09.0	(11.00) .453	(14.00) .551	(17.00) .669	(18.00) .709

*Processing conditions will affect mated height.

HIGH-SPEED CHANNEL PERFORMANCE

ERM8/ERF8 @ 7 mm Mated Stack Height

Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

PAM4
56 Gbps

ERF8	NO. OF POSITIONS PER ROW	LEAD STYLE	PLATING OPTION	DV	OTHER OPTION	TR

–005, –010, –011, –013, –020, –025, –030, –035 –040, –049, –050, –060, –070, –075

–100
(Available with –05.0 lead style only)

Specify LEAD STYLE from chart

LEAD STYLE	A
–05.0	(5.10) .200
–07.0	(7.00) .276
–09.0	(9.00) .354

–L
= 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

–S
= 30 µ" (0.76 µm) Gold on contact, Matte Tin on tail

–L
= Latching
(Lead Style –05.0 only)
(Not available with –EGP or –EGPS options)

–EGP
= Extended Guide Post
(Lead Style –07.0 only)
(Not available with –L & –EGPS option)

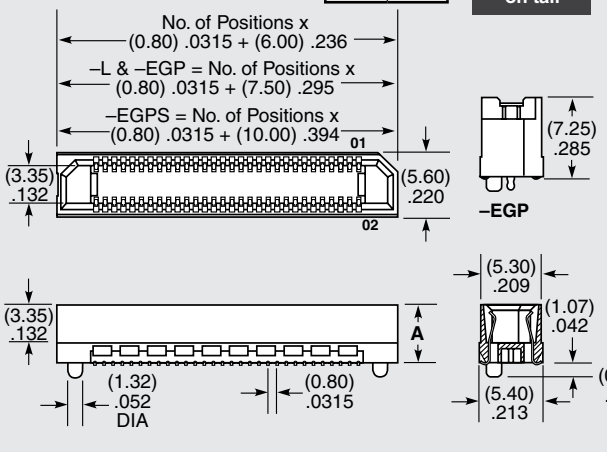
–EGPS
= Extended Guide Post Shield
(Lead Style –07.0 only)
(Not available with –L & –EGP option)
(–010, –020, –025, –030 only)

–K
= (6.00 mm) .236" DIA Polyimide Film Pick & Place Pad

–TR
= Tape & Reel Packaging (Not available with 100 positions)

APPLICATIONS

STANDARD	POS.	PART NOs.	SERIES
NEXUS5001™.org POWER.org™	10	ASP-148421-01	ERF8-DV
	11	ASP-137969-01	ERF8-DV
	17	ASP-137973-01	ERF8-DV
ARM/HSSTP	20	ASP-130367-01	ERF8-DV
NEXUS5001™.org POWER.org™	23	ASP-130368-01	ERF8-DV
	25	ASP-148422-01	ERF8-DV
	35	ASP-135029-01	ERF8-DV
	40	ASP-148424-01	ERF8-DV



Notes:
Patented

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samtec

EDGE® RATE SYSTEM

ERF8–030–01–L–D–RA–L–TR





ERF8–020–01–L–D–EM2–TR

(0.80 mm) .0315"

ERF8-RA, ERF8-EM SERIES

RUGGED EDGE RATE® STRIPS

ERF8-RA / ERF8-EM Board Mates:
ERM8

ERF8-RA Cable Mates:
ERCD, ERDP

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?ERF8-RA or www.samtec.com?ERF8-EM

Insulator Material:
Black LCP
Contact Material:
BeCu
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Current Rating:
2.2 A per pin
(2 pins powered)
Operating Temp Range:
-55 °C to +125 °C
Voltage Rating:
225 VAC / 318 VDC
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity (ERF8-RA):
(0.10 mm) .004" max
SMT Lead Coplanarity (ERF8-EM):
(0.10 mm) .004" max (005-030)
(0.12 mm) .005" max (040-075)*
*(.004" stencil solution may be available; contact IPG@samtec.com)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

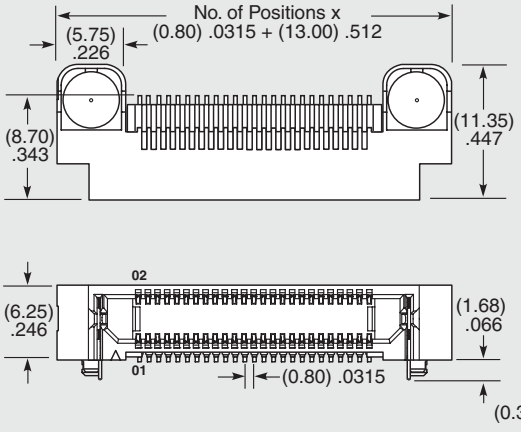
ALSO AVAILABLE (MOQ Required)

- Other Positions
- Solder leads & weld tab for (2.36 mm) .093" thick board
- Solder leads & weld tab for (2.36 mm) .093" thick PCB (ERF8-RA only
- Other platings

Notes:
Patented

Some lengths, styles and options are non-standard, non-returnable.

ERF8	NO. OF POSITIONS PER ROW	01	PLATING OPTION	D	RA	OTHER OPTION	TR
	–010, –013, –020, –025, –030, –040, –049, –050, –060, –070, –075		–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail		–L = Latching (N/A with –EGP option) –EGP = Extended Guide Post (N/A with –L option)		–TR = Tape & Reel



HIGH-SPEED CHANNEL PERFORMANCE

ERF8-RA/ERM8-RA

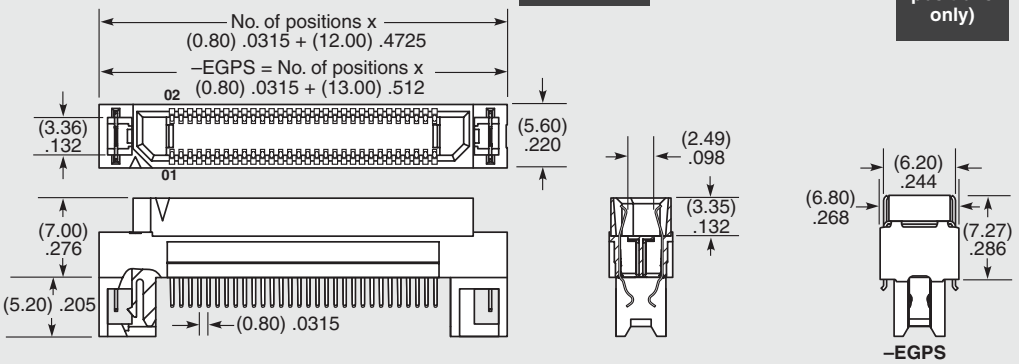
Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

28 Gbps

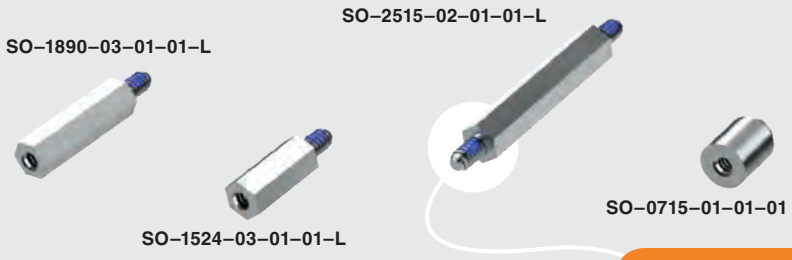
RUGGEDIZED BY SAMTEC

- Edge Rate® contacts
- Latching option
- Extended guide post option
- PCB mounting pins

ERF8	NO. OF POSITIONS PER ROW	01	PLATING OPTION	D	EM2	OTHER OPTION	TR
	–005, –010, –013, –020, –025, –030, –040, –049, –050, –060, –070, –075		–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail		–EM2 = (1.60 mm) .062" Thick PCB	–EGPS = Extended Guide Post Shield (–010, –020, –025, –030 positions only)	–TR = Tape & Reel



samtec



SO SERIES

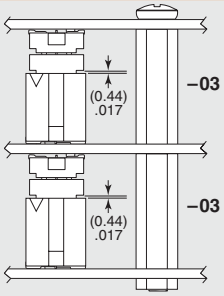
PRECISION BOARD STACKING STANDOFF

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?SO

Material:
Aluminum
Locking Compound:
Nylon

APPLICATIONS



See QMS/QFS Series SUMIT™ & PCI/104-Express™ connectors

Requires Standoff SO-1524-03-01-02-L 15.24mm board spacing. Connectors designed to not fully seat when mated.

APPLICATIONS





RUGGEDIZED BY SAMTEC

- Precision machined
- Locking compound

ALSO AVAILABLE (MOQ Required)

- Other heights
- Stainless Steel
- Locking compound removed
- Other materials and threading
- No Hardware

SO	–	BOARD STACKER	–	LEAD STYLE	–	THREAD STYLE	–	01	–	L

Specify BOARD STACKER from chart

–01
= Female Thread/Press-In (–0515 thru –0865 only)

–02
= Male/Male Thread (–0515 and –1115 thru –2515 only)

–03
= Male/Female Thread (-0815 thru –2515 only)

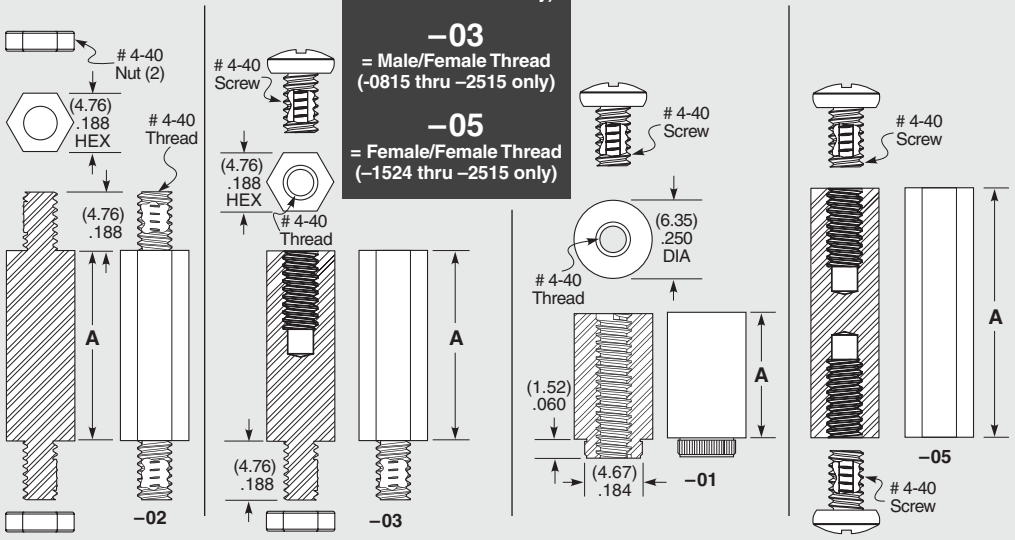
–05
= Female/Female Thread (–1524 thru –2515 only)

–01
= #4-40 Thread

–02
= M3 x 0.5 Thread

–L
= –02 & –03 Lead Style thread locking compound (Leave blank for –01 Lead Style)

BOARD STACKER	A	BOARD STACK HEIGHT
–0515	(5.15) .203	5 mm
–0715	(7.15) .282	7 mm
–0815	(8.15) .321	8 mm
–0865	(8.65) .341	8.5 mm
–1115	(11.15) .439	11 mm
–1215	(12.15) .478	12 mm
–1524	(15.24) .600	15.09 mm
–1615	(16.15) .636	16 mm
–1890	(18.90) .744	18.75 mm
–1915	(19.15) .754	19 mm
–2515	(25.15) .990	25 mm



Notes:
Standoffs are designed, 0.15 mm longer than connector stack heights to allow for processing variables.

Some lengths, styles and options are non-standard, non-returnable.

Components are to be packaged in separate bags unassembled.

Due to technical progress, all designs, specifications and components are subject to change without notice.

All parts within this catalog are built to Samtec's specifications.
Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.

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JSOM SERIES

MICRO JACK SCREW STANDOFF

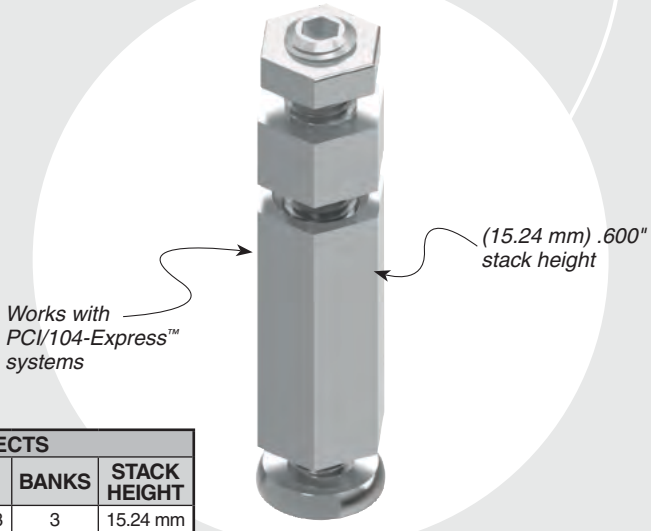
SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?JSOM

Material:
Stainless Steel

ALSO AVAILABLE
(MOQ Required)

- Other heights

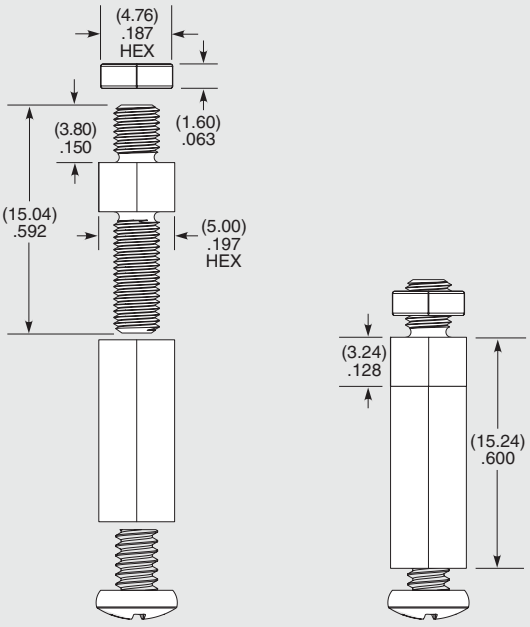


INDUSTRY STANDARD	INTERCONNECTS			
	TERMINAL	SOCKET	BANKS	STACK HEIGHT
PCI/104-Express™	ASP-129637-03	ASP-129646-03	3	15.24 mm
PCI/104-Express™	ASP-129637-13	ASP-129646-22	1	15.24 mm
SUMIT™	ASP-129637-01	ASP-129646-01	1	15.24 mm

JSOM	–	BOARD STACKER	–	LEAD STYLE
		–1524 = (15.24 mm) .600" Stack Height		–02 = Female Thread

APPLICATION





Notes:
Patent Pending

Components are to be packaged in separate bags unassembled.

Due to technical progress, all designs, specifications and components are subject to change without notice.

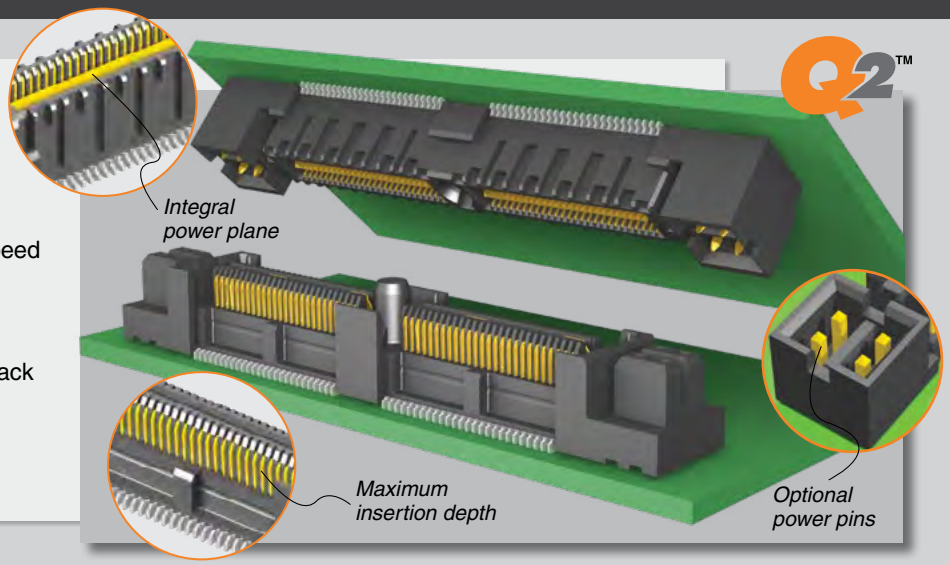
All parts within this catalog are built to Samtec's specifications.
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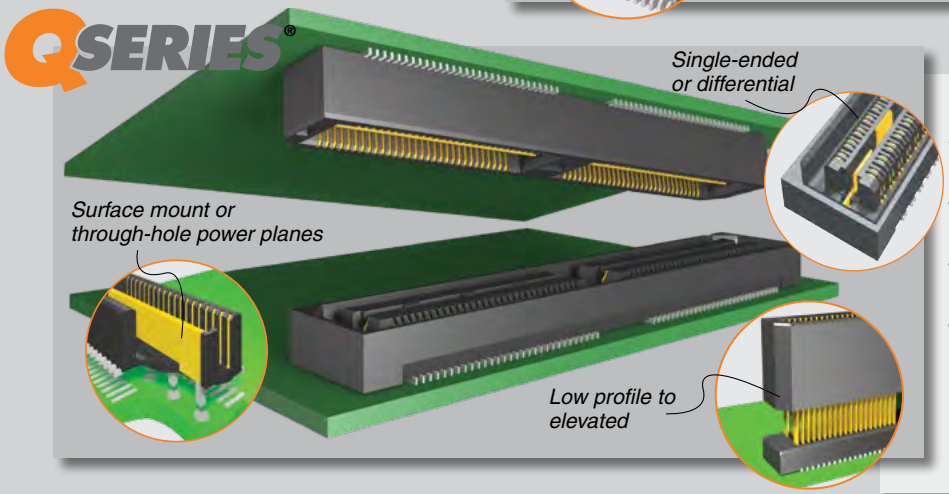
Q FOR POWER

HIGH-SPEED SIGNAL & POWER COMBINATIONS

Q2™

- Integral power/ground plane rated for up to 15.7 amps
- Optional integral power pins rated at 4 amps
- Wide variety of standard high-speed mating cable assemblies
- Combination signal/power cable assemblies
- 0.635 mm pitch with choice of stack heights
- Rugged contact system with increased insertion depth
- See QMS/QFS Series



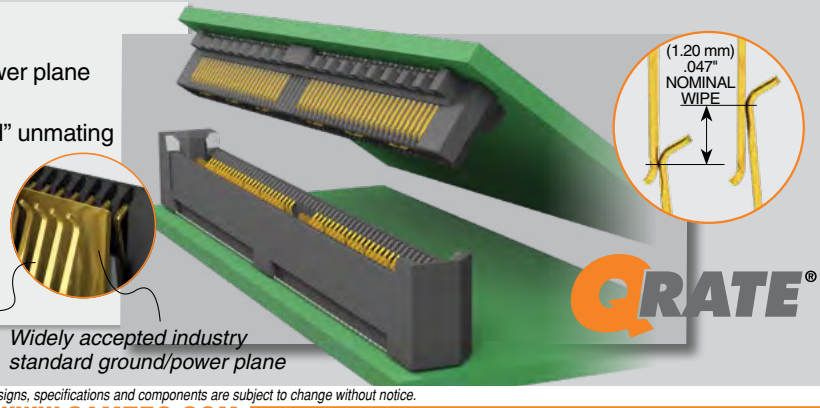


Q Series®

- Integral power/ground plane rated for up to 25 amps
- Wide variety of standard high-speed mating cables
- Low profile (5 mm) to elevated (25 mm) stack heights
- Choice of pitches:
  QTH/QSH Series for 0.50 mm pitch
  QTS/QSS or MIT/MIS Series for 0.635 mm pitch
  QTE/QSE Series for 0.80 mm pitch

Q Rate®

- Widely accepted industry standard ground/power plane rated for up to 8.5 amps
- Robust Edge Rate® contact improves "zippered" unmating
- Slim 4.60 mm body width on 0.80 mm pitch
- Edge Rate® contacts optimized for Signal Integrity performance
- 7 mm to 14 mm stack heights
- See QRM8/QRF8 Series



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ULTRA MICRO



ACCELERATE® HD

0.635 mm High-Density 4-Row Header (ADM6) 110

0.635 mm High-Density 4-Row Socket (ADF6) 111

RAZOR BEAM™

0.50 mm Pitch Hermaphroditic Connectors (LSHM) 112-113

0.635 mm Pitch Hermaphroditic Connectors (LSS) 114

0.80 mm Pitch Hermaphroditic Connectors (LSEM) 115

RAZOR BEAM™ LP

0.40 mm Pitch Low-Profile Strips (ST4, SS4) 116

0.50 mm Pitch Low-Profile Strips (ST5, SS5, SLH, TLH) 117-118

APPLICATIONS

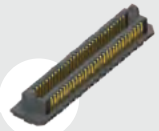
Ultra Micro 16-17

samtec

ACCELERATE® HD


ADM6–60–01.5–L–04–2–A


ADM6–40–01.5–L–04–2–A


ADM6–30–01.5–L–04–2–A

(0.635 mm) .025"

ADM6* SERIES

ACCELERATE® HD MICRO INTERFACES

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?ADM6

Insulator Material:
Black LCP
Contact Material:
Copper Alloy
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Operating Temp Range:
Testing Now!
Current Rating:
Testing Now!
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max

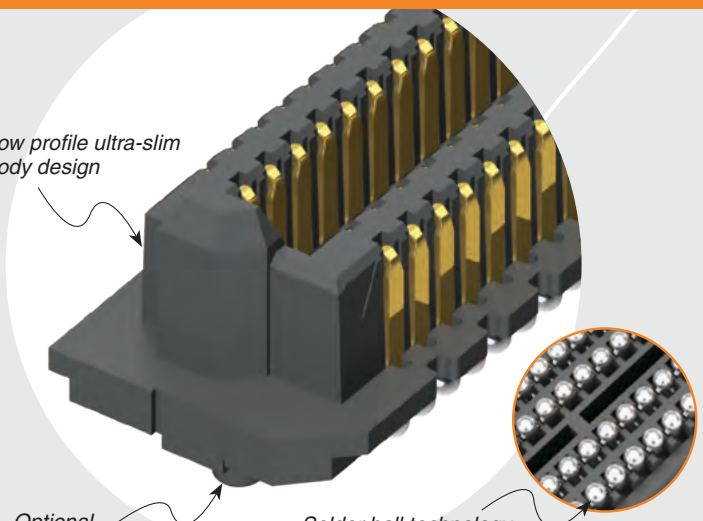
Mates with:
ADF6

PAM4
56
Gbps

POWER/SIGNAL APPLICATION



Compatible with UMPT/UMPS for flexible two-piece power/signal solutions



ALSO AVAILABLE (MOQ Required)

- Other lead styles
- Other rows

ADM6	NO. OF POSITIONS	01.5	PLATING OPTION	NO. OF ROWS	SOLDER TYPE	OPTION
	–10, –20, –30, –40, –50, –60 (Per Row)	–L = 10 µ" (0.76 µm) Gold on contact area, Matte Tin on tail		–04 = Four Rows	–2 = Lead-Free Solder Ball	Leave blank for no alignment pin –A = Alignment Pin

SPACE-SAVING COMPARISON

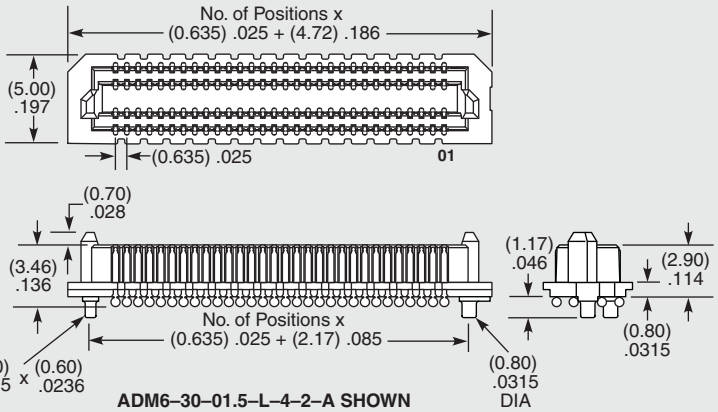

ADX6 Series (240 total positions)


QXH Series (240 total positions)

Actual Size Shown

MATED HEIGHT*	
ADF6 LEAD STYLE	ADM6 LEAD STYLE
	–01.5
–03.5	(5.00) .197

*Processing conditions will affect mated height.



ADM6–30–01.5–L–4–2–A SHOWN

* ADM6 Series was previously EDM6 Series

Notes:
Packaged in Tape & Reel with polyimide pick & place pad.

Some sizes, styles and options are non-standard, non-returnable.

Due to technical progress, all designs, specifications and components are subject to change without notice.

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Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.

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ACCELERATE® HD


ADF6–20–03.5–L–04–2–A


ADF6–60–03.5–L–04–2–A


ADF6–30–03.5–L–04–2–A

(0.635 mm) .025"

ADF6* SERIES

ACCELERATE® HD MICRO INTERFACES

SPECIFICATIONS

Mates with:
ADM6

For complete specifications and recommended PCB layouts see www.samtec.com?ADF6

Insulator Material:
Black LCP
Contact Material:
Copper Alloy
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Operating Temp Range:
Testing Now!
Current Rating:
Testing Now!
RoHS Compliant:
Yes

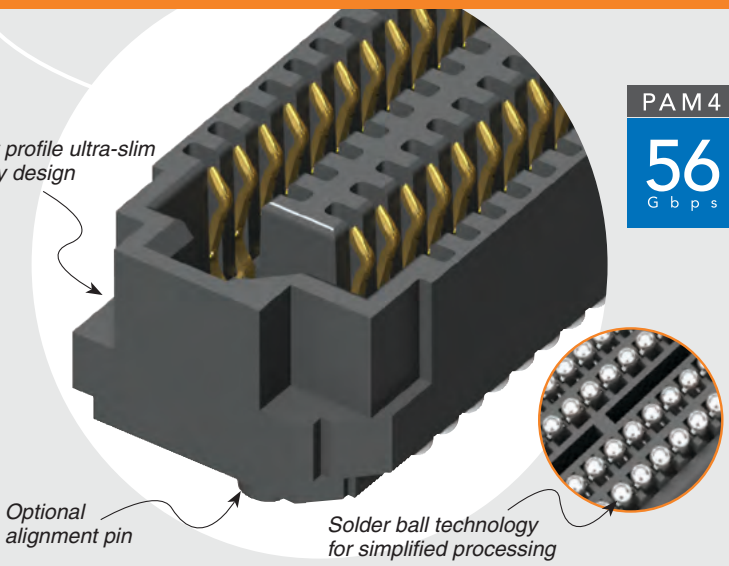
PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max

POWER/SIGNAL APPLICATION



Compatible with UMPT/UMPS for flexible two-piece power/signal solutions



ADF6	–	NO. OF POSITIONS	–	03.5	–	PLATING OPTION	–	NO. OF ROWS	–	SOLDER TYPE	–	OPTION
		–10, –20, –30, –40, –50, –60 (Per Row)				–L = 10 µ" (0.76 µm) Gold on contact area, Matte Tin on tail		–04 = Four Rows		–2 = Lead-Free Solder Ball		Leave blank for no alignment pin –A = Alignment Pin

ALSO AVAILABLE (MOQ Required)

- Other lead styles
- Other rows

MATED HEIGHT*	
ADF6 LEAD STYLE	ADM6 LEAD STYLE –01.5
–03.5	(5.00) .197

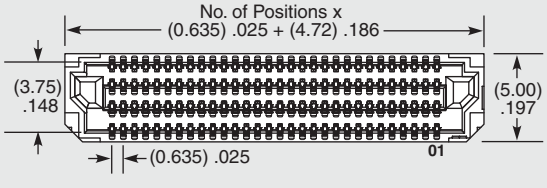
*Processing conditions will affect mated height.

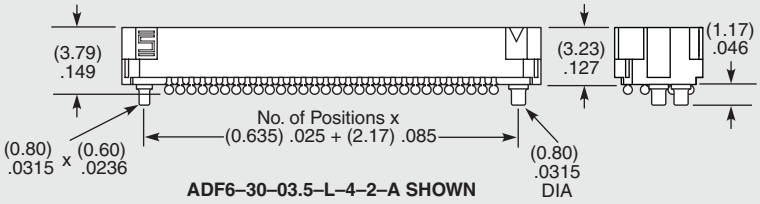
SPACE-SAVING COMPARISON


ADX6 Series (240 total positions)


QXH Series (240 total positions)

Actual Size Shown





ADF6–30–03.5–L–4–2–A SHOWN

* ADF6 Series was previously EDF6 Series

Notes:
Packaged in Tape & Reel with polyimide pick & place pad.

Some sizes, styles and options are non-standard, non-returnable.

Due to technical progress, all designs, specifications and components are subject to change without notice.

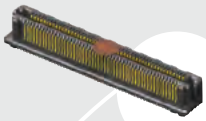
All parts within this catalog are built to Samtec's specifications.
Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.

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RAZOR™ BEAM SYSTEM



LSHM–130–02.5–L–DV–A–S–K–TR



LSHM–150–02.5–L–DV–A–N–K–TR



LSHM–120–04.0–L–DV–A–N–K–TR

(0.50 mm) .0197"

LSHM-DV SERIES

HIGH-SPEED HERMAPHRODITIC STRIP

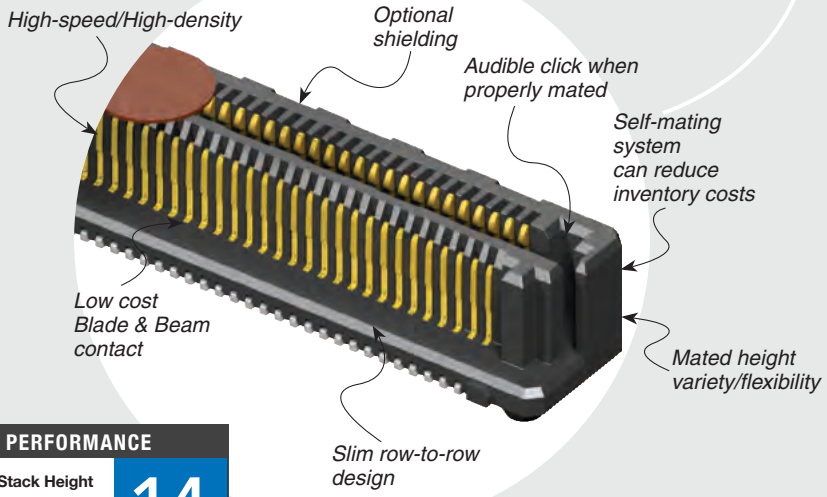
SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?LSHM

Insulator Material:
Black Liquid Crystal Polymer
Contact Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Current Rating:
2.0 A per pin
(2 adjacent pins powered)
Operating Temp Range:
-55 °C to +125 °C
RoHS Compliant:
Yes

Board Mates:
LSHM

Cable Mates:
HLCD



PROCESSING

Lead-Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max
Board Stacking:
For applications requiring two or more connectors per board, contact ipg@samtec.com

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

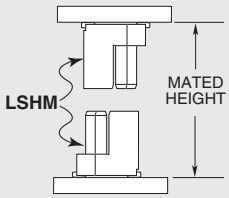
HIGH-SPEED CHANNEL PERFORMANCE

LSHM-DV/LSHM-DV @ 5 mm Mated Stack Height

Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

14 Gbps

APPLICATION



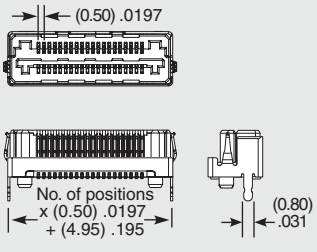
LEAD STYLE	MATED HEIGHT*
–02.5 & –02.5	(5.00) .196
–02.5 & –03.0	(5.50) .217
–03.0 & –03.0	(6.00) .236
–02.5 & –04.0	(6.50) .256
–03.0 & –04.0	(7.00) .276
–04.0 & –04.0	(8.00) .315
–02.5 & –06.0	(8.50) .335
–03.0 & –06.0	(9.00) .354
–04.0 & –06.0	(10.00) .394
–06.0 & –06.0	(12.00) .472

*Processing conditions will affect mated height.

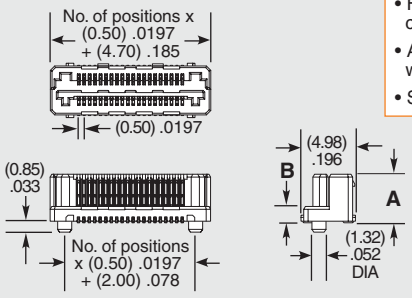
Note:
Some lengths, styles and options are non-standard, non-returnable.

LSHM	–	1	NO. PINS PER ROW	–	LEAD STYLE	–	PLATING OPTION	–	TAIL OPTION	–	A	–	SHIELD OPTION	–	K	–	TR
			05, 10, 20, 30, 40, 50		Specify LEAD STYLE from chart		–F = Gold flash on contact, Matte Tin on tail –L =10 µ" (0.25 µm) Gold on contact, Matte Tin on tail		–DV = Vertical				–S = With Shield –N = Without Shield		–K = (3.50 mm) .138" DIA Polyimide film Pick & Place Pad		–TR = Tape & Reel

LEAD STYLE (STANDARD)	LEAD STYLE (LUBRICATED)	A	B
–02.5	–L2.5	(3.95) .156	(1.00) .039
–03.0	–L3.0	(4.45) .175	(1.50) .059
–04.0	–L4.0	(5.45) .215	(2.50) .098
–06.0	–L6.0	(7.45) .293	(4.50) .177



–DV–S



–DV–N

RUGGEDIZED BY SAMTEC

- High retention contacts
- Audible click when mated
- Shrouded

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Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.

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RAZOR™ BEAM SYSTEM


LSHM–150–01–L–DH–A–S–K–TR


LSHM–130–01–F–DH–A–S–K–TR


LSHM–120–01–L–DH–A–N–K–TR


LSHM–120–01–L–RH–A–S–K–TR

(0.50 mm) .0197"

LSHM-DH, LSHM-RH SERIES

HIGH-SPEED HERMAPHRODITIC STRIP

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?LSHM

Insulator Material:
Black Liquid Crystal Polymer
Contact Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Current Rating:
1.9 A per pin
(2 adjacent pins powered)
Operating Temp Range:
-55 °C to +125 °C
RoHS Compliant:
Yes

PROCESSING

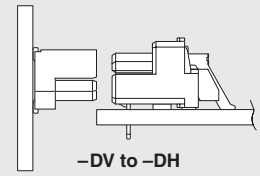
Lead-Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max
Board Stacking:
For applications requiring two or more connectors per board, contact ipg@samtec.com

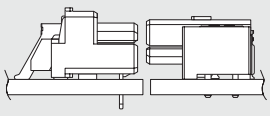
RECOGNITIONS

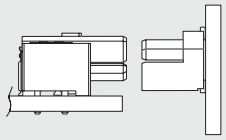
For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

APPLICATION


–DV to –DH


–DH to –RH


–RH to –DV

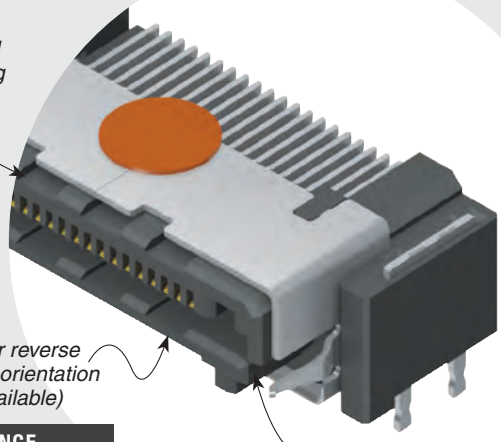
Note:
Some lengths, styles and options are non-standard, non-returnable.

Board Mates:
LSHM

Cable Mates:
HLCD

RUGGEDIZED BY SAMTEC

- High retention contacts
- Audible click when mated
- Shrouded



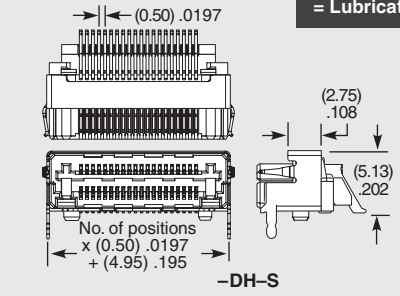
HIGH-SPEED CHANNEL PERFORMANCE

LSHM-DH/LSHM-DH

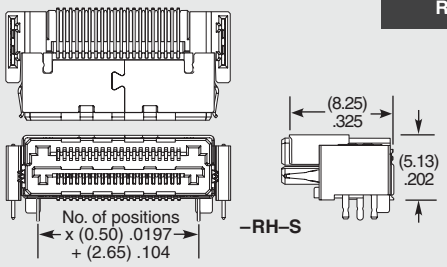
Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

14 Gbps

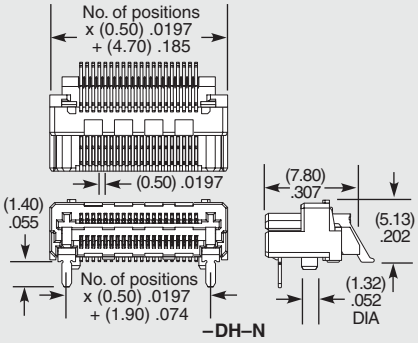
LSHM	1	NO. PINS PER ROW	LEAD STYLE	PLATING OPTION	TAIL OPTION	A	SHIELD OPTION	K	TR
		05, 10, 20, 30, 40, 50	–01 = Standard –L1 = Lubricated	–F = Gold flash on contact, Matte Tin on tail –L = =10 µ" (0.25 µm) Gold on contact, Matte Tin on tail	–DH = Right-angle –RH = Reverse Right-angle		–S = With Shield –N = Without Shield	–K = (3.50 mm) .138" DIA Polyimide film Pick & Place Pad	–TR = Tape & Reel



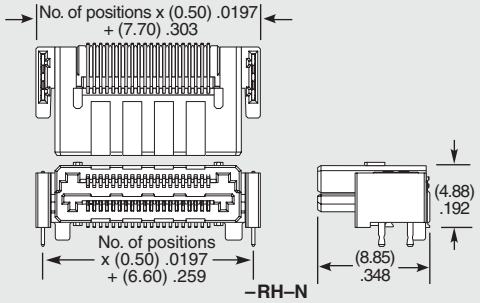
–DH–S



–RH–S



–DH–N



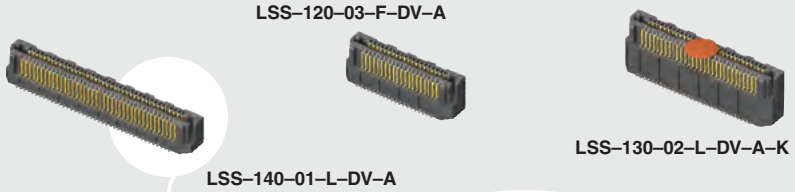
–RH–N

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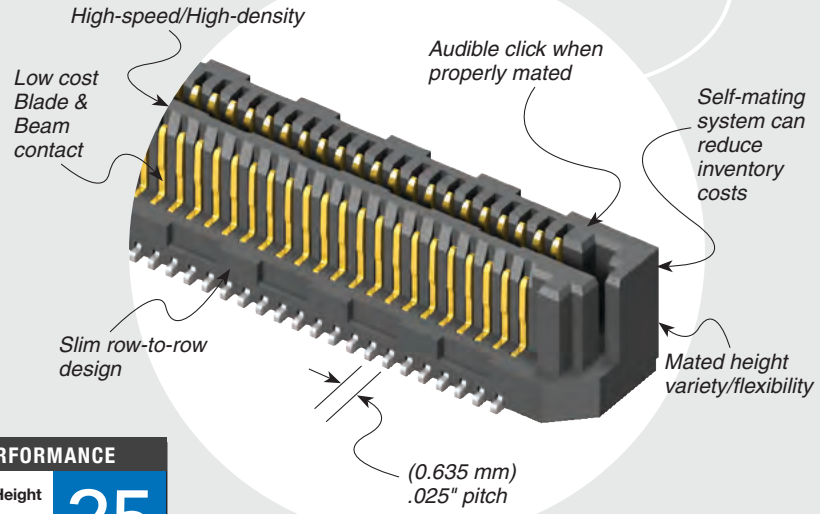
RAZOR™ BEAM SYSTEM



(0.635 mm) .025"

LSS SERIES

HIGH-SPEED HERMAPHRODITIC STRIP



SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?LSS

Insulator Material:
Black Liquid Crystal Polymer
Contact Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Current Rating:
1.7 A per pin
(4 adjacent pins powered)
Operating Temp Range:
-55 °C to +125 °C
RoHS Compliant:
Yes

Mates with:
LSS

PROCESSING

Lead-Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max
Board Stacking:
For applications requiring two or more connectors per board, contact ipg@samtec.com

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

HIGH-SPEED CHANNEL PERFORMANCE

LSS-DV/LSS-DV @ 9 mm Mated Stack Height

Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

25 Gbps

LSS – 1 – NO. PINS PER ROW – LEAD STYLE – PLATING OPTION – DV – A – OPTION

NO. PINS PER ROW: 10, 20, 30, 40, 50

LEAD STYLE: Specify LEAD STYLE from chart

PLATING OPTION:

–F
= Gold flash on contact, Matte Tin on tail

–L
=10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

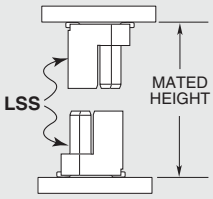
OPTION:

–K
= (3.50 mm) .138" DIA Polyimide film Pick & Place Pad

–TR
= Tape & Reel

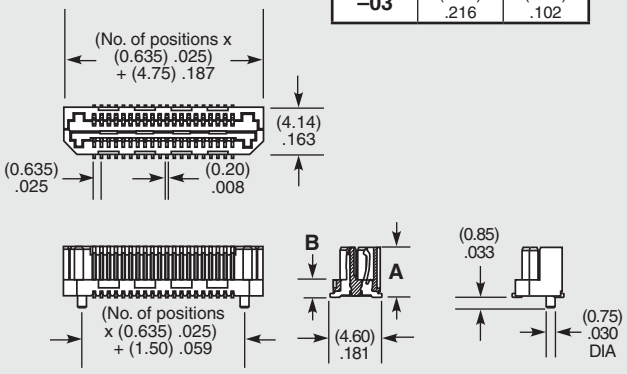
LEAD STYLE	A	B
–01	(4.50) .177	(1.60) .063
–02	(7.49) .295	(4.59) .181
–03	(5.49) .216	(2.59) .102

APPLICATION



LEAD STYLE	MATED HEIGHT*
–01 & –01	(6.00) .236
–01 & –03	(7.00) .276
–03 & –03	(8.00) .315
–01 & –02	(9.00) .354
–02 & –03	(10.00) .394
–02 & –02	(12.00) .472

*Processing conditions will affect mated height.



Note:
Some lengths, styles and options are non-standard, non-returnable.

RUGGEDIZED BY SAMTEC

- High retention contacts
- Audible click when mated
- Shrouded

ALSO AVAILABLE (MOQ Required)

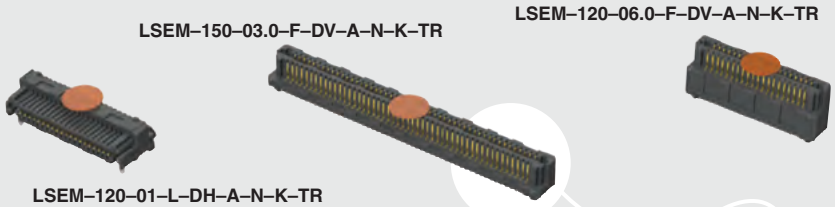
- Locking Clip on –02 or –03 lead style
- Other Gold plating options
- Other pin counts

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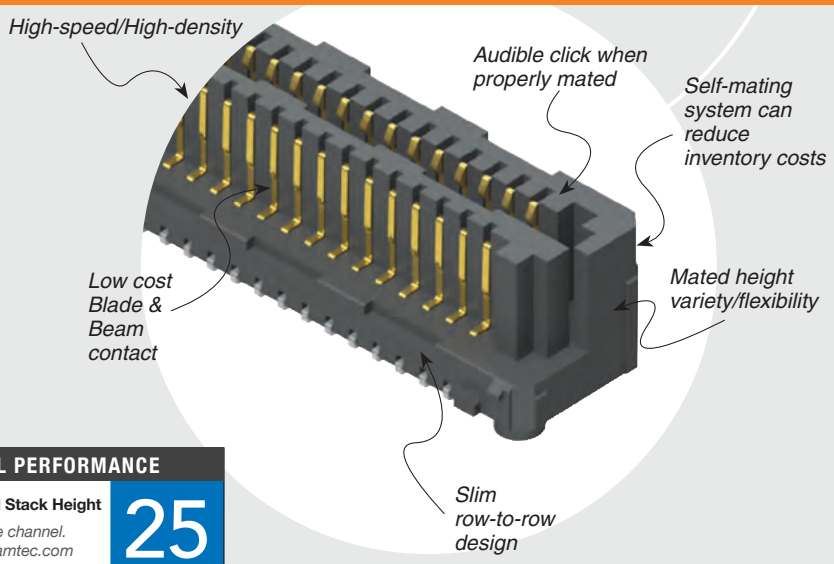
RAZOR™ BEAM SYSTEM



(0.80 mm) .0315"

LSEM SERIES

HIGH-SPEED HERMAPHRODITIC STRIP



SPECIFICATIONS

Mates with:
LSEM

For complete specifications and recommended PCB layouts see www.samtec.com?LSEM

Insulator Material:
Black Liquid Crystal Polymer
Contact Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Current Rating:
1.8 A per pin
(2 adjacent pins powered)
Operating Temp Range:
-55 °C to +125 °C
RoHS Compliant:
Yes

PROCESSING

Lead-Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max
Board Stacking:
For applications requiring two or more connectors per board, contact ipg@samtec.com

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

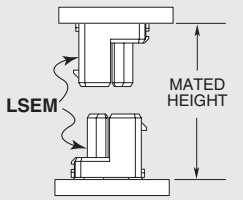
HIGH-SPEED CHANNEL PERFORMANCE

LSEM-DV/LSEM-DV @ 10 mm Mated Stack Height

Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

25 Gbps

APPLICATION



LEAD STYLE	MATED HEIGHT*
–03.0 & –03.0	(6.00) .236
–03.0 & –04.0	(7.00) .276
–04.0 & –04.0	(8.00) .315
–03.0 & –06.0	(9.00) .354
–04.0 & –06.0	(10.00) .394
–06.0 & –06.0	(12.00) .472

*Processing conditions will affect mated height.

Note:
Some lengths, styles and options are non-standard, non-returnable.

LSEM	–	1	NO. PINS PER ROW	–	LEAD STYLE	–	PLATING OPTION	–	TAIL OPTION	–	A	–	N	–	K	–	TR

NO. PINS PER ROW: 20, 30, 40, 50

LEAD STYLE: Specify LEAD STYLE from chart

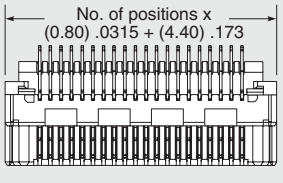
PLATING OPTION:
–F = Gold flash on contact, Matte Tin on tail
–L = =10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

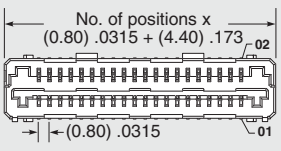
TAIL OPTION:
–DV = Vertical
–DH = Right-angle (Lead style –01 only)

K: –K = (5.50 mm) .217" DIA Polyimide film Pick & Place Pad

TR: –TR = Tape & Reel

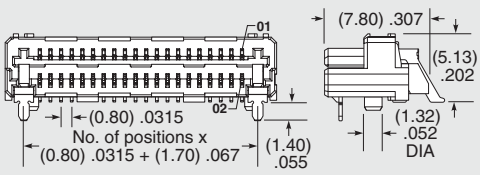
LEAD STYLE	A	B
–01 (-DH only)	NA	NA
–03.0	(4.45) .175	(1.50) .059
–04.0	(5.45) .215	(2.50) .098
–06.0	(7.45) .293	(4.50) .177



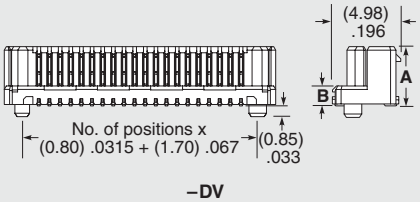


RUGGEDIZED BY SAMTEC

- High retention contacts
- Audible click when mated
- Shrouded



–DH



–DV

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RAZOR™ BEAMLP SYSTEM



(0.40 mm) .0158"

SS4, ST4 SERIES

ULTRA-FINE PITCH SOCKET & HEADER

SS4 Mates with:
ST4
ST4 Mates with:
SS4

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?SS4 or www.samtec.com?ST4

Insulator Material:
Black LCP
Contact Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Current Rating:
1.6 A per pin
(2 pins powered)
Operating Temp Range:
-55 °C to +125 °C
RoHS Compliant:
Yes

PROCESSING

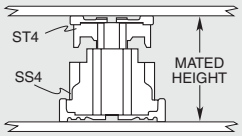
Lead-Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

MATED HEIGHT



MATED HEIGHT*		
ST4 LEAD STYLE	SS4 LEAD STYLE –3.00	SS4 LEAD STYLE –3.50
–1.00	(4.00) .157	(4.50) .177
–1.50	(4.50) .177	(5.00) .197
–2.50	(5.50) .217	(6.00) .236

*Processing conditions will affect mated height.

Note:
Some lengths, styles and options are non-standard, non-returnable.

SS4 – POSITIONS PER ROW – LEAD STYLE – PLATING OPTION – D – K – TR

POSITIONS PER ROW: –10, –20, –30, –40, –50

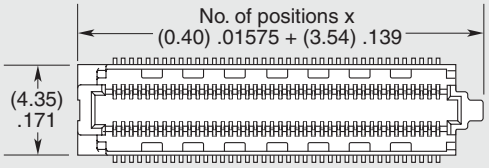
LEAD STYLE:
- –3.00 = 3.00 mm
- –3.50 = 3.50 mm

PLATING OPTION: –L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

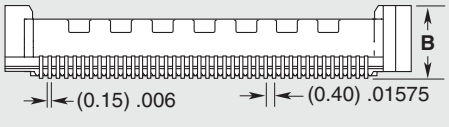
D

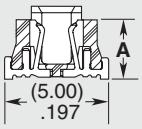
K (Required in callout): –K = (3.50 mm) .138" DIA Polyimide Film Pick & Place Pad

TR (Required in callout): –TR = Tape & Reel



LEAD STYLE	A	B
–3.00	(2.85) .112	(3.50) .138
–3.50	(3.35) .132	(4.00) .157





HIGH-SPEED CHANNEL PERFORMANCE

SS4/ST4 @ 4 mm Mated Stack Height

Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

28 Gbps

POWER/SIGNAL APPLICATION



Compatible with UMPT/UMPS for flexible two-piece power/signal solutions

ST4 – POSITIONS PER ROW – LEAD STYLE – PLATING OPTION – D – P – TR

POSITIONS PER ROW: –10, –20, –30, –40, –50

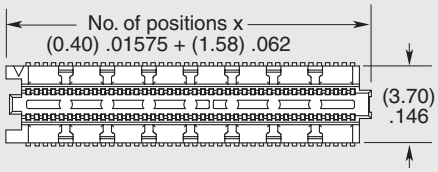
LEAD STYLE:
- –1.00 = 1.00 mm
- –1.50 = 1.50 mm
- –2.50 = 2.50 mm

PLATING OPTION: –L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

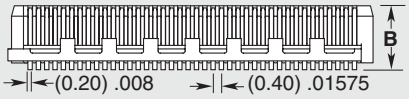
D

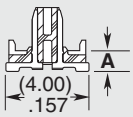
P (Required in callout): –P = Pick & Place Pad

TR (Required in callout): –TR = Tape & Reel



LEAD STYLE	A	B
–1.00	(1.00) .039	(3.08) .121
–1.50	(1.50) .059	(3.58) .141
–2.50	(2.50) .098	(4.58) .180





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RAZOR™ BEAMLP SYSTEM


SS5–10–3.00–L–D–K–TR


ST5–20–1.50–L–D–P–TR

SS5–20–3.00–L–D–K–TR




SS5–20–3.50–L–D–K–TR

ST5–10–1.00–L–D–P–TR




ST5–20–1.00–L–D–P–TR

(0.50 mm) .0197"

SS5, ST5 SERIES

ULTRA-FINE PITCH SOCKET

SS5 Mates with:
ST5

ST5 Mates with:
SS5

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?SS5 or www.samtec.com?ST5

Insulator Material:
Black LCP
Contact Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C
Current Rating:
1.6 A per pin
(2 pins powered)
RoHS Compliant:
Yes

PROCESSING

Lead-Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

MATED HEIGHT*		
ST5 LEAD STYLE	SS5 LEAD STYLE	
	–3.00	–3.50
–1.00	(4.00) .157	(4.50) .177
–1.50	(4.50) .177	(5.00) .197

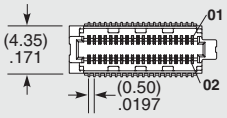
*Processing conditions will affect mated height.

ALSO AVAILABLE (MOQ Required)

- Other lead styles

Note:
Some lengths, styles and options are non-standard, non-returnable.

SS5	– NO. OF POSITIONS	– LEAD STYLE	– PLATING OPTION	– D	– K	– TR
	–10, –15, –20, –30, –40, –50, –60, –70, –80 (Per Row)	–3.00 = 3.00 mm –3.50 = 3.50 mm	–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail	(Required in callout) –K = (3.50 mm) .138" DIA Polyimide Film Pick & Place Pad		(Required in callout) –TR = Tape & Reel

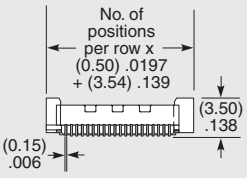


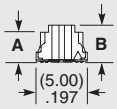
LEAD STYLE	A	B
–3.00	(2.85) .112	(3.50) .138
–3.50	(3.35) .132	(4.00) .157

POWER/SIGNAL APPLICATION



Compatible with UMPT/UMPS for flexible two-piece power/signal solutions



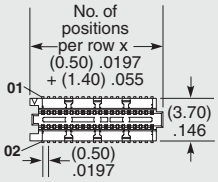


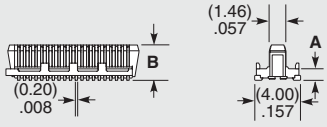
HIGH-SPEED CHANNEL PERFORMANCE

SS5/ST5 @ 4 mm Mated Stack Height
Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

PAM4 56 Gbps

ST5	– NO. OF POSITIONS	– LEAD STYLE	– PLATING OPTION	– D	– P	– TR
	–10, –15, –20, –30, –40, –50, –60, –70, –80 (Per Row)	–1.00 = 1.00 mm –1.50 = 1.50 mm	–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail	(Required in callout) –P = Pick & Place Pad		(Required in callout) –TR = Tape & Reel





LEAD STYLE	A	B
–1.00	(1.00) .039	(3.08) .121
–1.50	(1.50) .059	(3.58) .141

Due to technical progress, all designs, specifications and components are subject to change without notice.

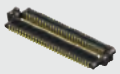
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RAZOR™ BEAMLP SYSTEM


SLH–010–1.50–G–D–A


TLH–010–0.50–G–D–A–K


TLH–030–0.50–G–D–A


SLH–020–1.50–G–D–A–K

(0.50 mm) .0197"

TLH, SLH SERIES

ULTRA-LOW PROFILE TERMINAL

TLH Mates with:
SLH

SLH Mates with:
TLH

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?TLH or www.samtec.com?SLH

Insulator Material:
Black Liquid Crystal Polymer
Contact Material:
Copper Alloy
Plating:
Au over 50 µ" (1.27 µm) Ni
Current Rating:
2.1 A per pin
(2 pins powered)
Operating Temp Range:
-55 °C to +125 °C
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

Note:
Some lengths, styles and options are non-standard, non-returnable.

TLH – NO. OF POSITIONS – LEAD STYLE – PLATING OPTION – D – OPTION – OPTION

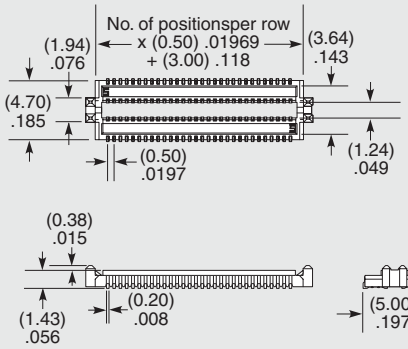
NO. OF POSITIONS: –010, –020, –030 (Per Row)

LEAD STYLE: –0.50 =0.50 mm

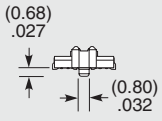
PLATING OPTION: –G = 10 µ" (0.25 µm) Gold in contact, Gold flash on tail

OPTION: –A = Alignment Pin

OPTION: –K = (3.00 mm) .118" DIA Polyimide Film Pick & Place Pad



–030 POSTIONS SHOWN



–A OPTION

HIGH-SPEED CHANNEL PERFORMANCE

TLH/SLH @ 2 mm Mated Stack Height

Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

28 Gbps

SLH – NO. OF POSITIONS – LEAD STYLE – PLATING OPTION – D – OPTION – OPTION

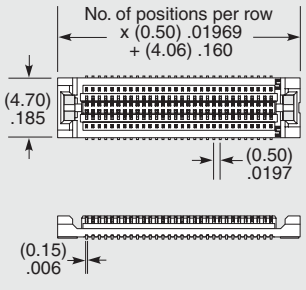
NO. OF POSITIONS: –010, –020, –030 (Per Row)

LEAD STYLE: –1.50 = 1.50 mm

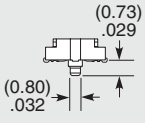
PLATING OPTION: –G = 10 µ" (0.25 µm) Gold in contact, Gold flash on tail

OPTION: –A = Alignment Pin

OPTION: –K = (3.00 mm) .118" DIA Polyimide Film Pick & Place Pad



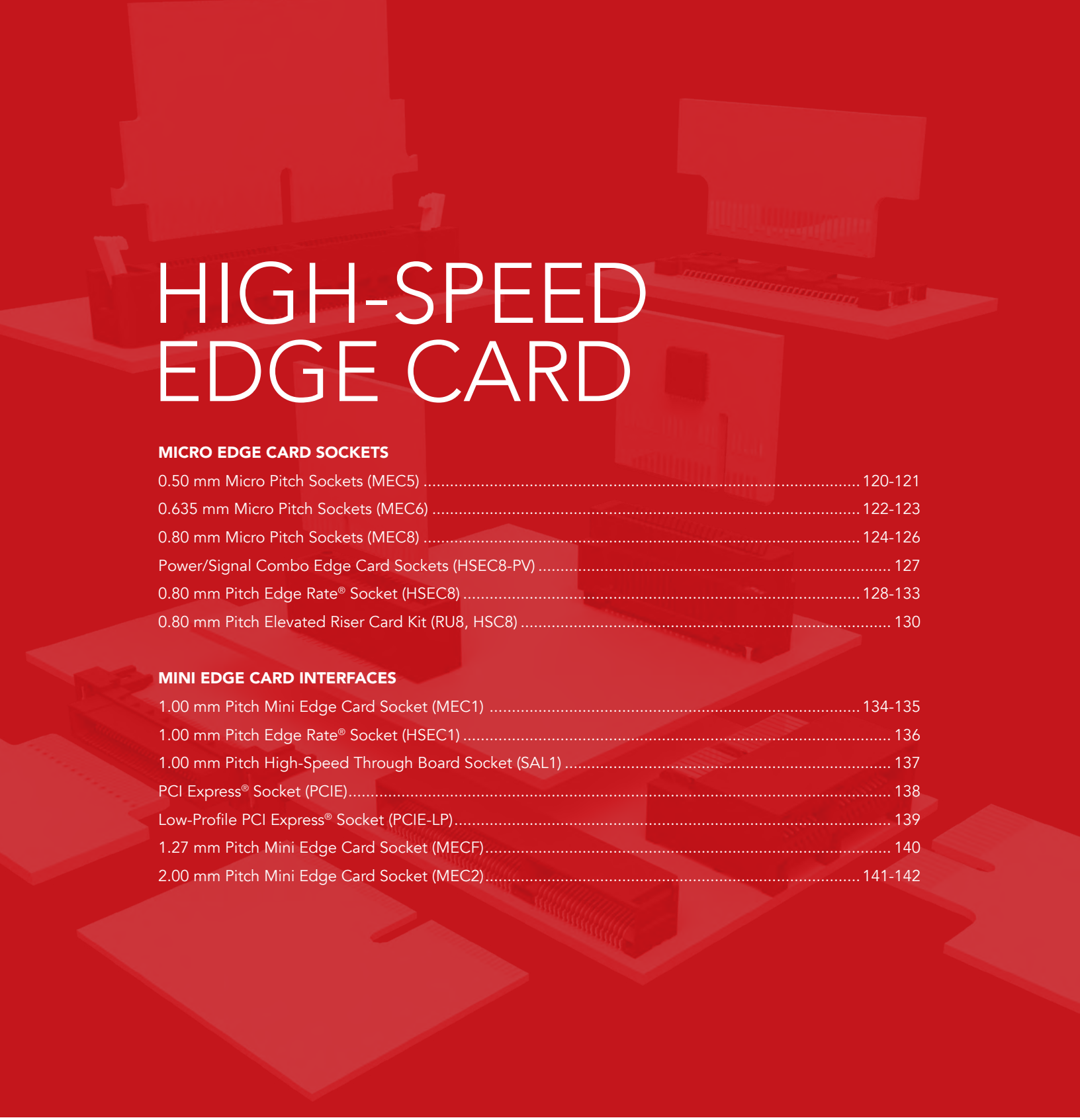
–30 POSTIONS SHOWN



–A OPTION

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HIGH-SPEED EDGE CARD

MICRO EDGE CARD SOCKETS

0.50 mm Micro Pitch Sockets (MEC5) 120-121
0.635 mm Micro Pitch Sockets (MEC6) 122-123
0.80 mm Micro Pitch Sockets (MEC8) 124-126
Power/Signal Combo Edge Card Sockets (HSEC8-PV) 127
0.80 mm Pitch Edge Rate® Socket (HSEC8) 128-133
0.80 mm Pitch Elevated Riser Card Kit (RU8, HSC8) 130

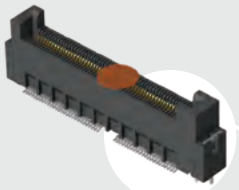
MINI EDGE CARD INTERFACES

1.00 mm Pitch Mini Edge Card Socket (MEC1) 134-135
1.00 mm Pitch Edge Rate® Socket (HSEC1) 136
1.00 mm Pitch High-Speed Through Board Socket (SAL1) 137
PCI Express® Socket (PCIE) 138
Low-Profile PCI Express® Socket (PCIE-LP) 139
1.27 mm Pitch Mini Edge Card Socket (MECF) 140
2.00 mm Pitch Mini Edge Card Socket (MEC2) 141-142

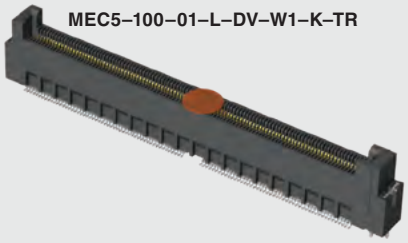
APPLICATIONS

Edge Card 18-19

samtec



MEC5–050–01–L–DV–W1–K–TR



MEC5–100–01–L–DV–W1–K–TR

(0.50 mm) .0197"

MEC5-DV SERIES

VERTICAL CARD SOCKET

SPECIFICATIONS

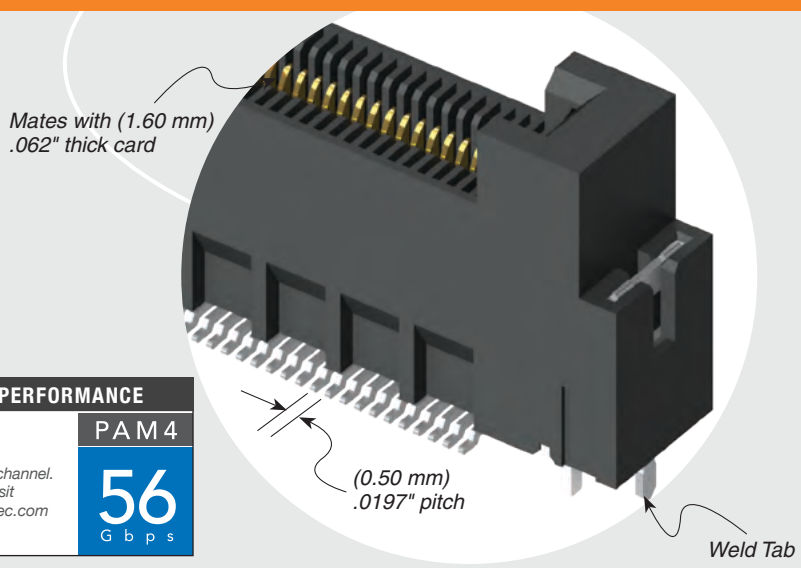
For complete specifications and recommended PCB layouts see www.samtec.com?MEC5-DV

Insulator Material:
Black LCP
Contact Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C
Current Rating:
1.5 A per pin
(2 pins powered)
Voltage Rating:
125 VAC/175 VDC
RoHS Compliant:
Yes

PROCESSING

Lead-Free Solderable:
Yes

Mates with:
(1.60 mm) .062" thick card with standard board tolerance



HIGH-SPEED CHANNEL PERFORMANCE

MEC5-DV

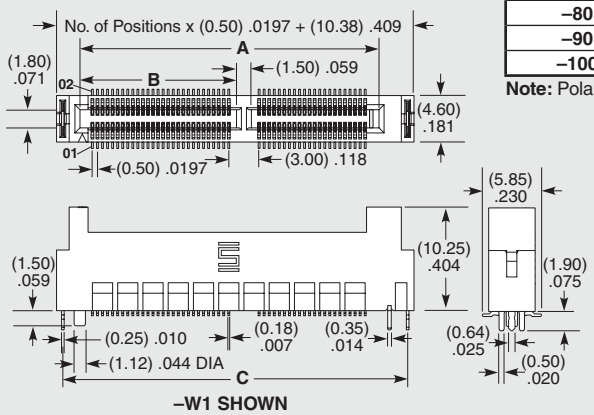
Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

PAM4
56
Gbps

MEC5	–	POSITIONS PER ROW	–	CARD THICKNESS	–	PLATING OPTION	–	DV	–	W1	–	K	–	TR
		–030, –040, –050, –060, –070, –080, –090, –100		–01 = (1.60 mm) .062" thick card		–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail								

POSITION PER ROW	A	B	C
–30	(17.10) .673	N/A	(21.63) .852
–40	(22.10) .870	N/A	(26.63) 1.048
–50	(29.60) 1.165	(15.48) .609	(34.13) 1.344
–60	(34.60) 1.362	(17.98) .708	(39.13) 1.541
–70	(39.60) 1.559	(20.48) .806	(44.13) 1.737
–80	(44.60) 1.756	(22.98) .905	(49.13) 1.934
–90	(49.60) 1.953	(25.48) 1.003	(54.13) 2.131
–100	(54.60) 2.150	(27.98) 1.102	(59.13) 2.328

Note: Polarization rib is not present on –030 & -040 postions



–W1 SHOWN

IN DEVELOPMENT

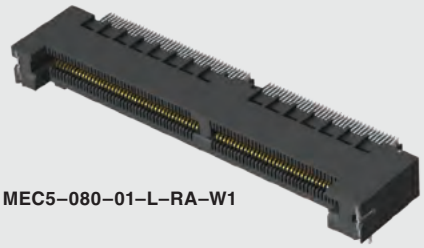
- 150 positions

Note:
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MEC5–080–01–L–RA–W1

MEC5–040–01–L–RA–W2



(0.50 mm) .0197"

MEC5-RA SERIES

RIGHT-ANGLE CARD SOCKET

SPECIFICATIONS

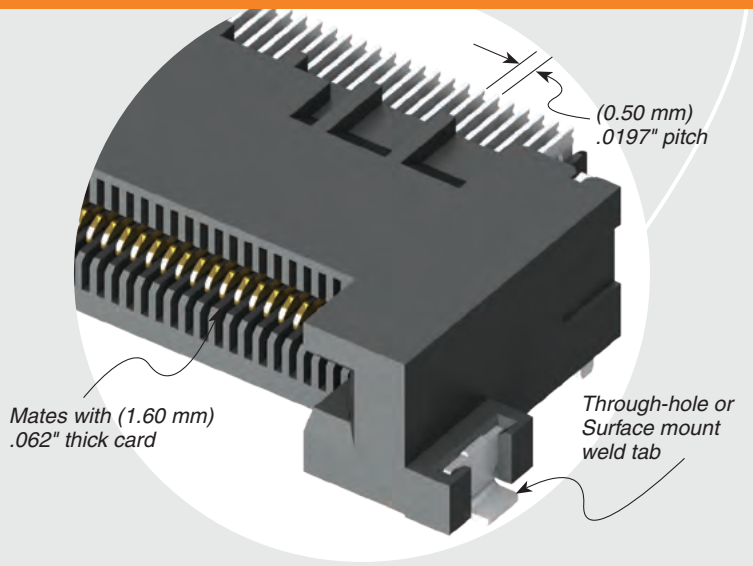
For complete specifications and recommended PCB layouts see www.samtec.com?MEC5-RA

Insulator Material:
Black LCP
Contact Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C
Current Rating:
1.5 A per pin
(2 pins powered)
Voltage Rating:
125 VAC/175 VDC
RoHS Compliant:
Yes

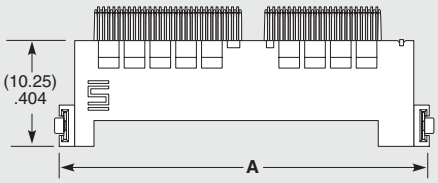
PROCESSING

Lead-Free Solderable:
Yes

Mates with:
(1.60 mm) .062" thick card with standard board tolerance

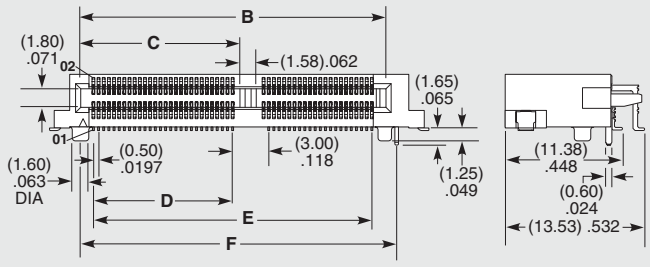


MEC5	POSITIONS PER ROW	CARD THICKNESS	PLATING OPTION	RA	WELD TAB
	–030, –040, –050, –060, –070, –080	–01 = (1.60 mm) .062" thick card	–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail		–W1 = Weld Tab Through-hole –W2 = Weld Tab Surface Mount



POSITION PER ROW	A	B	C
–30	(23.38) .920	(17.10) .673	N/A
–40	(28.38) 1.117	(22.10) .870	N/A
–50	(35.88) 1.413	(29.60) 1.165	(15.44) .608
–60	(40.88) 1.609	(34.60) 1.362	(17.94) .706
–70	(45.88) 1.806	(39.60) 1.559	(20.44) .805
–80	(50.88) 2.003	(44.60) 1.756	(22.94) .903

Note: Polarization rib is not present on –030 & -040 postions



–W2 SHOWN

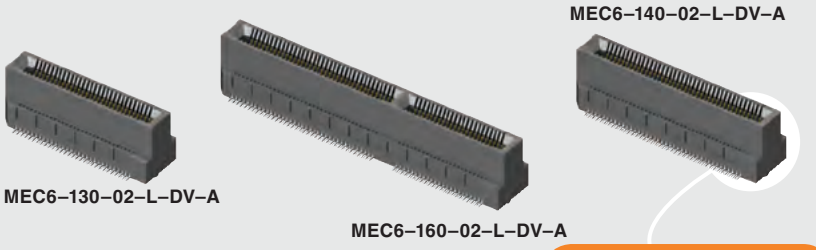
POSITION PER ROW	D	E	F
–30	N/A	(14.50) .571	(18.16) .715
–40	N/A	(19.50) .768	(23.16) .912
–50	(13.50) .531	(27.00) 1.063	(30.66) 1.207
–60	(16.00) .630	(32.00) 1.260	(35.66) 1.404
–70	(18.50) 728	(37.00) 1.457	(40.66) 1.601
–80	(21.00) 2.003	(42.00) 1.654	(45.66) 1.798

Note:
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(0.635 mm) .025"

MEC6-DV SERIES

VERTICAL MICRO EDGE CARD SOCKET

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?MEC6-DV

Insulator Material:
Black LCP
Contact Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C
Insertion Depth:
(4.22 mm) .166" to
(5.66 mm) .223"
Current Rating:
2.4 A per pin
(2 pins powered)
Voltage Rating:
210 VAC
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (10-50)
(0.15 mm) .006" max (60-70)*
*(.004" stencil solution may be available; contact IPG@samtec.com)

RECOGNITIONS

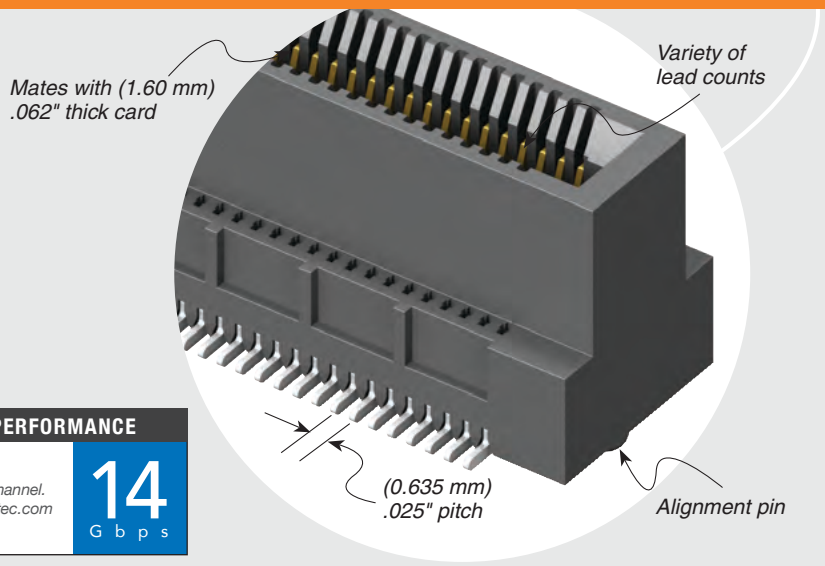
For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

ALSO AVAILABLE
(MOQ Required)

- Locking Clip (Manual placement required)
- Other platings

Mates with:
(1.60 mm) .062" thick card

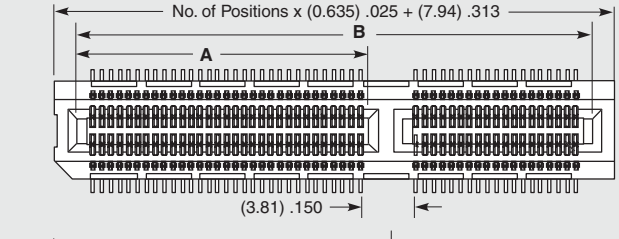


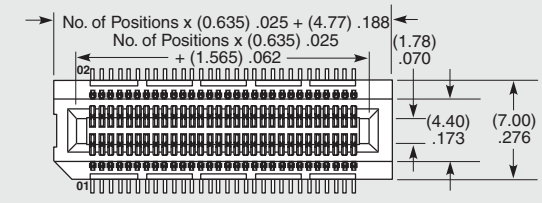
HIGH-SPEED CHANNEL PERFORMANCE

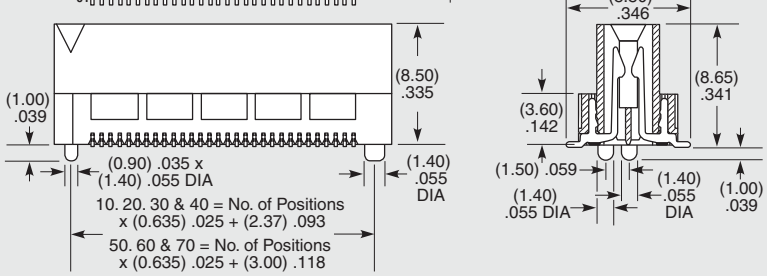
MEC6-DV
Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

14 Gbps

MEC6	-	1	POSITIONS PER ROW	-	02	-	PLATING OPTION	-	DV	-	A	-	OPTION
			10, 20, 30, 40, 50, 60, 70				–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail						–K = (5.50 mm) .217" DIA Polyimide Pick & Place Pad –TR = Tape & Reel







POSITIONS PER ROW	A	B
50	(21.06) .829	(36.49) 1.437
60	(24.87) .979	(42.84) 1.687
70	(28.68) 1.129	(49.19) 1.937

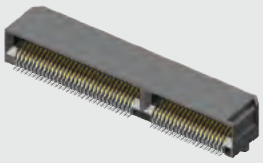
Notes:
While optimized for 50 Ω applications, this connector with alternative signal/ground patterns may also perform well in certain 75 Ω applications.

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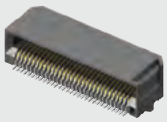
samtec



MEC6–150–02–L–D–RA1



MEC6–120–02–L–D–RA1



MEC6–130–02–L–D–RA1

(0.635 mm) .025"

MEC6-RA SERIES

RIGHT-ANGLE MICRO EDGE CARD SOCKET

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?MEC6-RA

Insulator Material:
Black LCP
Contact Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C
Insertion Depth:
(4.22 mm) .166" to
(5.66 mm) .223"
Current Rating:
2.4 A per pin
(2 pins powered)
Voltage Rating:
195 VAC
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (10-30)
(0.15 mm) .006" max (40-50)*
*(.004" stencil solution may be available; contact IPG@samtec.com)

RECOGNITIONS

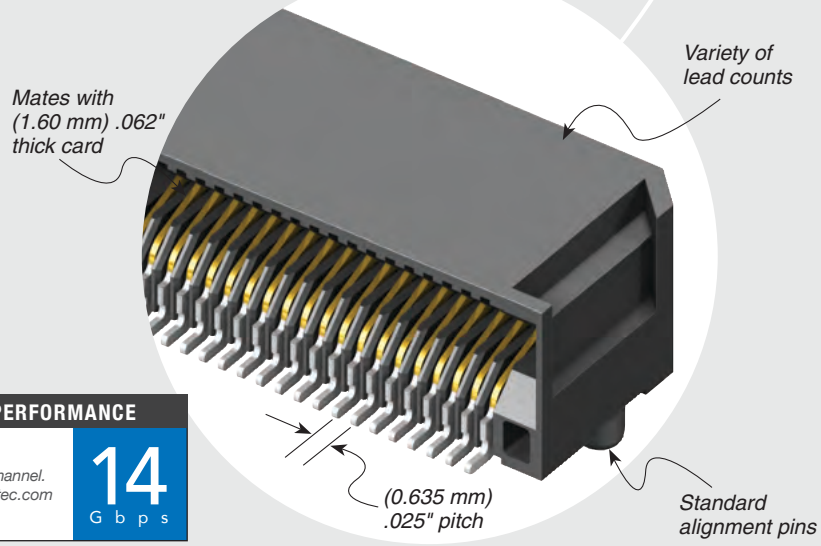
For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

ALSO AVAILABLE
(MOQ Required)

- Other platings

Mates with:
(1.60 mm) .062" thick card



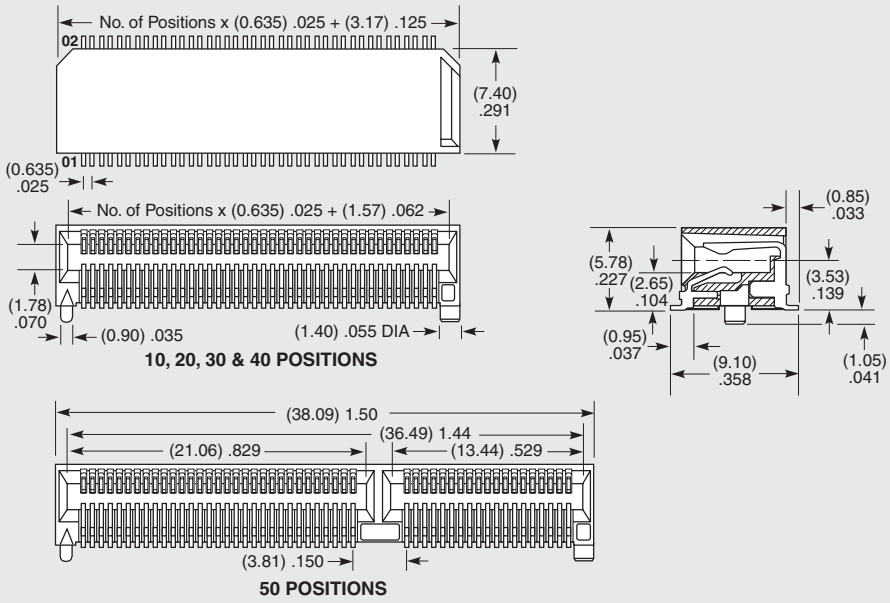
HIGH-SPEED CHANNEL PERFORMANCE

MEC6-RA

Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

14 Gbps

MEC6	– 1	POSITIONS PER ROW	– 02	PLATING OPTION	– D	TAIL OPTION	– OPTION
		10, 20, 30, 40, 50		–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail		–RA1 = Right-angle	–TR = Tape & Reel



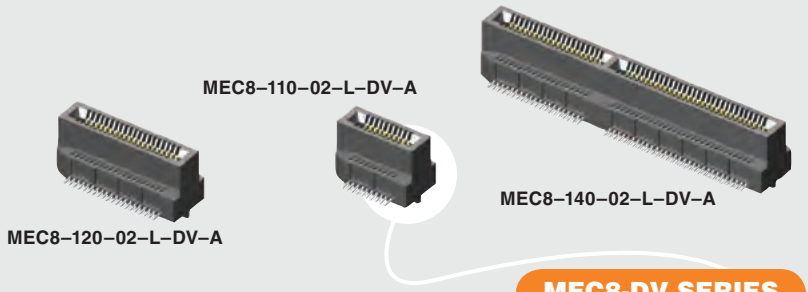
Notes:
While optimized for 50 Ω applications, this connector with alternative signal/ground patterns may also perform well in certain 75 Ω applications.

Some sizes, styles and options are non-standard, non-returnable.

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samtec



(0.80 mm) .0315"

MEC8-DV SERIES

VERTICAL MICRO EDGE CARD SOCKET

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?MEC8-DV

Insulator Material:
Black LCP
Contact Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C
Insertion Depth:
(4.22 mm) .166" to
(5.66 mm) .223"
Current Rating:
1.8 A per pin
(4 adjacent pins powered)
Voltage Rating:
185 VAC
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (10-50)
(0.15 mm) .006" max (60-70)*
*(.004" stencil solution may be available; contact IPG@samtec.com)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

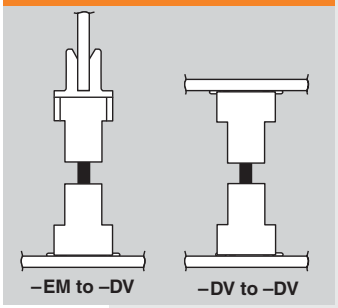
FILE NO. E111594

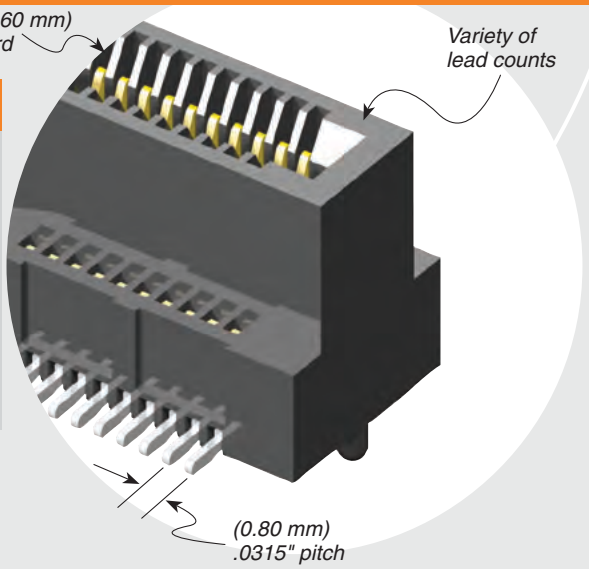
ALSO AVAILABLE
(MOQ Required)

- 1 mm mating card thickness option
- Locking clip (Manual placement required)

Mates with:
(1.60 mm) .062" thick card

APPLICATIONS





HIGH-SPEED CHANNEL PERFORMANCE

MEC8-DV

Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

25 Gbps

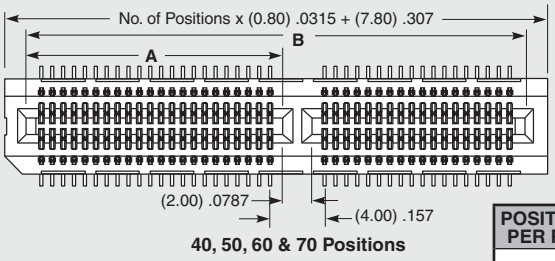
MEC8	1	POSITIONS PER ROW	02	PLATING OPTION	DV	OTHER OPTION

10, 20, 30, 40, 50, 60, 70

–L
= 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

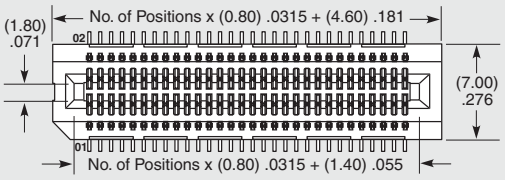
–A
= Alignment Pin

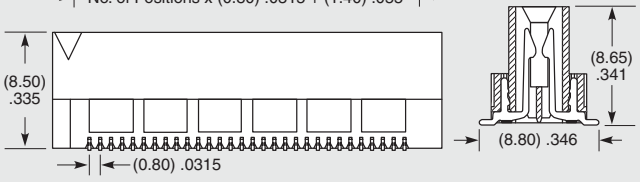
–K
= (5.50 mm) .217" DIA Polyimide Pick & Place Pad



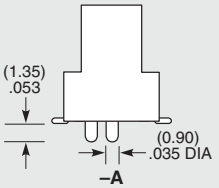
40, 50, 60 & 70 Positions

POSITIONS PER ROW	A	B
40	(18.90) .744	(36.60) 1.441
50	(22.90) .902	(44.60) 1.756
60	(26.90) 1.059	(52.60) 2.071
70	(30.90) 1.217	(60.60) 2.386





10, 20 & 30 Positions



–A OPTION

OTHER SOLUTIONS

- Right-angle
- Edge Mount

See samtec.com?MEC8-RA or samtec.com?MEC8-EM

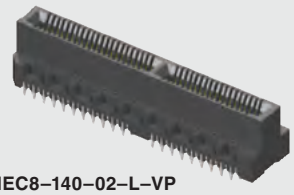
Notes:
While optimized for 50 Ω applications, this connector with alternative signal/ground patterns may also perform well in certain 75 Ω applications.

Some sizes, styles and options are non-standard, non-returnable.

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MEC8–140–02–L–VP

MEC8–110–02–L–VP



(0.80 mm) .0315"

MEC8-VP SERIES

PRESS-FIT MICRO EDGE CARD SOCKET

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?MEC8-VP

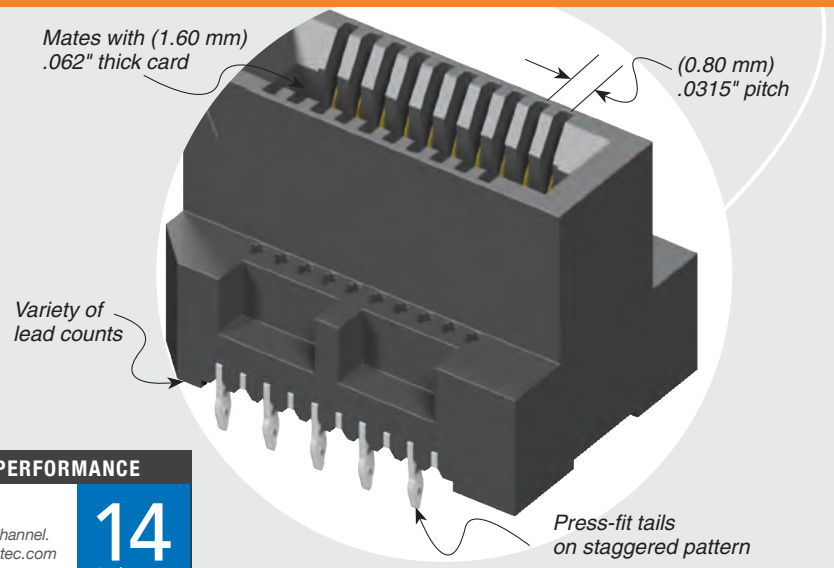
Insulator Material:
Liquid Crystal Polymer
Contact Material:
Copper
Plating:
Au or Sn over 50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C
Current Rating:
3.3 A per pin
(2 adjacent pins powered)
Voltage Rating:
188 VAC/265 VDC
RoHS Compliant:
Yes

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

Mates with:
(1.60 mm) .062" thick card



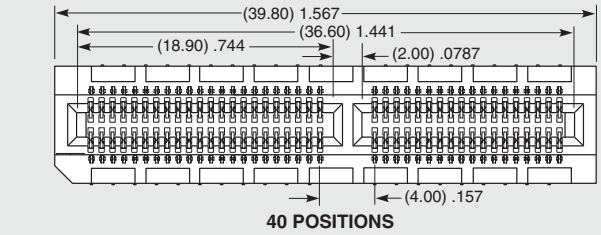
HIGH-SPEED CHANNEL PERFORMANCE

MEC8-VP

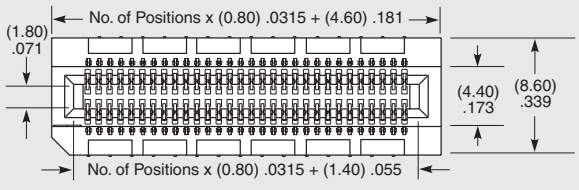
Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

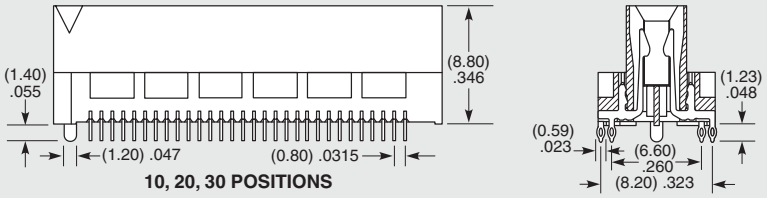
14 Gbps

MEC8	– 1	POSITIONS PER ROW	– CARD THICKNESS	– PLATING OPTION	– TAIL
		10, 20, 30, 40	–02 = (1.60 mm) .062" thick card	–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail	–VP = Press-fit



40 POSITIONS





10, 20, 30 POSITIONS

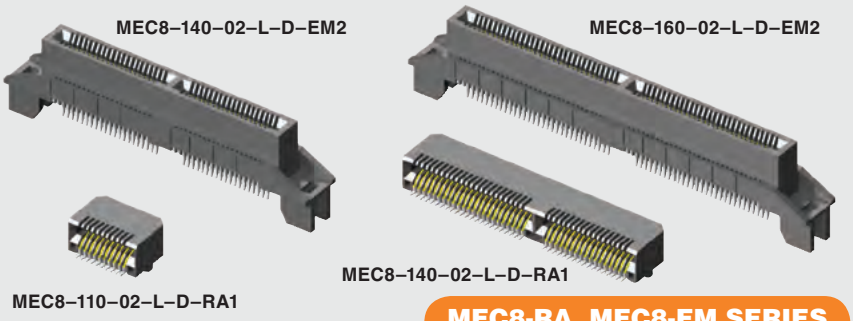
Notes:
Patent Pending

While optimized for 50 Ω applications, this connector with alternative signal/ground patterns may also perform well in certain 75 Ω applications.

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(0.80 mm) .0315"

MEC8-RA, MEC8-EM SERIES

RIGHT-ANGLE/EDGE MOUNT SOCKETS

Mates with:
(1.60 mm) .062" thick card

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?MEC8-RA

Insulator Material: Black LCP
Contact Material: Phosphor Bronze
Plating: Au or Sn over 50 µ" (1.27 µm) Ni
Operating Temp Range: -55 °C to +125 °C
Insertion Depth: (3.94 mm) .155" to (6.25 mm) .246"
Current Rating: 2.4 A per pin (2 adjacent pins powered)
Voltage Rating: 265 VAC
RoHS Compliant: Yes
Lead–Free Solderable: Yes

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

MEC8 - 1 - POSITIONS PER ROW - 02 - PLATING OPTION - D - RA1 - OTHER OPTION

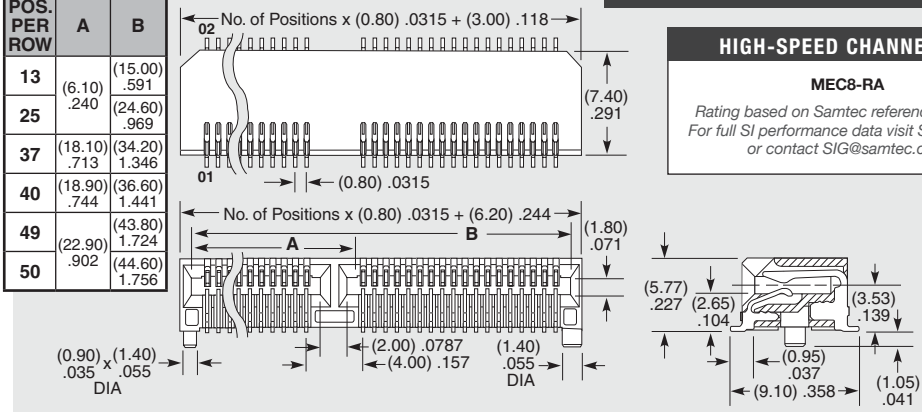
Note: Some sizes, styles and options are non-standard, non-returnable.

10, 13, 20, 25, 30, 37, 40, 49, 50

–L
= 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

–TR
= Tape & Reel Packaging

POS. PER ROW	A	B
13	(6.10) .240	(15.00) .591
25		(24.60) .969
37	(18.10) .713	(34.20) 1.346
40	(18.90) .744	(36.60) 1.441
49	(22.90) .902	(43.80) 1.724
50		(44.60) 1.756



HIGH-SPEED CHANNEL PERFORMANCE

MEC8-RA

Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

14 Gbps

ALSO AVAILABLE
(MOQ Required)

- 1 mm mating card thickness option
- Latching option
- Elevated

Mates with:
(1.60 mm) .062" thick card

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?MEC8-EM

Insulator Material: Black LCP
Contact Material: Phosphor Bronze
Plating: Au or Sn over 50 µ" (1.27 µm) Ni
Operating Temp Range: -55 °C to +125 °C
Insertion Depth: (4.32 mm) .170" to (5.66 mm) .223"
Current Rating: 2.2 A per pin (2 adjacent pins powered)
Voltage Rating: 265 VAC
RoHS Compliant: Yes
Lead–Free Solderable: Yes

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

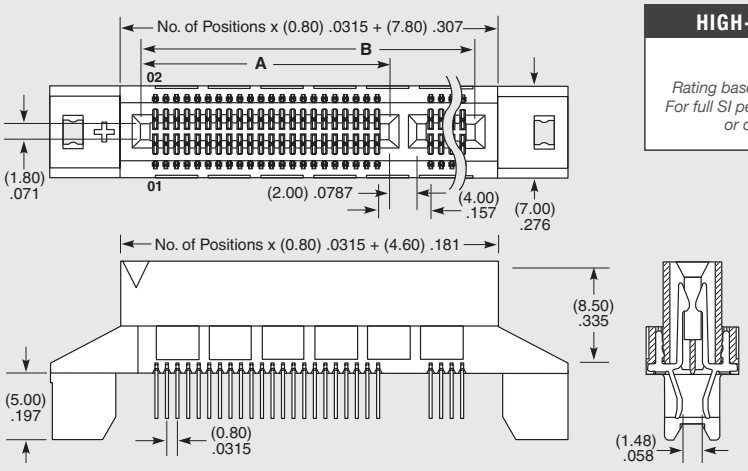
Note: Some sizes, styles and options are non-standard, non-returnable.

MEC8 - 1 - POSITIONS PER ROW - 02 - PLATING OPTION - D - EM2

10, 20, 30, 40, 50, 60, 70

–L
= 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

EM2
= (1.60 mm) .062" thick PCB



HIGH-SPEED CHANNEL PERFORMANCE

MEC8-EM

Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

14 Gbps

POSITIONS PER ROW	A	B
40	(18.90) .744	(36.60) 1.441
50	(22.90) .902	(44.60) 1.756
60	(26.90) 1.059	(52.60) 2.071
70	(30.90) 1.217	(60.60) 2.386

ALSO AVAILABLE
(MOQ Required)

- 1 mm mating card thickness option

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10 YEAR MFG WITH 30 µ" GOLD
EXTENDED LIFE PRODUCT
HIGH MATING CYCLES

(0.80 mm) .0315"



HSEC8-PV SERIES

POWER/HIGH-SPEED EDGE CARD COMBO

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?HSEC8-PV

Insulator Material:
Black Liquid Crystal Polymer
Signal Contact:
BeCu
Power Contact:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Operating Temp:
-55 °C to +125 °C
Current Rating:
Signal Pin: 3.2 A per pin
(2 pins powered)
Power Pin: 27.5 A per pin
(2 pins powered)
RoHS Compliant:
Yes

PROCESSING

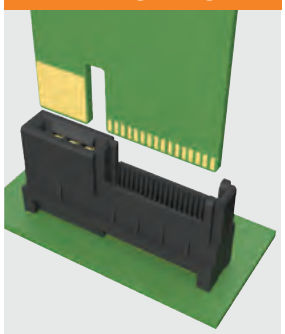
Lead-Free Solderable:
Yes

RECOGNITIONS

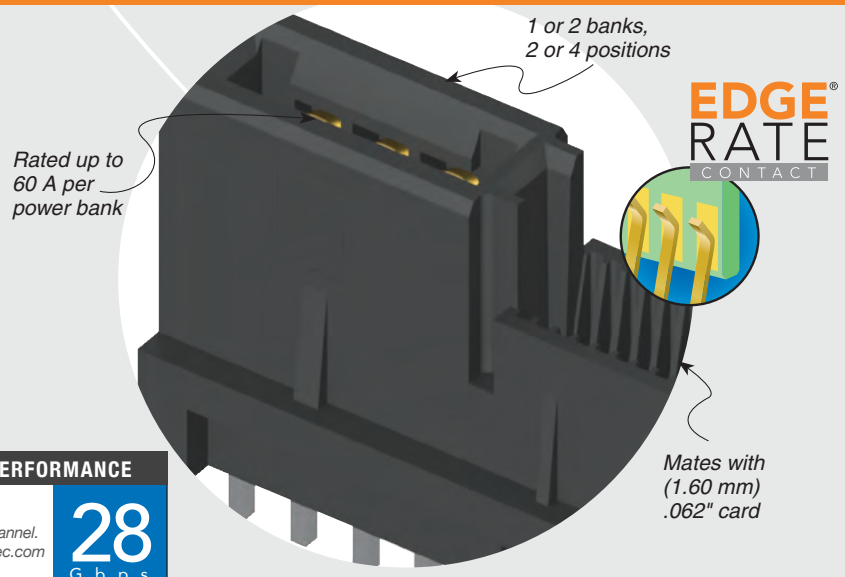
For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

APPLICATION



Mates with:
(1.60 mm) .062" thick card



HIGH-SPEED CHANNEL PERFORMANCE

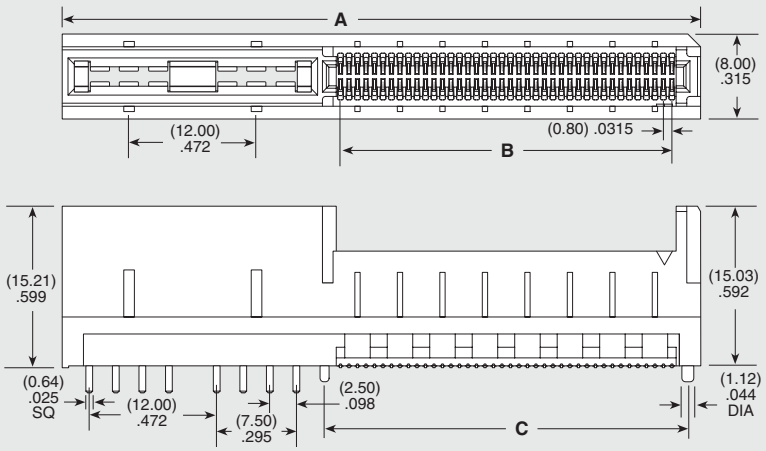
HSEC8-PV

Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

28 Gbps

HSEC8	1	SIG POS	CARD THICKNESS	PLATING OPTION	PV	PWR POS	POWER TAIL	OTHER OPTION
		20, 30, 40 (Signal positions per row)	–01 = (1.60 mm) .062" Thick Card	–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail –S = 30 µ" (0.76 µm) Gold on contact, Matte Tin on tail		–2, –4 (Total, 2 per power bank)	1 = Use with (1.60 mm) .062" Thick PCB –2 = Use with (2.36 mm) .093" Thick PCB	–WT = Weld Tab

SIGNAL POSITIONS	POWER POSITIONS					
	A (–2)	B (–2)	C (–2)	A (–4)	B (–4)	C (–4)
–20	(32.10) 1.264	(15.20) .598	(18.20) .717	(44.10) 1.736	(15.20) .598	(18.20) .717
–30	(40.10) 1.579	(23.20) .913	(26.20) 1.031	(52.10) 2.051	(23.20) .913	(26.20) 1.031
–40	(48.10) 1.894	(31.20) 1.228	(34.20) 1.346	(60.10) 2.366	(31.20) 1.228	(34.20) 1.346



POWER TAIL	D
–1	(2.35) .093
–2	(3.13) .123

Note:
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EDGE® RATE CONTACT


HSEC8–149–01–L–DV–A


HSEC8–125–01–L–DV–A

(0.80 mm) .0315"

HSEC8-DV SERIES

VERTICAL EDGE RATE® CARD SOCKET

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?HSEC8-DV

Insulator Material:
Black Liquid Crystal Polymer
Contact:
BeCu
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Current Rating:
2.8 A per pin
(2 adjacent pins powered)
Operating Temp:
-55 °C to +125 °C
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (10-60)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

Card Mates:
(1.60 mm) .062" card,
(2.36 mm) .093" card,
HSC8

Cable Mates:
ECDP

10 YEAR MFG WITH 30 µ" GOLD
EXTENDED LIFE PRODUCT
HIGH MATING CYCLES

Mates with (1.60 mm) .062" or (2.36 mm) .093" cards



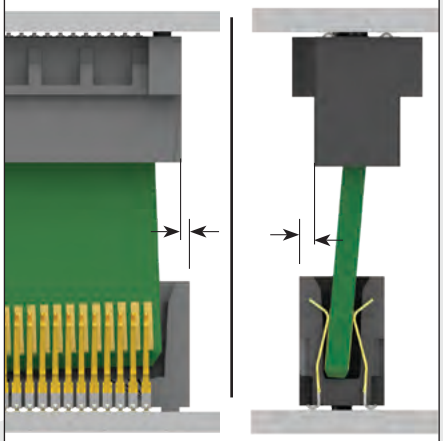
HIGH-SPEED CHANNEL PERFORMANCE

HSEC8-DV

Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

28 Gbps

MISALIGNMENT MITIGATION



Custom designs compensate for misalignment.

HSEC8	–	1	POSITIONS PER ROW	–	CARD THICKNESS	–	PLATING OPTION	–	DV	–	A	–	OTHER OPTION

09, 10, 13, 20, 25, 30, 37, 40, 49, 50, 60, 70, 80, 100
(13, 25, 49 only available with –L or –L2 option; 09 only available with –L2 option; 37 only available with –L option)

–01
= (1.60 mm) .062" thick card

–03
= (2.36 mm) .093" thick card

–L
= 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

–S
= 30 µ" (0.76 µm) Gold on contact, Matte Tin on tail

–K
= (7.01 mm) .276" DIA Polyimide Film Pick & Place Pad (with –01 card)
= (6.25 mm) .246" DIA Polyimide Film Pick & Place Pad (with –03 card)

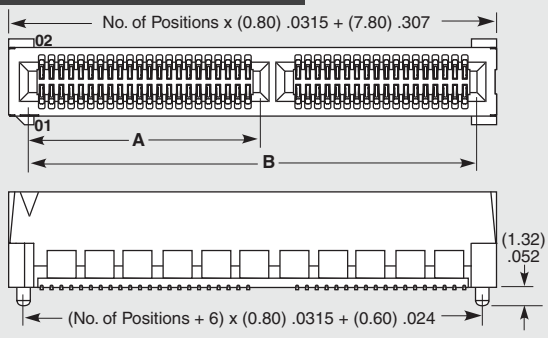
–BL
= Board Locks (–01 card only) (Weld tab standard)

–L
= Latching Option (–01 card only) (13, 25, 37, 49 only) (Weld tab standard)

–L2
= ECDP Latching (–01 card only) (09, 13, 25, 49 only) (For use with ECDP) (Weld tab standard)

–WT
= Weld tab

–TR
= Tape & Reel (09 - 70 only)

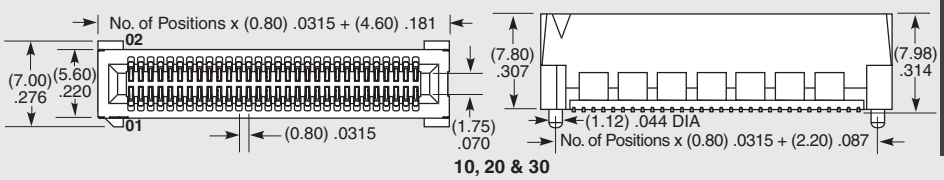


09, 13, 25, 37, 100

POSITIONS PER ROW	A	B
09*†	(4.50) .177	(11.80) .465
13*†	(6.10) .240	(15.00) .591
25*†	(6.10) .240	(24.60) .969
37†	(18.10) .713	(34.20) 1.346
40	(18.90) .744	(36.60) 1.441
49*†	(22.90) .902	(43.80) 1.724
50	(22.90) .902	(44.60) 1.756
60	(26.90) 1.059	(52.60) 2.071
70†	(26.90) 1.059	(60.60) 2.386
80†	(26.90) 1.059	(68.60) 2.701
100†	(26.90) 1.059	(84.60) 3.331

Positions where no dimensions are given do not have keying feature.
* Mates with ECDP Series.
† Available with –01 Card Only.

CABLE	CONNECTOR
ECDP–04	HSEC8–109–L2
ECDP–08	HSEC8–113–L2
ECDP–16	HSEC8–125–L2
ECDP–32	HSEC8–149–L2



10, 20 & 30

Notes:
While optimized for 50 Ω applications, this connector with alternative signal/ground patterns may also perform well in certain 75 Ω applications.

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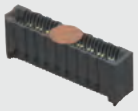
Due to technical progress, all designs, specifications and components are subject to change without notice.

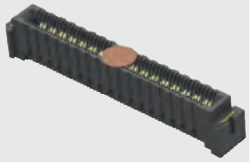
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samtec

EDGE® RATE CONTACT

(0.80 mm) .0315"


HSEC8–116–01–L–DP–A–K


HSEC8–132–01–L–DP–A–WT–K


HSEC8–108–01–L–DP–A–K

HSEC8-DP SERIES

DIFFERENTIAL PAIR EDGE CARD SOCKET

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?HSEC8-DP

Insulator Material:
Black Liquid Crystal Polymer
Contact:
Copper Alloy
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Operating Temp:
Testing Now!
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max

Card Mates:
(1.60 mm) .062" thick card

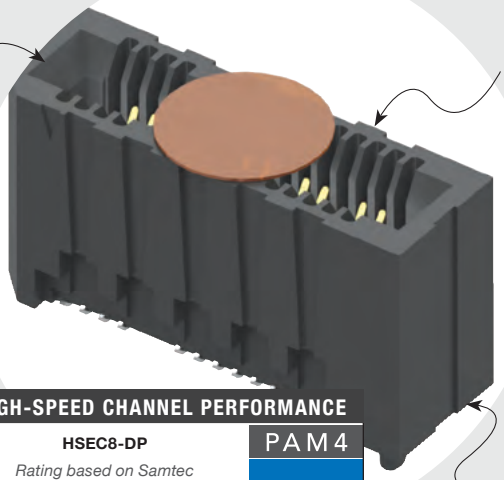
APPLICATION



High-Speed Edge Rate® Contacts

Designed for high-speed differential pair applications

Optional weld tab available



HIGH-SPEED CHANNEL PERFORMANCE

HSEC8-DP

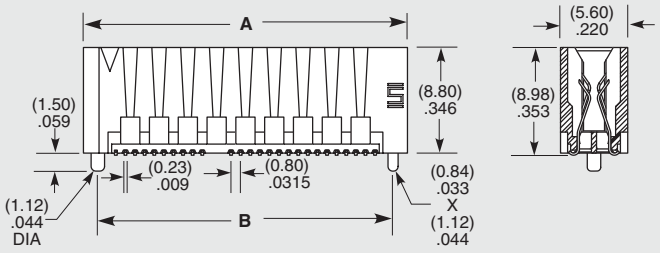
Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

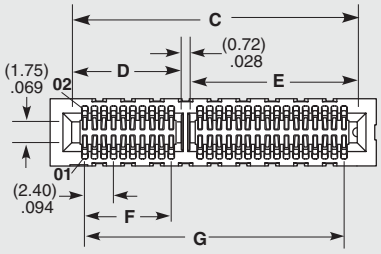
PAM4 56 Gbps

ALSO AVAILABLE (MOQ Required)

- Other platings
- Other pin counts

HSEC8	–	1	NO. OF PAIRS	–	01	–	PLATING OPTION	–	DP	–	A	–	OPTION	–	K
			08, 12, 16, 20, 32, 56 (Total Pairs)				–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail				(Leave blank for no weld tab) –WT = Weld Tab				–K = (6.25 mm) .246" DIA Polyimide Film Pick & Place Pad





HSEC8–16–01–L–DP–A SHOWN

NO. OF PAIRS	A	B	C	D	E	F	G
08	(17.40) .685	(15.00) .591	(14.20) .559	(4.34) .171	(9.14) .360	(2.40) .094	(12.00) .472
12	(22.20) .874	(19.80) .780	(19.00) .748	(6.74) .265	(11.54) .454	(4.80) .189	(16.80) .661
16	(27.00) 1.063	(24.60) .969	(23.80) .937	(9.14) .360	(13.94) .549	(7.20) .283	(21.60) .850
20	(31.80) 1.252	(29.40) 1.157	(28.60) 1.126	(11.54) .454	(16.34) .643	(9.60) .378	(26.40) 1.039
32	(46.20) 1.819	(43.80) 1.724	(43.00) 1.693	(18.74) .738	(23.54) .927	(16.80) .661	(40.80) 1.606
56	(75.00) 2.953	(72.60) 2.858	(71.80) 2.827	(33.14) 1.305	(37.94) 1.494	(31.20) 1.228	(69.60) 2.740

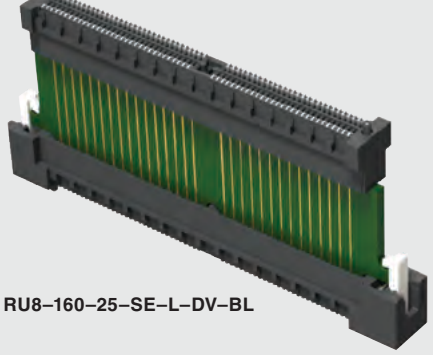
Note:
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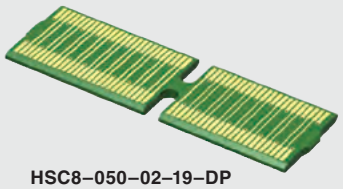
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samtec

10 YEAR MFG WITH 30 µ" GOLD
EXTENDED LIFE PRODUCT
HIGH MATING CYCLES



RU8–160–25–SE–L–DV–BL



HSC8–050–02–19–DP

(0.80 mm) .0315"

RU8, HSC8 SERIES

HIGH-SPEED RISER CARD KIT

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?RU8

CONNECTOR

Insulator Material: Black LCP
Contact: BeCu
Plating: Au or Sn over 50 µ" (1.27 µm) Ni
Current Rating: 3.1 A per pin (6 adjacent pins powered)
Operating Temp: -55 °C to +125 °C

EDGE® RATE CONTACT

PROCESSING

Lead-Free Solderable: Yes
SMT Lead Coplanarity: (0.10 mm) .004" max (40-60)
RoHS Compliant: Yes

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

Note: While optimized for 50 Ω applications, this connector with alternative signal/ground patterns may also perform well in certain 75 Ω applications.

RU8	–	1	POSITIONS PER ROW	–	STACK HEIGHT	–	SIGNAL ROUTING	–	PLATING OPTION	–	DV	–	BL	–	OTHER OPTION

POSITIONS PER ROW: 40, 50, 60

Kit contains two connectors and one card. Assembly required.

STACK HEIGHT:
- **–19** = (19 mm) .748"
- **–25** = (25 mm) .984"
- **–30** = (30 mm) 1.180"

SIGNAL ROUTING:
- **–SE** = Single-Ended
- **–DP** = Differential Pair

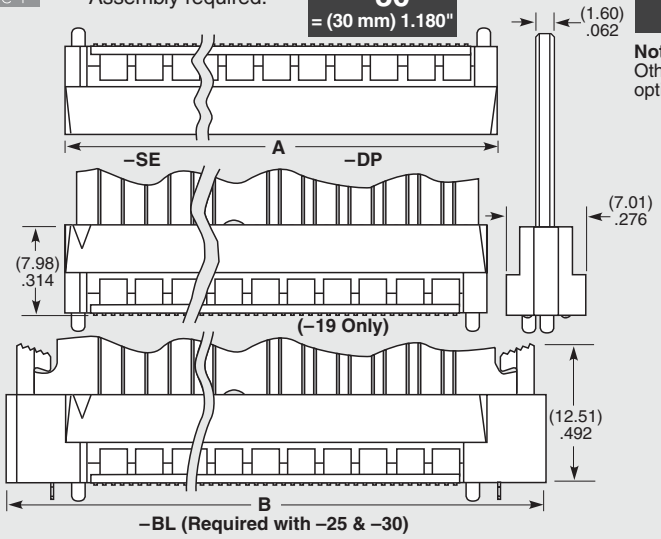
PLATING OPTION:
- **–L** = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail (Plating for connectors) Plating for Card is Hard Gold

Note: Other Gold plating options available.

DV

BL:
- **–BL** = Board Locks (Bottom Socket only) (Not available on –19 stack height)

OTHER OPTION:
- Leave blank for Trays
- **–K** = (5.50 mm) .217" DIA Polyimide Film Pick & Place Pad
- **–TR** = Tape & Reel



NO. OF POSITIONS PER SIDE	A	B	–SE TOTAL SIGNAL LINES	–DP TOTAL SIGNAL PAIRS
40	(39.80) 1.567	(51.05) 2.010	40	26
50	(47.80) 1.882	(59.05) 2.325	50	32
60	(55.80) 2.197	(67.05) 2.640	60	38

Note: Some lengths, styles and options are non-standard, non-returnable.

Mates with: HSEC8

SPECIFICATIONS

For complete specifications see www.samtec.com?HSC8

Conductor: 1/2 oz Copper
Contact Area: Hard Gold Plated
Insulator: FR-4
RoHS Compliant: Yes

NO. OF POSITIONS PER SIDE	–SE TOTAL SIGNAL LINES	–DP TOTAL SIGNAL PAIRS
–40	40	26
–50	50	32
–60	60	38

Note: Some sizes, styles and options are non-standard, non-returnable.

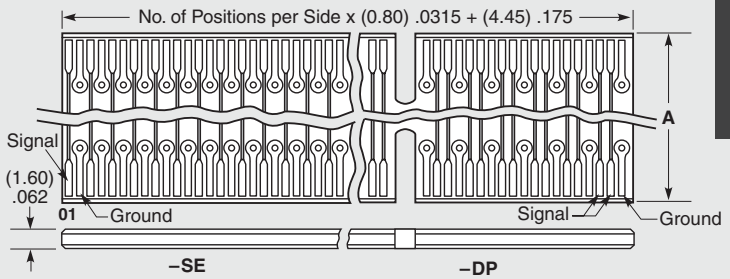
HSC8	–	NUMBER OF POSITIONS PER SIDE	–	CARD STYLE	–	STACK HEIGHT	–	SIGNAL ROUTING

NUMBER OF POSITIONS PER SIDE: –040, –050, –060

CARD STYLE:
- **–02** = (1.60 mm) .062" thick card

STACK HEIGHT:
- **–19** = (19 mm) .748"
- **–25** = (25 mm) .984"
- **–30** = (30 mm) 1.180"

SIGNAL ROUTING:
- **–SE** = Single-Ended
- **–DP** = Differential Pair



STACK HEIGHT	A
–19	(14.84) .584
–25	(20.84) .820
–30	(25.84) 1.017

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10 YEAR MFG WITH 30 µ" GOLD
EXTENDED LIFE PRODUCT
HIGH MATING CYCLES



HSEC8–120–01–L–DV–A–PE



HSEC8–110–01–L–DV–A–PE

(0.80 mm) .0315"

HSEC8-PE SERIES

PASS-THROUGH EDGE RATE® CARD SOCKET

SPECIFICATIONS

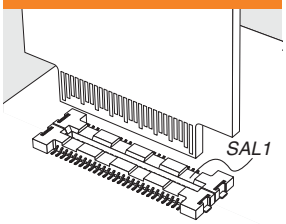
For complete specifications and recommended PCB layouts see www.samtec.com?HSEC8

Insulator Material:
Black Liquid Crystal Polymer
Contact:
BeCu
Plating:
Au or Sn over 50 µ" (1.27 µm) Ni
Operating Temp:
-55 °C to +125 °C
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (10-20)

OTHER SOLUTIONS



• Other card pass-through options. See SAL1 Series.

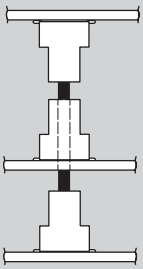
ALSO AVAILABLE (MOQ Required)

• Other platings

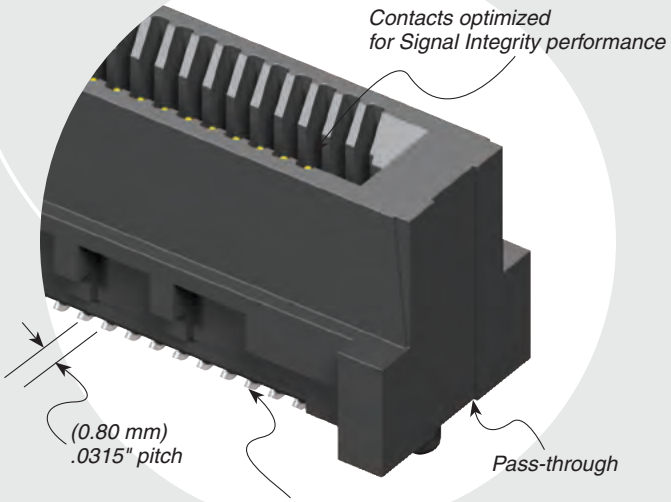
Mates with:
(1.60 mm) .062" thick card, HSC8

EDGE® RATE CONTACT

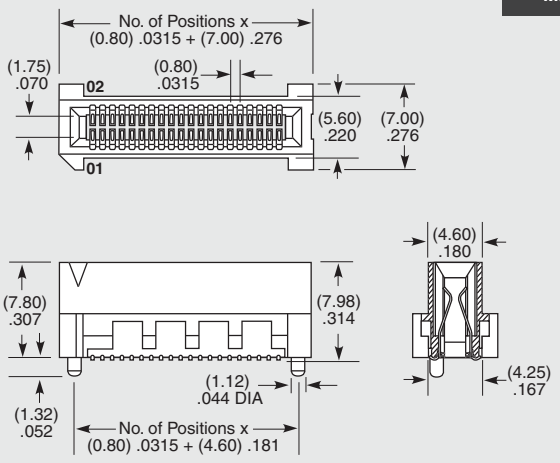
BOARD-TO-BOARD APPLICATIONS



–DV to –PE to –DV



HSEC8	1	POSITIONS PER ROW	CARD THICKNESS	PLATING OPTION	DV	A	PE	OTHER OPTION
		10, 13, 20	–01 = (1.60 mm) .062" thick card	–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail –S = 30 µ" (0.76 µm) Gold on contact, Matte Tin on tail				–K = (5.50 mm) .217" DIA Polyimide Film Pick & Place Pad –TR = Tape & Reel Packaging



Notes:
While optimized for 50 Ω applications, this connector with alternative signal/ground patterns may also perform well in certain 75 Ω applications.

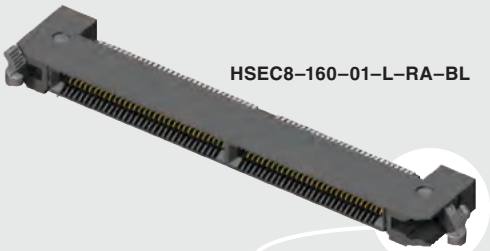
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samtec

10 YEAR MFG WITH 30 µ" GOLD
EXTENDED LIFE PRODUCT
HIGH MATING CYCLES





(0.80 mm) .0315"

HSEC8-RA SERIES

RIGHT-ANGLE EDGE RATE® CARD SOCKET

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?HSEC8-RA

Insulator Material:
Black Liquid Crystal Polymer
Contact:
BeCu
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Current Rating:
2.6 A per pin
(2 adjacent pins powered)
Operating Temp:
-55 °C to +125 °C
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (10-60)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

ALSO AVAILABLE (MOQ Required)

- Other platings

Card Mates:
(1.60 mm) .062" thick card, HSC8

Cable Mates:
ECDP

EDGE® RATE CONTACT



Rugged Edge Rate® contacts designed for Signal Integrity



Optional Board Locks

Accepts (1.60 mm) .062" PCB thicknesses

HIGH-SPEED CHANNEL PERFORMANCE

HSEC8-RA

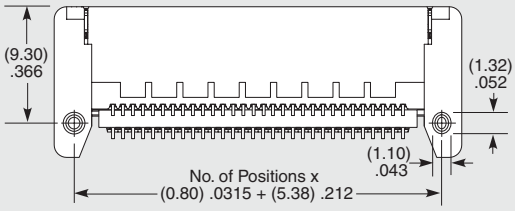
Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

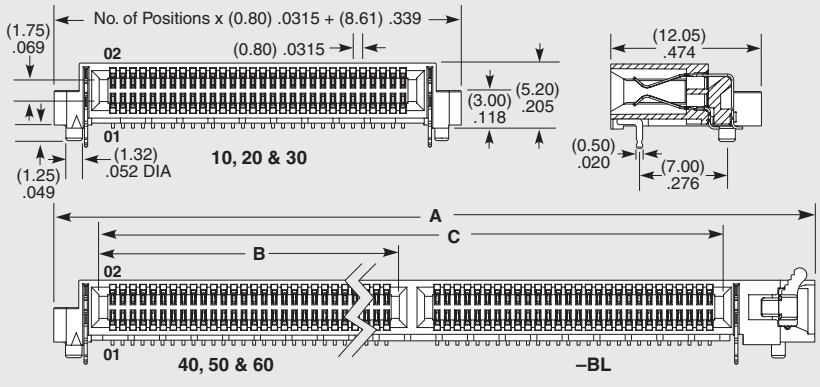
28 Gbps

RUGGEDIZED BY SAMTEC

- Board lock option

HSEC8	1	POSITIONS PER ROW	CARD THICKNESS	PLATING OPTION	RA	OTHER OPTION
		09, 10, 13, 20, 25, 30, 40, 49, 50, 60	–01 = (1.60 mm) .062" thick card	–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail –S = 30 µ" (0.76 µm) Gold on contact, Matte Tin on tail		–BL = Board Locks (09, 13, 25, 40, 49, 50, 60 only) –L2 = ECDP Latching (09, 13, 25, 49 only) (For use with ECDP) –TR = Tape & Reel Packaging (10 thru 60 positions only)





POSITIONS PER ROW	A	B	C
40	(43.80) 1.724	(18.90) .744	(36.60) 1.441
50	(51.80) 2.039	(22.90) .902	(44.60) 1.756
60	(59.80) 2.354	(26.90) 1.059	(52.60) 2.071
40-BL	(51.30) 2.020	(18.90) .744	(36.60) 1.441
50-BL	(59.30) 2.335	(22.90) .902	(44.60) 1.756
60-BL	(67.30) 2.650	(26.90) 1.059	(52.60) 2.071

Notes:
While optimized for 50 Ω applications, this connector with alternative signal/ground patterns may also perform well in certain 75 Ω applications.

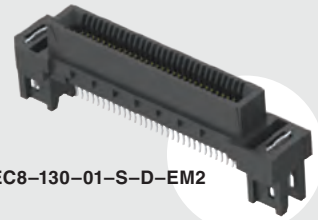
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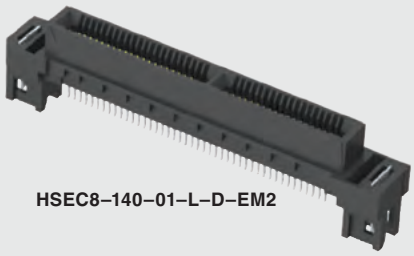
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samtec

10 YEAR MFG WITH 30 µ" GOLD
EXTENDED LIFE PRODUCT
HIGH MATING CYCLES



HSEC8–130–01–S–D–EM2



HSEC8–140–01–L–D–EM2

(0.80 mm) .0315"

HSEC8-EM SERIES

EDGE MOUNT EDGE RATE® CARD SOCKET

SPECIFICATIONS

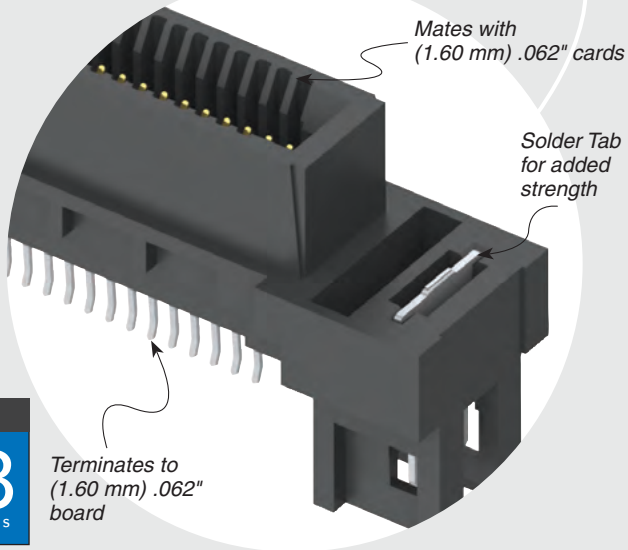
For complete specifications and recommended PCB layouts see www.samtec.com?HSEC8-EM

Insulator Material:
Liquid Crystal Polymer
Contact:
BeCu
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Operating Temp:
-55 °C to +125 °C
Lead–Free Solderable:
Yes
RoHS Compliant:
Yes

Card Mates:
(1.60 mm) .062" thick card, HSC8

Cable Mates:
ECDP

EDGE® RATE CONTACT



HIGH-SPEED CHANNEL PERFORMANCE

HSEC8-EM

Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

28 Gbps

RECOGNITIONS

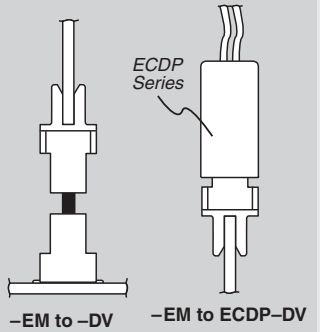
For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

ALSO AVAILABLE (MOQ Required)

- Other platings

APPLICATIONS



–EM to –DV

–EM to ECDP–DV

Note:
While optimized for 50 Ω applications, this connector with alternative signal/ground patterns may also perform well in certain 75 Ω applications.

HSEC8	–	1	POSITIONS PER ROW	–	01	PLATING OPTION	–	D	–	EM2

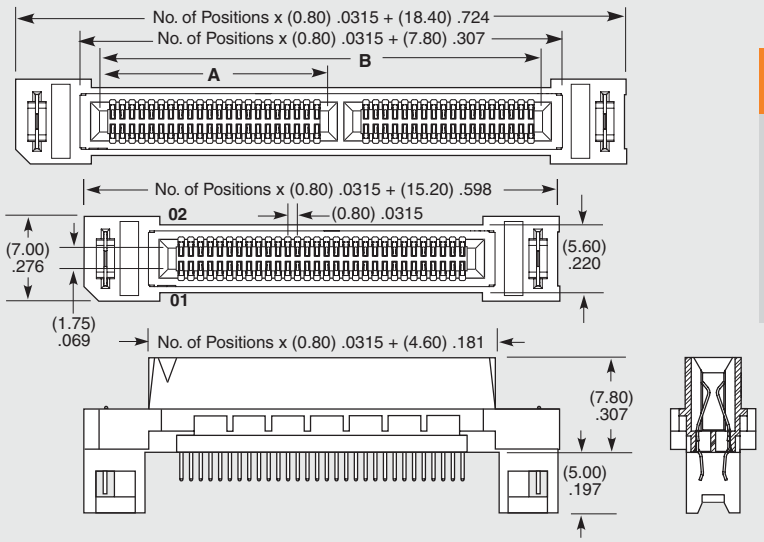
10, 20, 30, 40, 50, 60

POSITIONS PER ROW	A	B
40	(18.90) .744	(36.60) 1.441
50	(22.90) .902	(44.60) 1.756
60	(26.90) 1.059	(52.60) 2.071

–L
= 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

–S
= 30 µ" (0.76 µm) Gold on contact, Matte Tin on tail

–EM2
= (1.60 mm) .062" thick PCB



OTHER SOLUTIONS

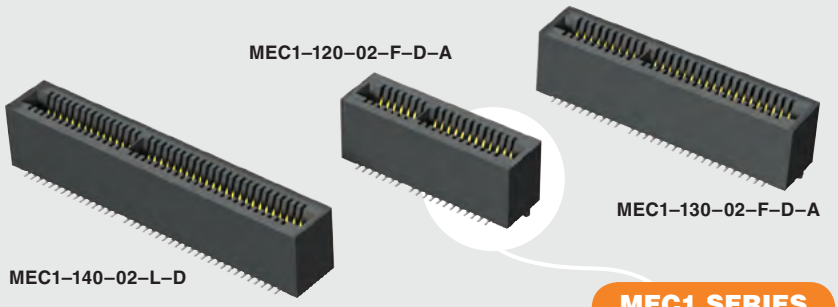
Polarized mates for ECDP Series twinax cables

CONNECTOR	CABLE
HSEC8–113	ECDP–08
HSEC8–125	ECDP–16
HSEC8–137	ECDP–24
HSEC8–149	ECDP–32

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(1.00 mm) .0394"

MEC1 SERIES

MINI EDGE CARD SOCKET

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?MEC1

Insulator Material:
Black LCP
Contact Material:
BeCu
Plating:
Sn or Au over 50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C
Current Rating:
2.2 A per pin
(2 adjacent pins powered)
Voltage Rating:
300 VAC
Insertion Depth:
(5.84 mm) .230" to (8.13 mm) .320"
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (05-20)
(0.15 mm) .006" max (30-70)*
*(.004" stencil solution may be available; contact IPG@samtec.com)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

ALSO AVAILABLE
(MOQ Required)

- Locking Clip (Manual placement required)
- Other platings

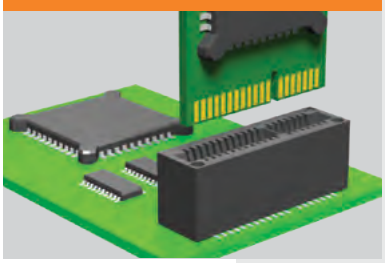
Important Note:
Samtec recommends that pads on the mating board be Gold plated.

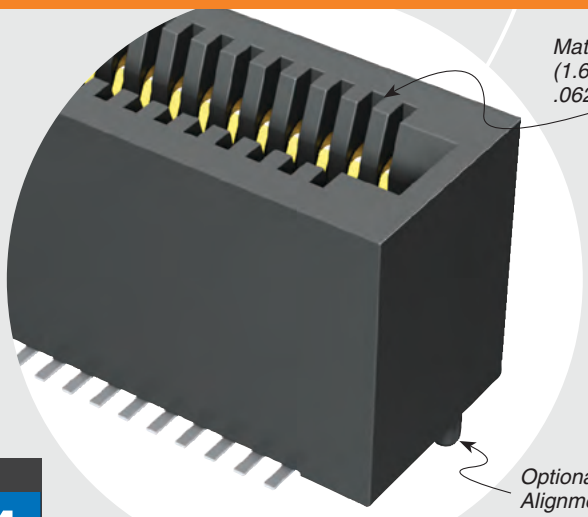
Notes:
While optimized for 50 Ω applications, this connector with alternative signal/ground patterns may also perform well in certain 75 Ω applications.

Some sizes, styles and options are non-standard, non-returnable.

Mates with:
(1.60 mm) .062" card

APPLICATION





HIGH-SPEED CHANNEL PERFORMANCE

MEC1

Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

14 Gbps

MEC1	–	1	POSITIONS PER ROW	–	02	–	PLATING OPTION	–	D	–	NP	–	OTHER OPTION

05, 08, 20, 30, 40, 50, 60, 70

–F
= Gold flash on contact, Matte tin on tail

–L
= 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

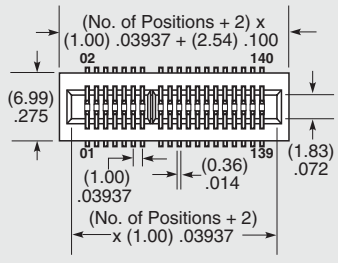
–NP
= No Polarization (05, 08, 20 & 30 positions only)

Leave Blank for polarization

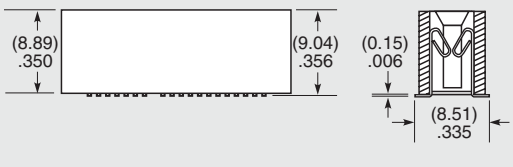
–A
= Alignment Pin metal or plastic at Samtec discretion.

–K
= (7.87 mm) .310" DIA Polyimide film Pick & Place Pad

–TR
= Tape & Reel (05-60 only)



POSITIONS PER ROW	POLARIZED POSITIONS (No Contact)
05	3, 4
08	5, 6
20	15, 16
30	21, 22
40	31, 32
50	41, 42
60	31, 32, 63 & 64
70	53, 54, 115 & 116



samtec



(1.00 mm) .0394"

MEC1-RA, MEC1-EM SERIES

RIGHT-ANGLE/EDGE MOUNT SOCKETS

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?MEC1-RA

Insulator Material: Black LCP
Contact Material: Phosphor Bronze
Plating: Au or Sn over 50 µ" (1.27 µm) Ni
Current Rating: 1.6 A per pin (2 adjacent pins powered)
Operating Temp Range: -55 °C to +125 °C
Insertion Depth: (5.84 mm) .230" to (8.13 mm) .320"
RoHS Compliant: Yes

PROCESSING

Lead–Free Solderable: Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (05-40)
(0.15 mm) .006" max (50-70)*
*(.004" stencil solution may be available; contact IPG@samtec.com)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

MEC1 - 1 - POSITIONS PER ROW - CARD SLOT - PLATING OPTION - D - RA1 - NP - SL

Mates with:
(1.60 mm)
.062" card

05, 08, 20, 30, 40, 50, 60, 70

–02
= (1.60 mm) .062" thick card

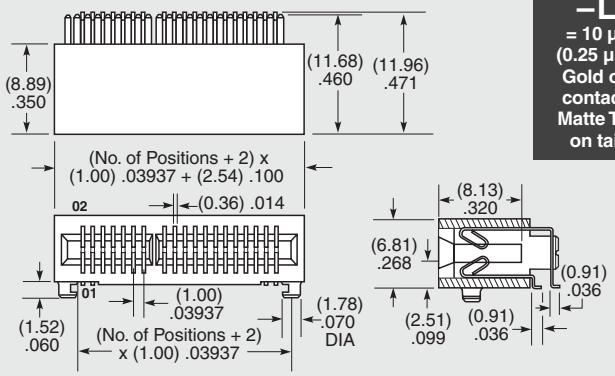
–F
= Gold flash on contact, Matte Tin on tail

–L
= 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

POSITIONS PER ROW	POLARIZED POSITIONS
05	3, 4
08	5, 6
20	15, 16
30	21, 22
40	31, 32
50	41, 42
60	31, 32, 63 & 64
70	53, 54, 115 & 116

–NP
= No Polarization (8 positions only)
Leave Blank for polarization

Note: While optimized for 50 Ω applications, this connector with alternative signal/ground patterns may also perform well in certain 75 Ω applications.



Note: Some sizes, styles and options are non-standard, non-returnable.

ALSO AVAILABLE
(MOQ Required)
- Elevated body height
- Other platings

HIGH-SPEED CHANNEL PERFORMANCE

MEC1-RA

Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

14 Gbps

APPLICATION

Samtec recommends that pads on the mating board be Gold plated.

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?MEC1-EM

Insulator Material: Black LCP
Contact Material: Phosphor Bronze
Plating: Au or Sn over 50 µ" (1.27 µm) Ni
Current Rating: 1.8 A per pin (2 adjacent pins powered)
Operating Temp Range: -55 °C to +125 °C
Insertion Depth: (5.84 mm) .230" to (8.13 mm) .320"
RoHS Compliant: Yes
Lead–Free Solderable: Yes

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

MEC1 - 1 - POSITIONS PER ROW - 02 - PLATING OPTION - D - EM2 - NP

Mates with:
(1.60 mm)
.062" card

05, 08, 20, 30, 40, 50, 60, 70

–F
= Gold flash on contact, Matte Tin on tail

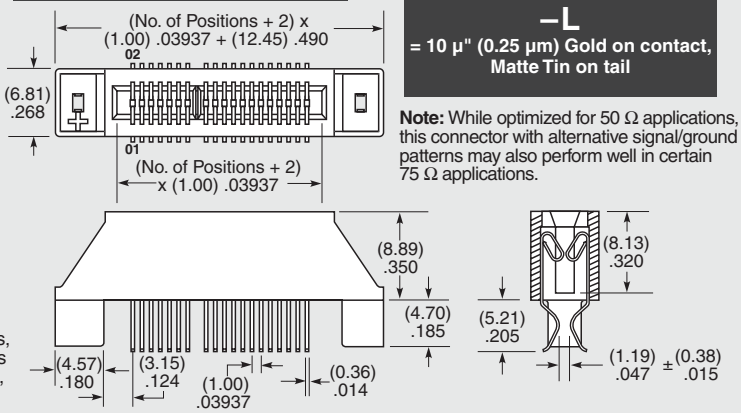
–L
= 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

–NP
= No Polarization (8 positions only)
Leave Blank for polarization

Note: While optimized for 50 Ω applications, this connector with alternative signal/ground patterns may also perform well in certain 75 Ω applications.

POSITIONS PER ROW	POLARIZED POSITIONS
05	3, 4
08	5, 6
20	15, 16
30	21, 22
40	31, 32
50	41, 42
60	31, 32, 63 & 64
70	53, 54, 115 & 116

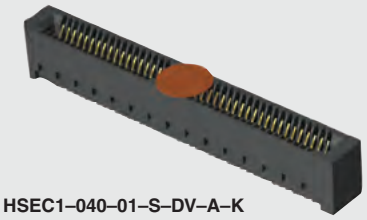
ALSO AVAILABLE
(MOQ Required)
- Edge mount leads for (0.80 mm) .031" thick board
- Other platings



Note: Some sizes, styles and options are non-standard, non-returnable.

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EDGE® RATE CONTACT



HSEC1–040–01–S–DV–A–K



HSEC1–010–01–L–DV–WT

(1.00 mm) .0394"

HSEC1-DV SERIES

VERTICAL HIGH-SPEED EDGE CARD SOCKET

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?HSEC1-DV

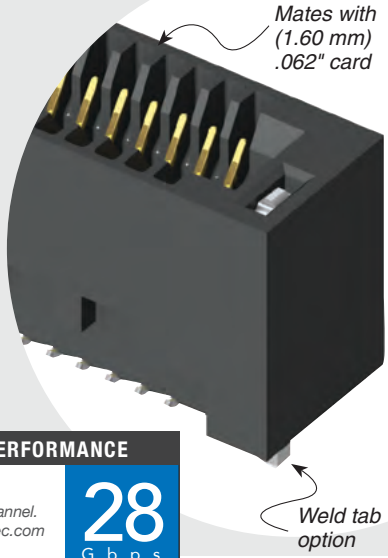
Insulator Material:
Black Liquid Crystal Polymer
Contact:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Current Rating:
2.2 A pins powered
(2 adjacent pins powered)
Operating Temp:
-55 °C to +125 °C
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (10-70)

Card Mates:
(1.60 mm) .062" card

10 YEAR MFG WITH 30 µ" GOLD
EXTENDED LIFE PRODUCT
HIGH MATING CYCLES



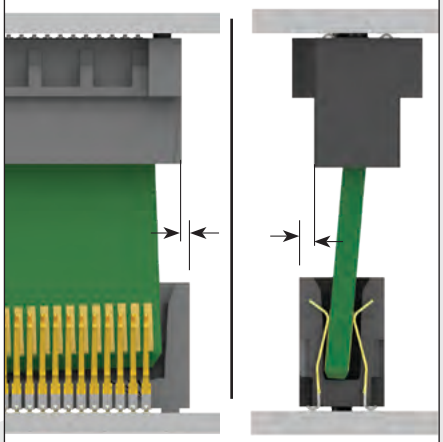
HIGH-SPEED CHANNEL PERFORMANCE

HSEC1-DV

Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

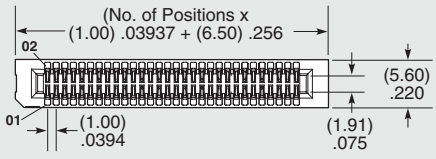
28 Gbps

MISALIGNMENT MITIGATION

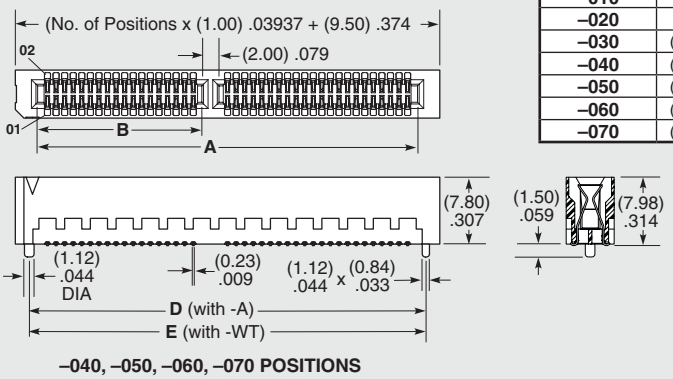


Custom designs compensate for misalignment.

HSEC1	NO. OF POSITIONS	CARD THICKNESS	PLATING OPTION	DV	OPTION	OTHER OPTION
	–010, –020, –030, –040, –050, –060, –070 (Per Row)	–01 = (1.60 mm) .062" thick card	–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail –S = 30 µ" (0.76 µm) Gold on contact, Matte Tin on tail		(–A or –WT required in callout) –A = Alignment Pin (Not available with –WT) –WT = Weld tab (Not Available with –A)	–K = (7.01 mm) .276" DIA Polyimide Film Pick & Place Pad –TR = Tape & Reel



–010, –020, –030 POSITIONS



–040, –050, –060, –070 POSITIONS

NO. OF POSITIONS	A	B
–010	(11.30) .445	N/A
–020	(21.30) .839	N/A
–030	(31.30) 1.232	N/A
–040	(44.30) 1.744	(19.15) .754
–050	(54.30) 2.138	(24.15) .951
–060	(64.30) 2.531	(29.15) 1.148
–070	(74.30) 2.925	(34.15) 1.344

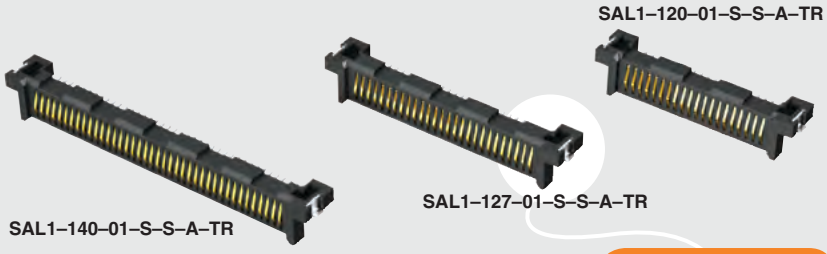
NO. OF POSITIONS	D	E
–010	(13.25) .522	(14.50) .571
–020	(23.25) .915	(24.50) .965
–030	(33.25) 1.309	(34.50) 1.358
–040	(46.25) 1.821	(47.50) 1.870
–050	(56.25) 2.215	(57.50) 2.264
–060	(66.25) 2.608	(67.50) 2.657
–070	(76.25) 3.002	(77.50) 3.051

Notes:
Some lengths, styles and options are non-standard, non-returnable.

Due to technical progress, all designs, specifications and components are subject to change without notice.

All parts within this catalog are built to Samtec's specifications.
Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.

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(1.00 mm) .0394"

SAL1 SERIES

HIGH-SPEED THROUGH BOARD SOCKET

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?SAL1

Insulator Material:
Black LCP
Contact Material:
BeCu
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Operating Temp:
-55 °C to +125 °C
Current Rating:
2.9 A per pin
(2 adjacent pins powered)
RoHS Compliant: Yes

PROCESSING

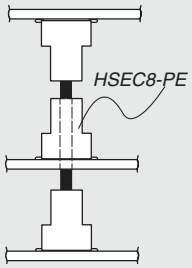
Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

OTHER SOLUTIONS



- Card pass-through option. See HSEC8-PE Series.

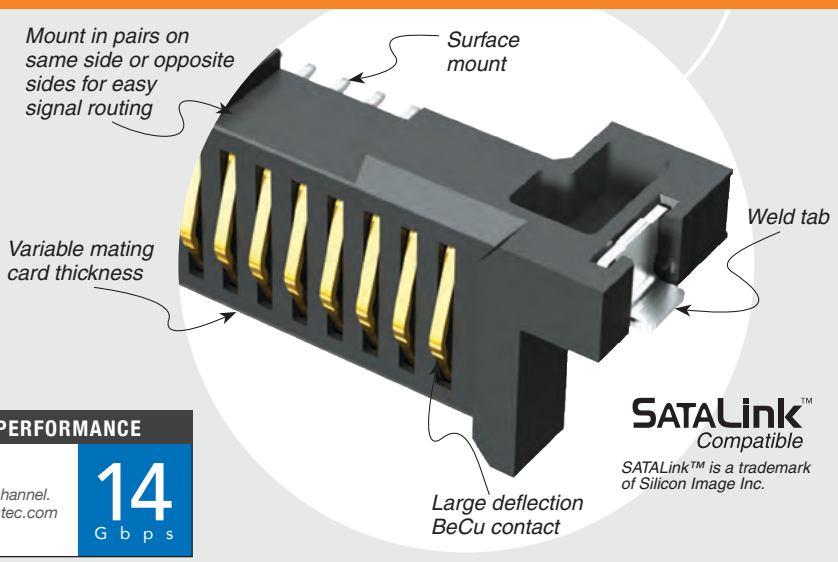
ALSO AVAILABLE (MOQ Required)

- Heavy Gold plating

Notes:
While optimized for 50 Ω applications, this connector with alternative signal/ground patterns may also perform well in certain 75 Ω applications.

Some lengths, styles and options are non-standard, non-returnable.

Mates with:
(1.60 mm) .062" or
(2.36 mm) .093" card



SATALink™ Compatible

SATALink™ is a trademark of Silicon Image Inc.

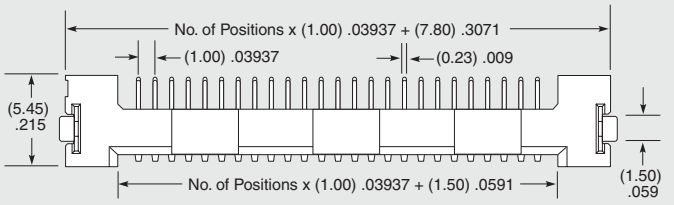
HIGH-SPEED CHANNEL PERFORMANCE

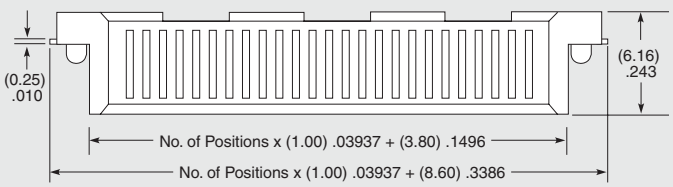
SAL1 (Top Entry)

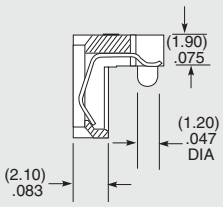
Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

14 Gbps

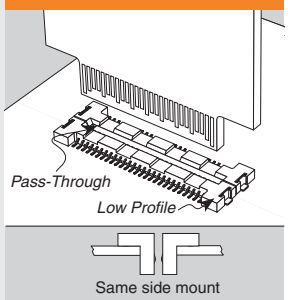
SAL1	–	1	NO. OF POSITIONS	–	01	–	PLATING OPTION	–	S	–	A	–	TR
			20, 27, 30, 40				–S = 30 µ" (0.76 µm) Gold on contact, Matte Tin on tail						–TR = Tape & Reel







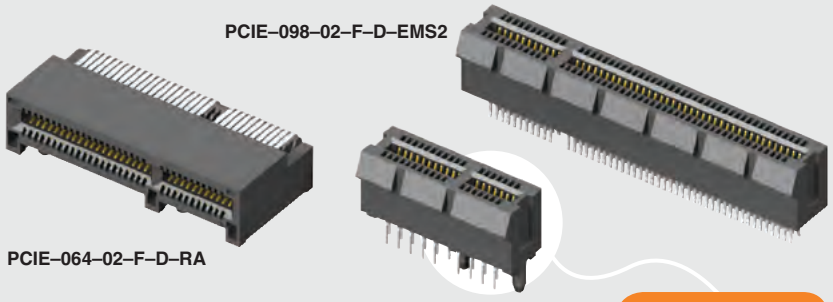
APPLICATIONS



samtec

PCI EXPRESS®

(1.00 mm) .0394"



PCIE SERIES

PCI EXPRESS® CARD SOCKETS

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?PCIE

Insulator Material:
–TH=Black Nylon
–EMS2 & –RA=LCP
Contact:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Current Rating:
2.2 A per pin
(2 adjacent pins powered)
Operating Temp:
-55 °C to +125 °C
Card Insertion Depth:
(7.65 mm) .301" nominal
RoHS Compliant:
Yes
Lead–Free Solderable:
–RA & –EMS2=Yes
–TH=Wave only

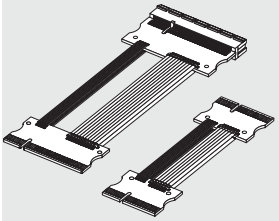
RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

OTHER SOLUTIONS

PCI Express® Jumpers & Extenders call for PCIEC Series



- Loop back Extender (From one PCIe® slot to another PCIe® slot)
- Ser-Des Physical Extender (From one PCIe® slot to another PCIe® Ser-Des)
- Physical Extender for easy troubleshooting of PCIe® card debug and analysis (PCIe® slot to Emulator or Analyzer)

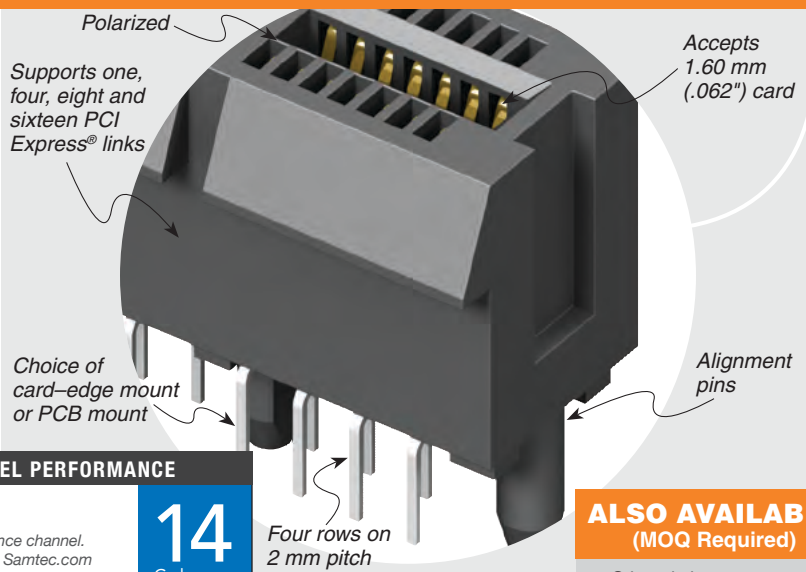
PCI-SIG®, PCI Express® and the PCIe® design marks are registered trademarks and/or service marks of PCI-SIG.

Note:
Some lengths, styles and options are non-standard, non-returnable.

Card Mates:
(1.60 mm) .062" card

Cable Mates:
PCIEC

Note:
While optimized for 50 Ω applications, this connector with alternative signal/ground patterns may also perform well in certain 75 Ω applications.



HIGH-SPEED CHANNEL PERFORMANCE

PCIE

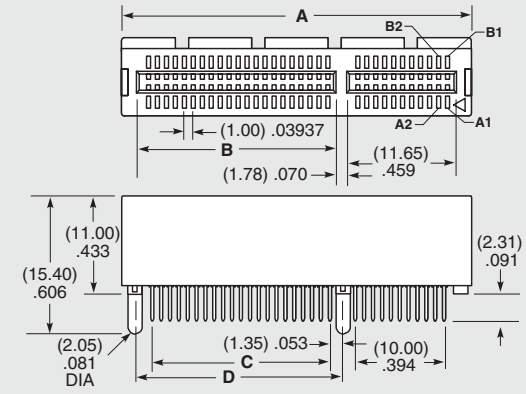
Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

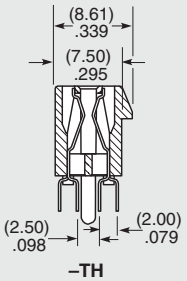
14 Gbps

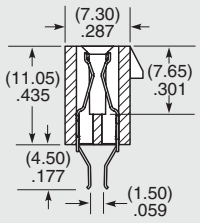
ALSO AVAILABLE (MOQ Required)

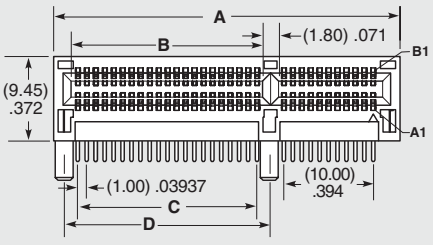
- Other platings

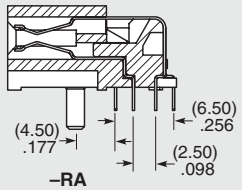
PCIE	–	NO. OF POSITIONS	–	02	–	PLATING OPTION	–	D	–	TAIL OPTION
		–036, –064, –098, –164				–F = Gold flash on contact, Tin on tail				–EMS2 = Edge Mount –TH = Through-hole –RA = Right-angle











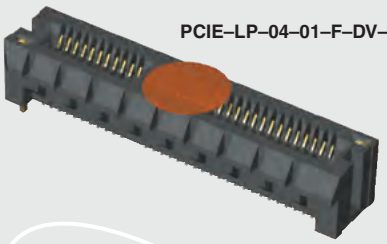
POSITIONS	A	B	C	D
–036 (X1)	(25.00) .984	(7.65) .301	(6.00) .236	(9.15) .360
–064 (X4)	(39.00) 1.535	(21.65) .852	(20.00) .787	(23.15) .911
–098 (X8)	(56.00) 2.205	(38.65) 1.522	(37.00) 1.457	(40.15) 1.581
–164 (X16)	(89.00) 3.504	(71.65) 2.821	(70.00) 2.756	(73.15) 2.880

Due to technical progress, all designs, specifications and components are subject to change without notice.

All parts within this catalog are built to Samtec's specifications.
Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.

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EDGE® RATE CONTACT



PCIE–LP–04–01–F–DV–A–WT–K



PCIE–LP–01–01–F–DV–A

(1.00 mm) .0394"

PCIE-LP SERIES

PCI EXPRESS® LOW-PROFILE ASSEMBLY

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?PCIE-LP

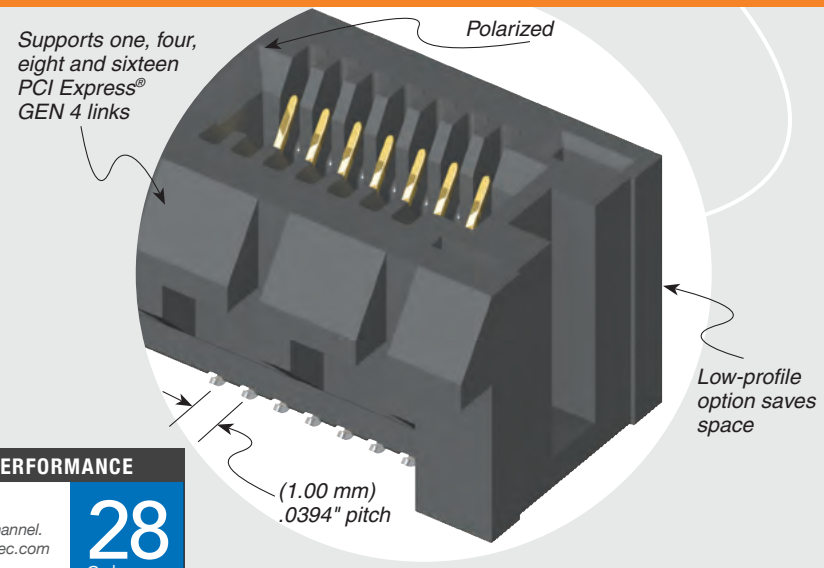
Insulator Material:
Black Nylon LCP
Contact:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Current Rating:
2.1 A per pin
(2 adjacent pins powered)
Operating Temp:
-55 °C to +125 °C
RoHS Compliant:
Yes

Card Mates:
(1.60 mm) .062" card

Cable Mates:
PCIEC

PROCESSING

Lead–Free Solderable:
Yes

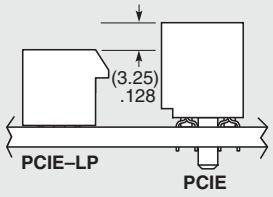


HIGH-SPEED CHANNEL PERFORMANCE

PCIE-LP
Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

28 Gbps

APPLICATION



OTHER SOLUTIONS

- Press-fit tails in development

PCI-SIG®, PCI Express® and the PCIe® design marks are registered trademarks and/or service marks of PCI-SIG.

Note:
Some lengths, styles and options are non-standard, non-returnable.

PCIE	–	LP	–	NO. OF LANES	–	01	–	PLATING OPTION	–	DV	–	A	–	OPTION	–	PACKAGING

–01, –04, –08, –16

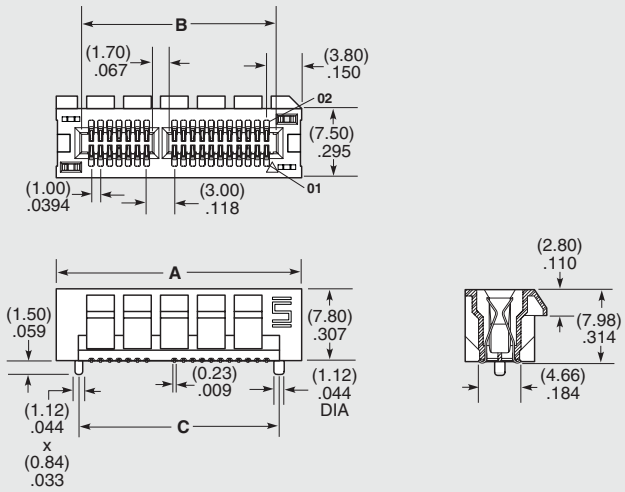
–F
= Gold flash on contact, Matte Tin on tai

–S
== 30 µ" (0.76 µm) Gold on contact, Matte Tin on tail

–WT
= Weld Tab

–K
= Polyimide film Pick & Place Pad

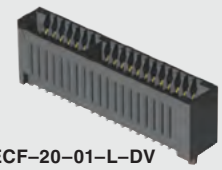
–TR
=Tape & Reel (Available with –01, –04 –08 lanes only)



NO. OF LANES	A	B	C
–01	(26.60) 1.047	(21.00) .827	(21.70) .854
–04	(40.60) 1.598	(35.00) 1.378	(35.70) 1.406
–08	(57.60) 2.268	(52.00) 2.047	(52.70) 2.075
–16	(90.60) 3.567	(85.00) 3.346	(85.70) 3.374

PCIE–LP–01–01–X–DV–A SHOWN

samtec



MECF–20–01–L–DV

MECF–05–01–L–DV–WT



(1.27 mm) .050"

MECF SERIES

MINI EDGE CARD SOCKET

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?MECF-DV

Insulator Material:
–01=Black Liquid Crystal Polymer
–02=Natural Liquid Crystal Polymer
Contact Material:
BeCu
Plating:
Sn or Au over 50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C
Current Rating:
3.5 A per pin
(2 adjacent pins powered)
Voltage Rating:
280 VAC
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (05-30)
(0.15 mm) .006" max (40-50)*
*(.004" stencil solution may be available; contact IPG@samtec.com)

RECOGNITIONS

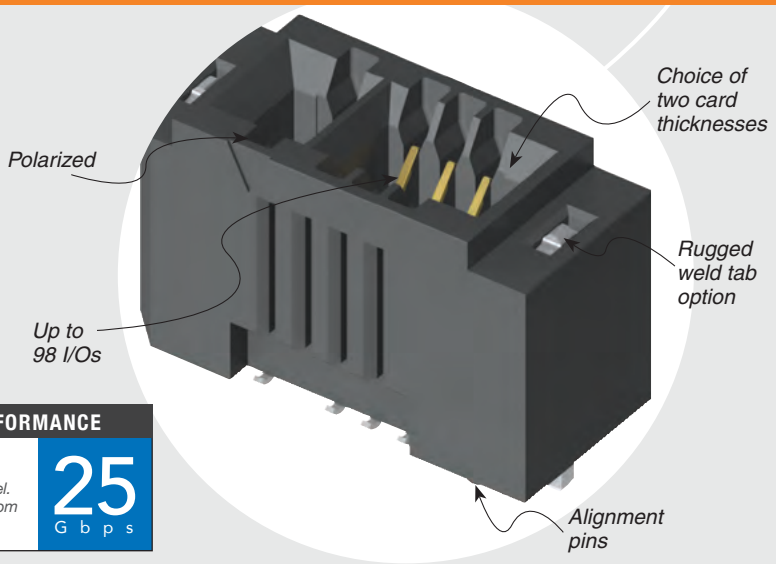
For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

ALSO AVAILABLE
(MOQ Required)

- Non-polarized
- Other platings

Mates with:
(1.60 mm) .062" card,
(2.36 mm) .093" card



HIGH-SPEED CHANNEL PERFORMANCE

MECF-DV

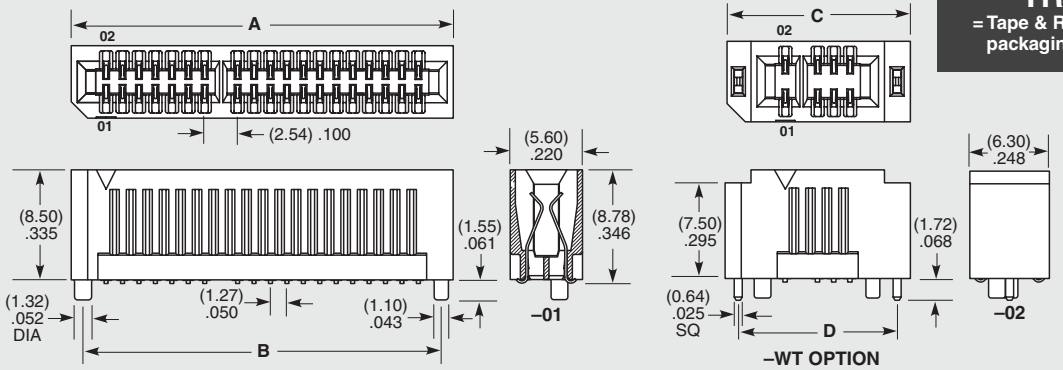
Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

25 Gbps

MECF	–	POSITIONS PER ROW	–	CARD THICKNESS	–	PLATING OPTION	–	DV	–	OPTION
		–05, –08, –20, –30, –40, –50		–01 = (1.60 mm) .062" thick card –02 = (2.36 mm) .093" thick card		–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail				–WT = Weld Tabs (Standard on –02 card thickness, optional on –01 card thickness) –K = (5.00 mm) .197" DIA (–01 card thickness) (5.70 mm) .224" DIA (–02 card thickness) Polyimide film pick & place pad (–TR only) –TR = Tape & Reel packaging

POSITIONS PER ROW	A	B	C	D
–05	(10.46) .412	(8.64) .340	(14.53) .572	(12.45) .490
–08	(14.27) .562	(12.45) .490	(18.34) .722	(16.26) .640
–20	(29.51) 1.162	(27.69) 1.090	(33.58) 1.322	(31.50) 1.240
–30	(42.21) 1.662	(40.39) 1.590	(46.28) 1.822	(44.20) 1.740
–40	(54.91) 2.162	(53.09) 2.090	(58.98) 2.322	(56.90) 2.240
–50	(67.61) 2.662	(65.79) 2.590	(71.68) 2.822	(69.60) 2.740

POSITIONS PER ROW	POLARIZED POSITIONS (No Contact)
–05	3, 4
–08	5, 6
–20	15, 16
–30	21, 22
–40	31, 32
–50	41, 42



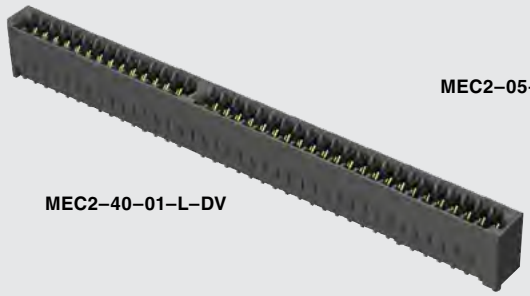
Notes:
While optimized for 50 Ω applications, this connector with alternative signal/ground patterns may also perform well in certain 75 Ω applications.

Some sizes, styles and options are non-standard, non-returnable.

Due to technical progress, all designs, specifications and components are subject to change without notice.

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samtec





(2.00 mm) .0787"

MEC2-DV SERIES

VERTICAL MINI EDGE CARD SOCKET

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?MEC2-DV

Insulator Material:
–01=Black Liquid Crystal Polymer
–02=Natural Liquid Crystal Polymer
Contact Material:
BeCu
Plating:
Sn or Au over 50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C
Current Rating:
3.5 A per pin
(2 adjacent pins powered)
Voltage Rating:
238 VAC
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (05-30)
(0.15 mm) .006" max (40-50)*
*(.004" stencil solution may be available; contact IPG@samtec.com)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

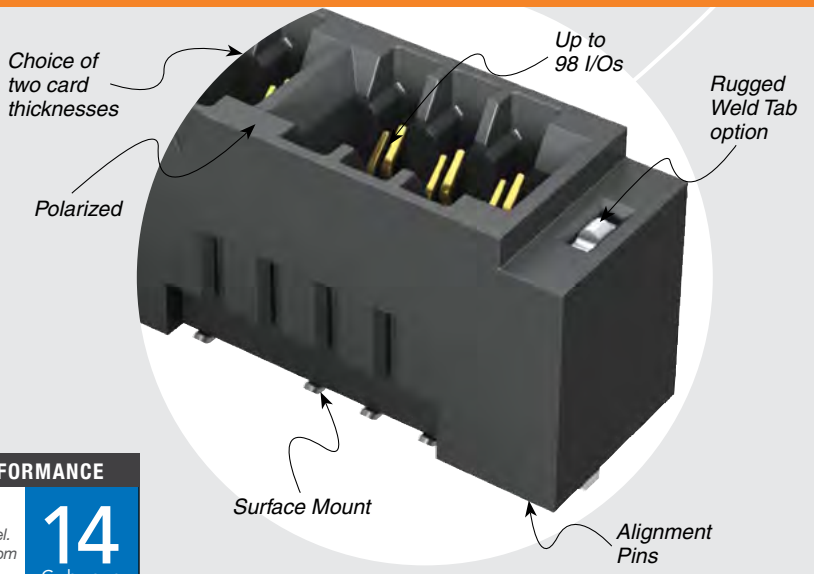
ALSO AVAILABLE
(MOQ Required)

- Non-polarized
- Other platings

Notes:
While optimized for 50 Ω applications, this connector with alternative signal/ground patterns may also perform well in certain 75 Ω applications.

Some sizes, styles and options are non-standard, non-returnable.

Mates with:
(1.60 mm) .062" card,
(2.36 mm) .093" card



HIGH-SPEED CHANNEL PERFORMANCE

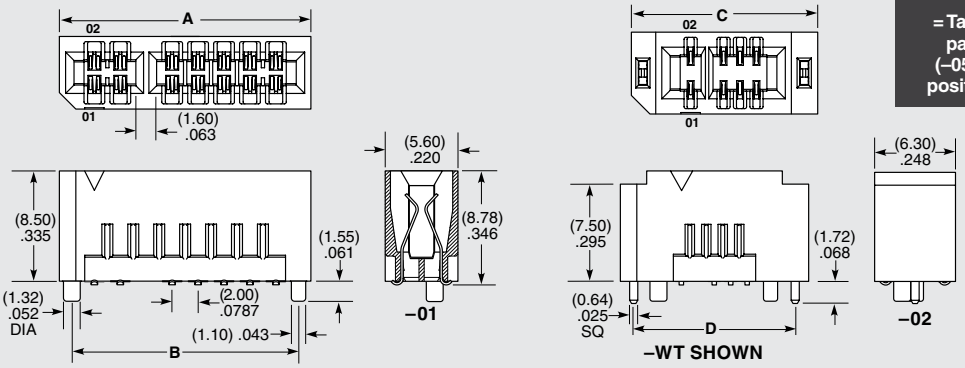
MEC2-DV
Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

14 Gbps

MEC2	–	POSITIONS PER ROW	–	CARD THICKNESS	–	PLATING OPTION	–	DV	–	OPTION
		–05, –08, –20, –30, –40, –50		–01 = (1.60 mm) .062" thick card –02 = (2.36 mm) .093" thick card		–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail				–WT = Weld Tabs (Standard on –02 card thickness, optional on –01 card thickness) –K = (5.00 mm) .197" DIA (–01 card thickness) (5.70 mm) .224" DIA (–02 card thickness) Polyimide film pick & place pad (–TR only) –TR = Tape & Reel packaging (–05 thru –30 positions only)

POSITIONS PER ROW	A	B	C	D
–05	(13.40) .528	(11.50) .453	(17.40) .685	(15.40) .606
–08	(19.40) .764	(17.50) .689	(23.40) .921	(21.40) .843
–20	(43.40) 1.709	(41.50) 1.634	(47.40) 1.866	(45.40) 1.787
–30	(63.40) 2.496	(61.50) 2.421	(67.40) 2.654	(65.40) 2.575
–40	(83.40) 3.283	(81.50) 3.209	(87.40) 3.441	(85.40) 3.362
–50	(103.40) 4.071	(101.50) 3.996	(107.40) 4.228	(105.40) 4.150

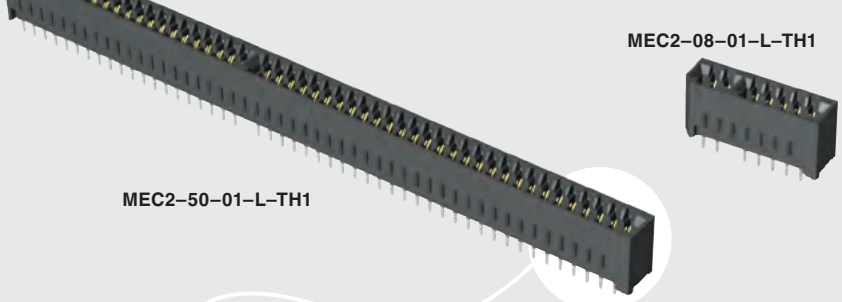
POSITIONS PER ROW	POLARIZED POSITIONS (No Contact)
–05	3, 4
–08	5, 6
–20	15, 16
–30	21, 22
–40	31, 32
–50	41, 42



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(2.00 mm) .0787"

MEC2-TH SERIES

THROUGH-HOLE MINI EDGE CARD SOCKET

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?MEC2-TH

Insulator Material:
Black Liquid Crystal Polymer
Contact Material:
BeCu
Plating:
Sn or Au over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C
Current Rating:
4.9 A per pin
(2 adjacent pins powered)
Voltage Rating:
230 VAC/325 VDC
RoHS Compliant:
Yes

PROCESSING

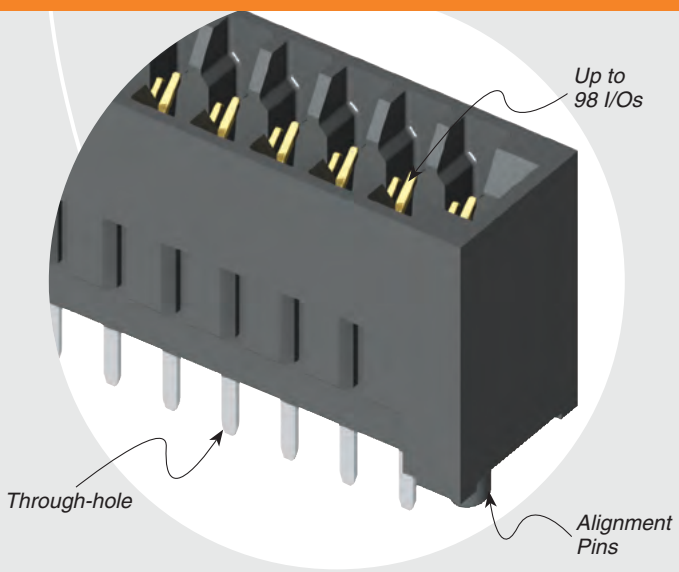
Lead–Free Solderable:
Yes

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

Mates with:
(1.60 mm) .062" card

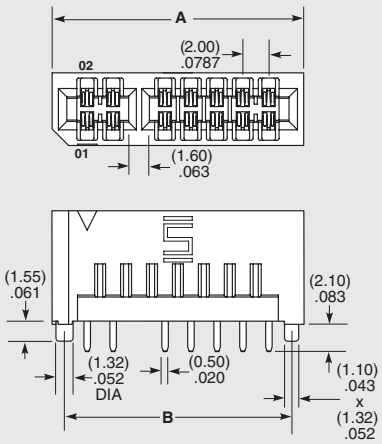


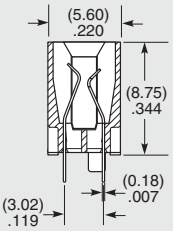
MEC2	–	POSITIONS PER ROW	–	CARD THICKNESS	–	PLATING OPTION	–	TAIL OPTION
		–05, –08, –20, –30, –40, –50		–01 = (1.60 mm) .062" thick card		–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail		–TH1 = Through-hole

ALSO AVAILABLE
(MOQ Required)

- Non-polarized
- Other platings

POSITIONS PER ROW	A	B
–05	(13.40) .528	(11.50) .453
–08	(19.40) .764	(17.50) .689
–20	(43.40) 1.709	(41.50) 1.634
–30	(63.40) 2.496	(61.50) 2.421
–40	(83.40) 3.283	(81.50) 3.209
–50	(103.40) 4.071	(101.50) 3.996





POSITIONS PER ROW	POLARIZED POSITIONS (No Contact)
–05	3, 4
–08	5, 6
–20	15, 16
–30	21, 22
–40	31, 32
–50	41, 42

Notes:
While optimized for 50 Ω applications, this connector with alternative signal/ground patterns may also perform well in certain 75 Ω applications.

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HIGH-SPEED BACKPLANE

XCede® HD Backplane System (HDTF, HDTM) 144-146
XCede® HD Power Modules (HPTS) 147
ExaMAX® Vertical Header (EBTM) 148-149
ExaMAX® Right-Angle Receptacle (EBTF-RA) 150-151
ExaMAX® Direct-Mate Orthogonal Header (EBDM-RA) 152
Power Modules for ExaMAX® (EPTT, EPTS) 153
Guidance Modules for ExaMAX® (EGBM, EGBF) 154

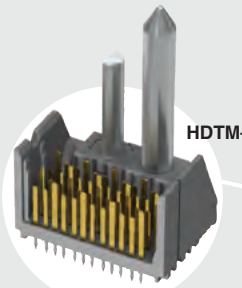


APPLICATIONS

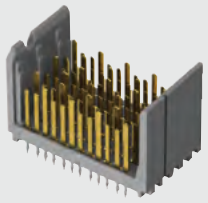
Backplane 20-21

samtec

XCede HD



HDTM–4–04–1–S–VT–5–R–1–A



HDTM–4–06–1–S–VT–0–1

(1.80 mm) .071"

XCede® HD BACKPLANE HEADER

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?HDTM

Insulator Material:
Liquid Crystal Polymer
Contact Material:
Phosphor Bronze
Plating:
Sn or Au over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-40 °C to +105 °C
Current Rating:
Testing Now!
RoHS Compliant:
Yes

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

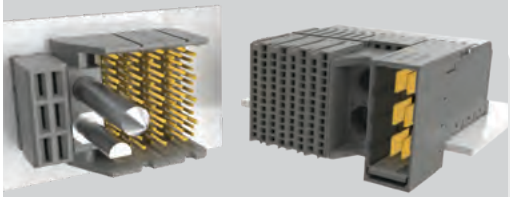
FILE NO. E111594

TOOLING

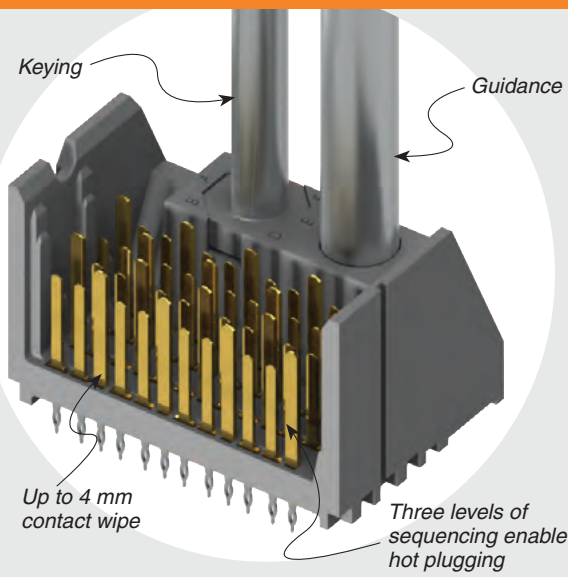
- For press-fit extraction and insertion tool options, visit www.samtec.com/tooling

Mates with:
HDTF, BSP
(See HDTF for more information)

APPLICATION



Shown with optional power module



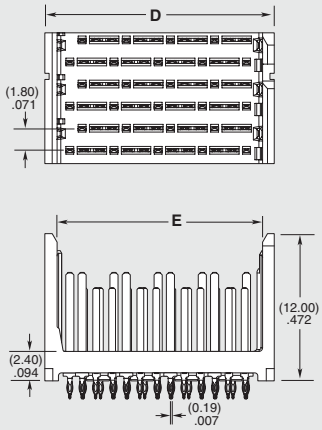
HDTM	–	PAIRS	–	NO. OF COLUMNS	–	TAIL SIZE	–	S	–	VT

PAIRS: –3, –4, –6 = Pairs Per Column

NO. OF COLUMNS:
–04 = Four Columns
–06 = Six Columns
–08 = Eight Columns

TAIL SIZE:
–1 = (.4495 mm) .0177" Drill
–2 = (.5511 mm) .0217" Drill

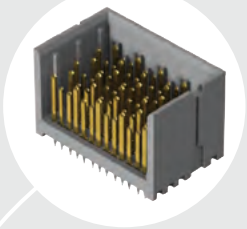
PAIRS PER COLUMNS	D		E
	Standard wall	Thick wall	
–03	(15.10) .594	(16.10) .634	(13.15) .518
–04	(18.70) .736	(19.70) .776	(16.75) .659
–06	(25.90) 1.020	(26.90) 1.059	(23.95) .943



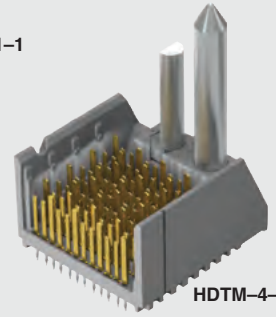
HDTM–4–06–1–S–VT–0–1 SHOWN

NO. OF COLUMNS	A				C	
	No walls	Left Wall	Two Wall	Right Wall	Left Polarize	Right Polarize
–04	(7.06) .278	(8.20) .322	(9.20) .362	(8.06) .317	(13.54) .533	(13.05) .513
–06	(10.66) .420	(11.80) .465	(12.80) .503	(11.66) .459	(17.14) .674	(16.65) .656
–08	(14.26) .561	(15.40) .606	(16.40) .817	(15.26) .600	(20.74) .817	(20.25) .797

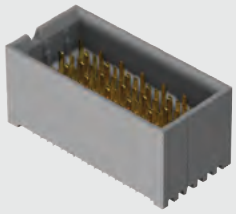
Note:
XCede® is a registered trademark of Amphenol.



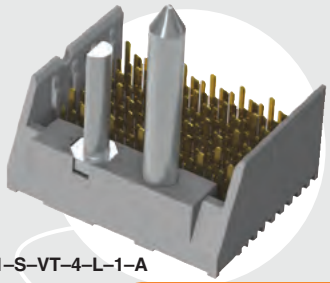
HDTM–4–06–1–S–VT–1–1



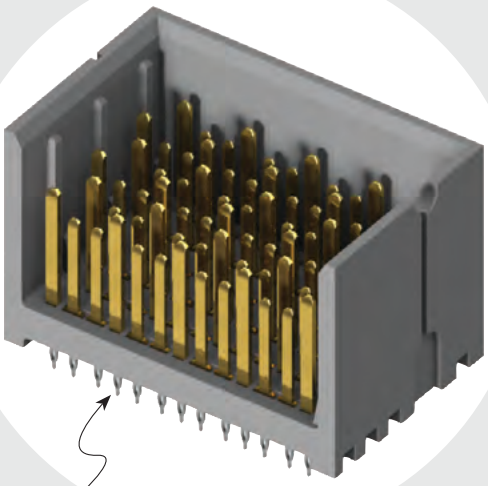
HDTM–4–08–1–S–VT–5–R–1–A



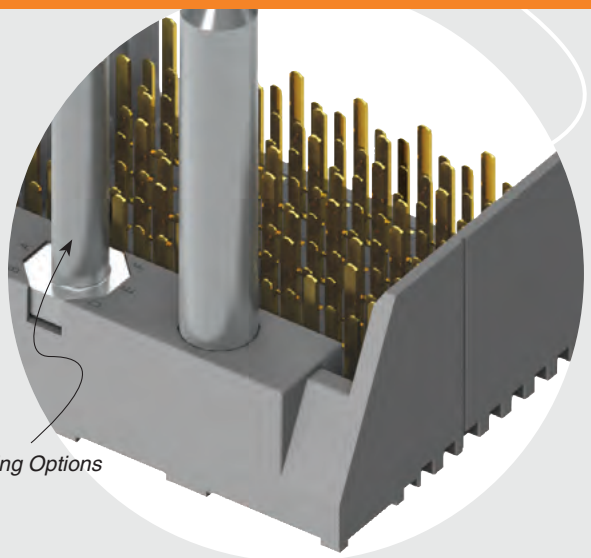
HDTM–6–06–1–S–VT–3–1–T



HDTM–6–08–1–S–VT–4–L–1–A



Press-fit Tails



Keying Options

SIDE WALLS

–0
= Open
(No Walls)

–1
= Left Side Wall

–2
= Right Side Wall

–3
= Two Side Walls

–4
= Left Polarizing

–5
= Right Polarizing

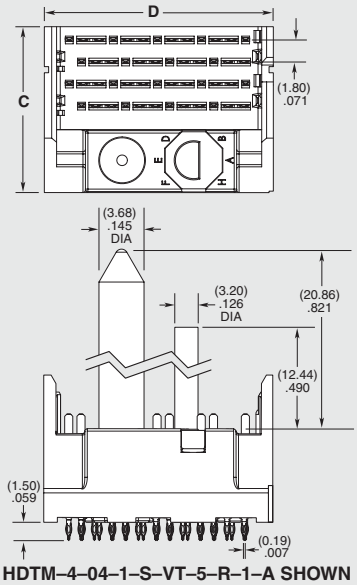
GUIDANCE

(Only available with –4 or –5 polarizing)

(Leave Blank for no guidance)

–L
= Left Side Guide Pin

–R
= Right Side Guide Pin



HDTM–4–04–1–S–VT–5–R–1–A SHOWN

STAGE COMBO

–1
= 3 mm Wipe Signal /
4 mm Wipe Ground

–2
= 2 mm Wipe Signal /
4 mm Wipe Ground

–3
= 3 mm Wipe Signal /
3 mm Wipe Ground

–4
= 2 mm Wipe Signal /
3 mm Wipe Ground

–5
= 2 mm Wipe Signal /
2 mm Wipe Ground

KEYING

(Only available with –4 or –5 polarizing)

(Leave Blank for no keying)

–A thru –H
= Position of flat on Key
(See table for Key)

END WALL

(Leave Blank for standard wall)

–T
= Thick Wall

GUIDANCE	KEYING							
	–A	–B	–C	–D	–E	–F	–G	–H
–L /–R								

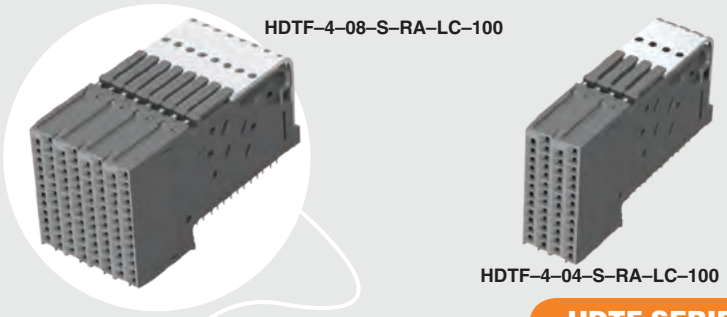
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samtec

XCede HD

(1.80 mm) .071"



HDTF SERIES

XCede® HD BACKPLANE RECEPTACLE

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?HDTF

Insulator Material:
Liquid Crystal Polymer
Contact Material:
Copper Alloy
Plating:
Sn or Au over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-40 °C to +105 °C
Current Rating:
Testing Now!
RoHS Compliant:
Yes

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

TOOLING

- For press-fit extraction and insertion tool options, visit www.samtec.com/tooling

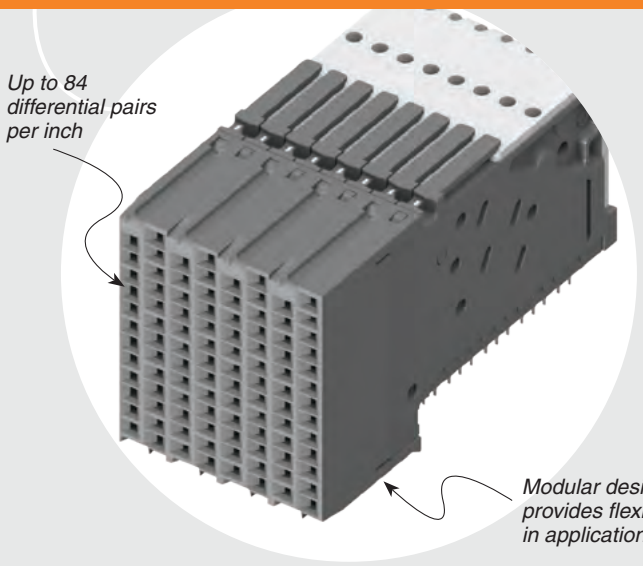
Mates with:
HDTM

ALSO AVAILABLE
(Customer Defined Configurations)

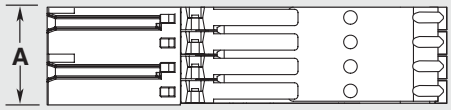


Power and keying/guidance modules also are available but require a single customizable BSP product. A BSP product is built by combining any number, in any configuration, of HDTFs, power and keying/guidance modules to create one receptacle.

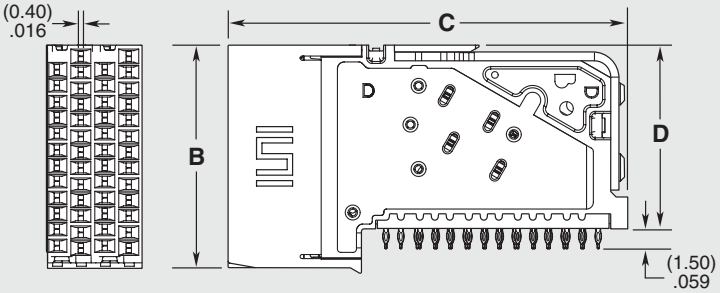
Contact HSBP@samtec.com for more information about building a BSP product.



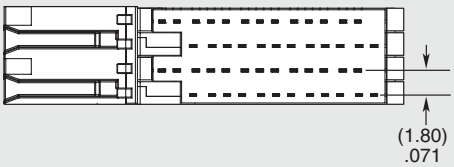
HDTF	PAIRS PER COLUMN	NO. OF COLUMNS	PLATING	RA	WAFERS	IMPEDANCE
	–3, –4, –6 = Pairs Per Column	–04 = Four Columns –06 = Six Columns –08 = Eight Columns	–S = 30 µ" (0.76 µm) Gold in contact area, Matte Tin on tail		–LC = Standard –HS = High-Speed	–100 = 100 Ω –085 = 85 Ω



NO. OF COLUMNS	A
–04	(7.2) .28
–06	(10.8) .42
–08	(14.4) .57



PAIRS PER COLUMNS	B	C	D
–3	(12.8) .50	(26.0) 1.02	(9.80) .386
–4	(16.4) .64	(29.4) 1.16	(13.5) .53
–6	(23.6) .93	(36.6) 1.44	(20.7) .81



Note:
XCede® is a registered trademark of Amphenol.

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XCede HD



HPTS–3–S–D–VT

HPTS–6–S–D–VT





HPTS–4–S–D–VT

(3.20 mm) .126"

HPTS SERIES

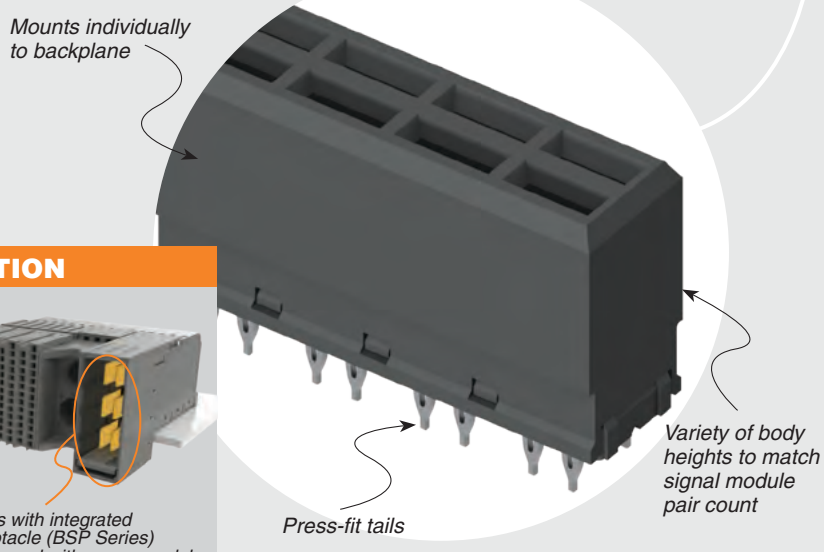
XCede® HD POWER MODULE

SPECIFICATIONS

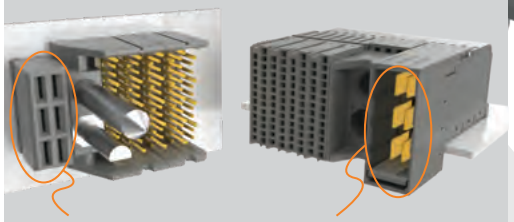
For complete specifications and recommended PCB layouts see www.samtec.com?HPTS

Insulator Material:
Liquid Crystal Polymer
Contact Material:
Copper Alloy
Plating:
Sn or Au over
50 µ" (1.27 µm) Ni
Operating Temp Range:
Testing Now!
Current Rating:
Testing Now!
RoHS Compliant:
Yes

Mates with:
BSP
(See HDTF for more information)



APPLICATION



HPTS Series individually mounts to backplane

Mates with integrated receptacle (BSP Series) configured with power module

TOOLING

- For press-fit extraction and insertion tool options, visit www.samtec.com/tooling

HPTS	–	BODY HEIGHT	–	PLATING	–	D	–	ORIENTATION

BODY HEIGHT
(Based on pair count of signal modules (HDTF Series))

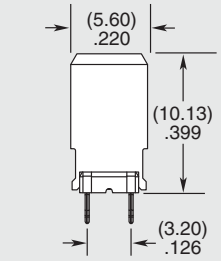
–3
= For use with 3 pair HDTF Series

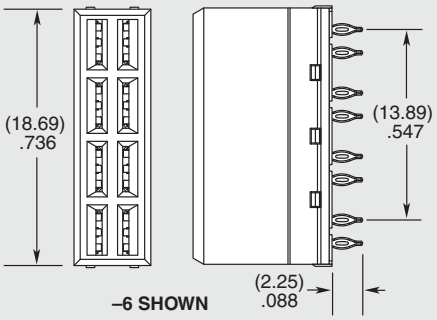
–4
= For use with 4 pair HDTF Series

–6
= For use with 6 pair HDTF Series

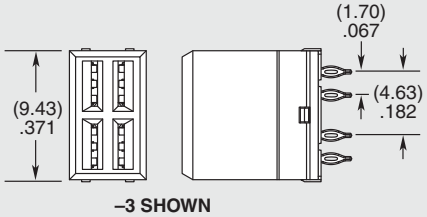
PLATING
–S
= 30 µ" (0.76 µm) Gold in contact area, Matte Tin on tail

ORIENTATION
–VT
= Vertical

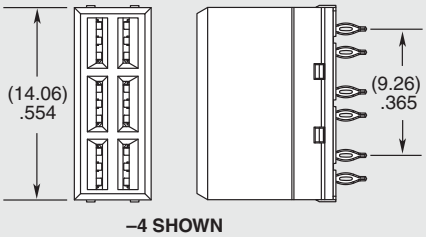




–6 SHOWN



–3 SHOWN



–4 SHOWN

Note:
XCede® is a registered trademark of Amphenol.

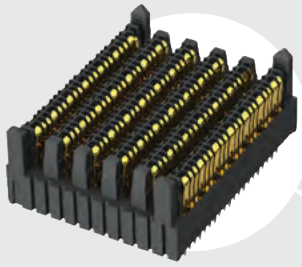
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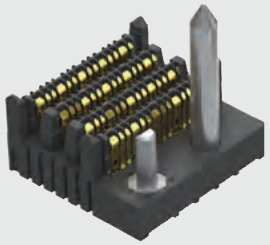
samtec

ExaMAX®

(2.00 mm) .0787"



EBTM–6–12–2.0–S–VT–1



EBTM–4–08–2.0–S–VT–1–L–G

ExaMAX® BACKPLANE SYSTEM

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?EBTM-VT or www.samtec.com?EBTM-RA

Insulator Material:
Liquid Crystal Polymer
Contact Material:
Copper Alloy
Plating:
Sn or Au over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +85 °C
Current Rating:
4.2 A per pin
(1 pin powered)
Contact Wipe:
2.4 mm
RoHS Compliant:
Yes

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

ALSO AVAILABLE
(MOQ Required)

- Staging

TOOLING

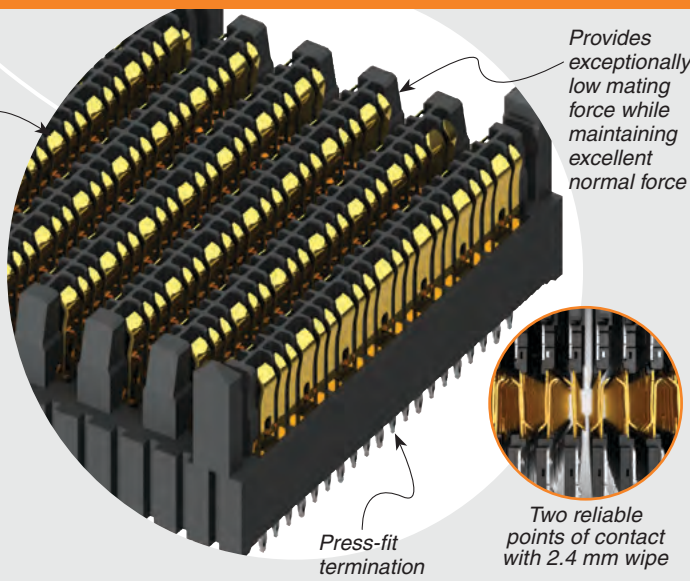
- For press-fit extraction and insertion tool options, visit www.samtec.com/tooling

Mates with:
EBTF-RA

PAM4
56
Gbps

APPLICATION

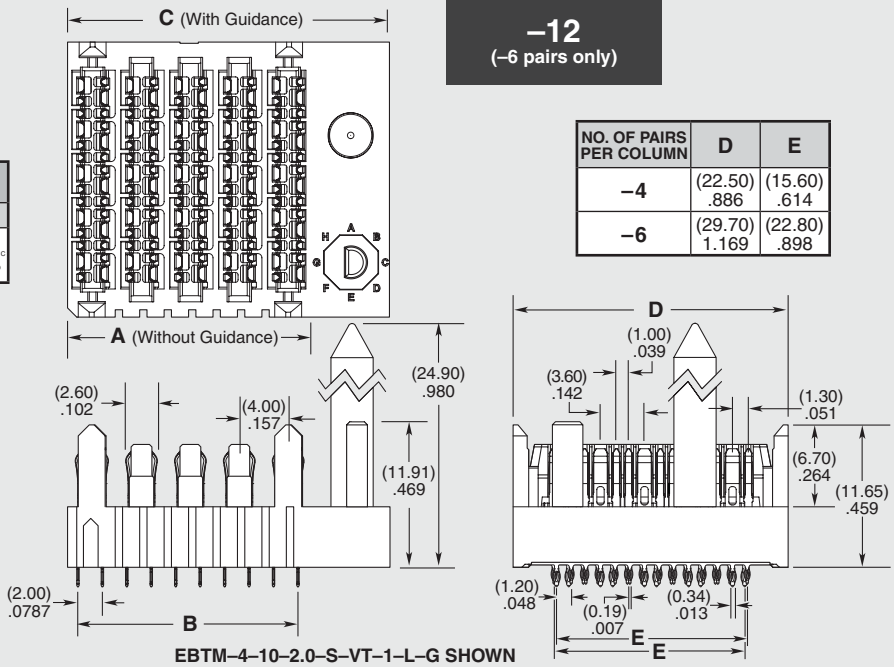




EBTM	NO. OF PAIRS PER COLUMN	COLUMNS	COLUMN PITCH
	–4 = 4 Pairs –6 = 6 Pairs	–06 –08 –10 –12 (–6 pairs only)	–2.0 = (2.0 mm) .0787"

GUIDANCE (EBTM-VT)	KEYING							
	–A	–B	–C	–D	–E	–F	–G	–H
–L /–R								

COLUMNS	A	B	C
–06	(11.90) .469	(10.00) .394	(18.35) .722
–08	(15.90) .626	(14.00) .551	(22.35) .880
–10	(19.90) .783	(18.00) .709	(26.35) 1.037
–12	(23.90) .941	(22.00) .866	(30.35) 1.195



NO. OF PAIRS PER COLUMN	D	E
–4	(22.50) .886	(15.60) .614
–6	(29.70) 1.169	(22.80) .898

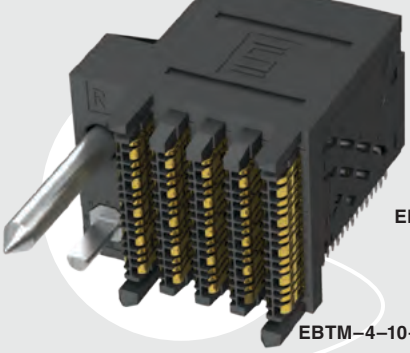
EBTM–4–10–2.0–S–VT–1–L–G SHOWN

Notes:
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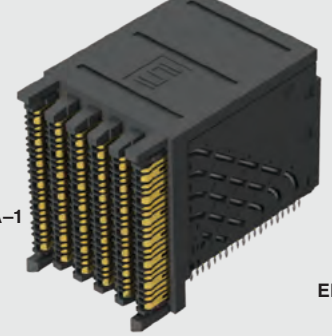
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EBTM–4–10–2.0–S–RA–1–R–A

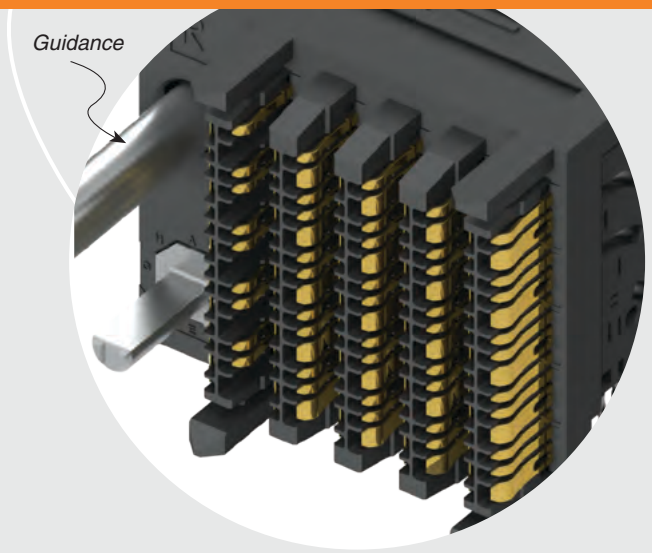


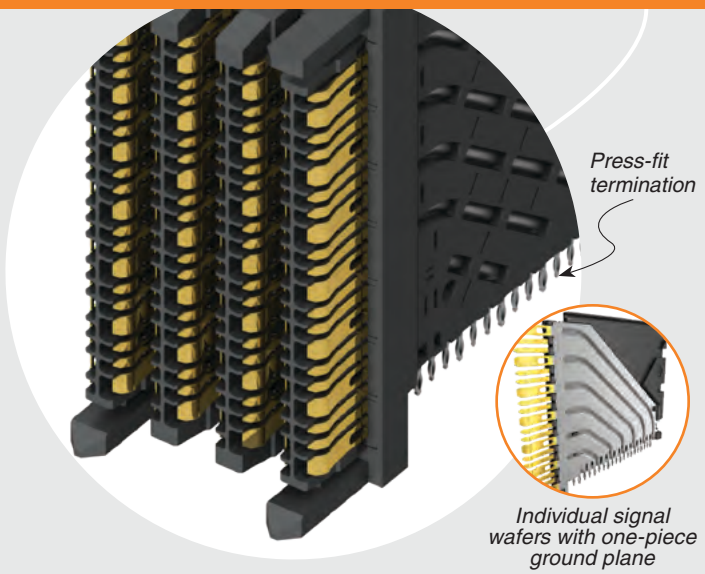
EBTM–6–12–2.0–S–RA–1



EBTM–6–08–2.0–S–RA–1

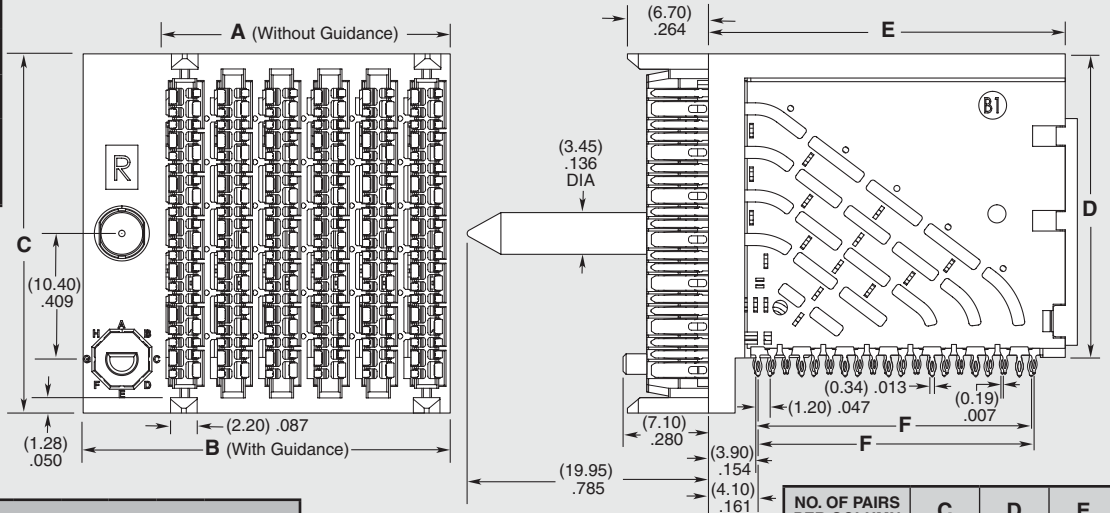
EBTM-VT, EBTM-RA SERIES





PLATING	ORIENTATION	1	GUIDANCE	KEYING
–S = 30 µ" (0.76 µm) Gold on contact area, Matte Tin on tail	**–VT** = Vertical **–RA** = Right-angle		(Leave Blank for no Guidance) **–L** = Left Guidance **–R** = Right Guidance	(Only available with –L or –R guidance) (Leave Blank for no keying) **–A thru –H** = Position of flat on Key (See table for Key)

COLUMNS	A	B
–06	(11.90) .469	(18.35) .722
–08	(15.90) .626	(22.35) .880
–10	(19.90) .783	(26.35) 1.037
–12	(23.90) .941	(30.35) 1.195



EBTM–6–12–2.0–S–RA–1–R–A SHOWN

GUIDANCE (EBTM-RA)	KEYING							
	–A	–B	–C	–D	–E	–F	–G	–H
–R /–L								

NO. OF PAIRS PER COLUMN	C	D	E	F
–4	(22.50) .886	(17.90) .705	(23.30) .917	(15.60) .614
–6	(29.70) 1.169	(25.10) .988	(30.50) 1.201	(22.80) .898

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ExaMAX®

(2.00 mm) .0787"



EBTF–6–08–2.0–S–RA–1–L–A



EBTF–4–08–2.0–S–RA–1

ExaMAX® BACKPLANE SYSTEM

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?EBTF-RA

Insulator Material:
Liquid Crystal Polymer
Contact Material:
Copper Alloy
Plating:
Sn or Au over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +85 °C
Current Rating:
4.2 A per pin
(1 pin powered)
Contact Wipe:
2.4 mm
RoHS Compliant:
Yes

Mates with:
EBTM, EBDM

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

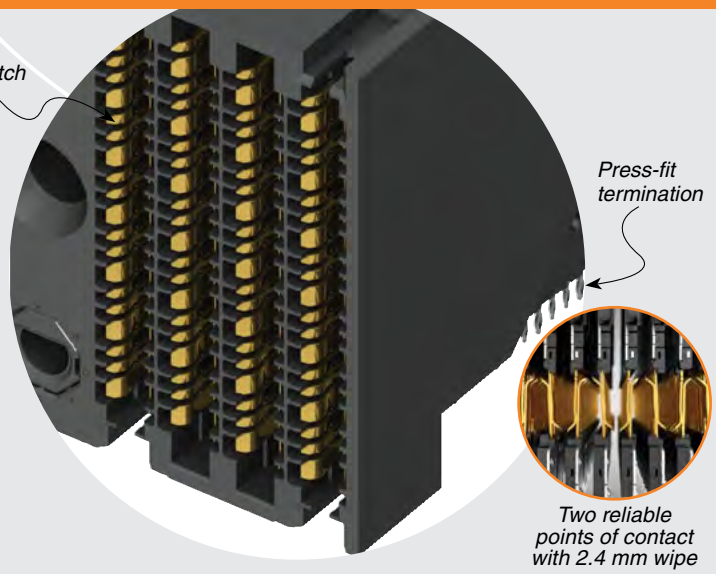
FILE NO. E111594

ALSO AVAILABLE
(MOQ Required)

- Staging

TOOLING

- For press-fit extraction and insertion tool options, visit www.samtec.com/tooling

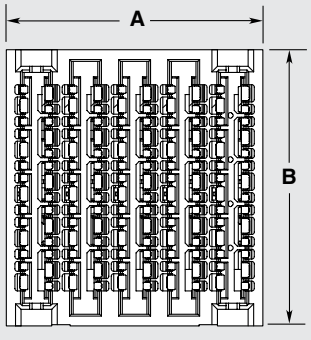


PAM4
56
Gbps

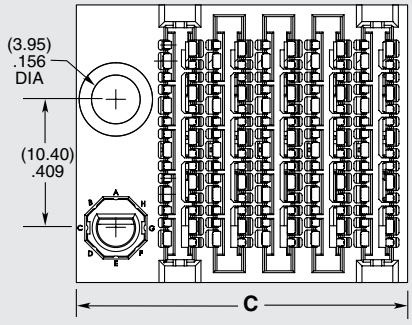
EBTF	NO. OF PAIRS PER COLUMN	COLUMNS	COLUMN PITCH
	–4 = 4 Pairs –6 = 6 Pairs	–06 –08 –10 –12 (–6 only)	–2.0 = (2.0 mm) .0787"

NO. OF PAIRS PER COLUMN	B
–4	(22.50) .886
–6	(29.70) 1.169

COLUMNS	A	C
–06	(12.90) .508	(18.85) .742
–08	(16.90) .665	(22.85) .900
–10	(20.90) .823	(26.85) 1.057
–12	(24.90) .980	(30.85) 1.215



NO GUIDANCE SHOWN



WITH GUIDANCE SHOWN

Notes:
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EBTF–6–6–2.0–S–RA–1–L

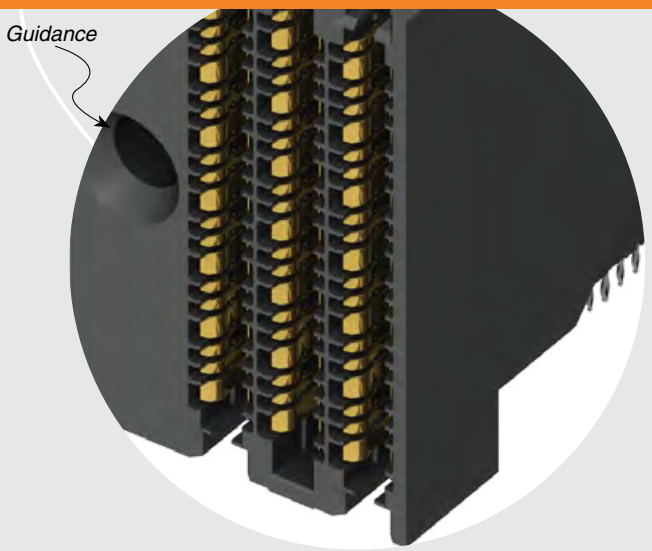


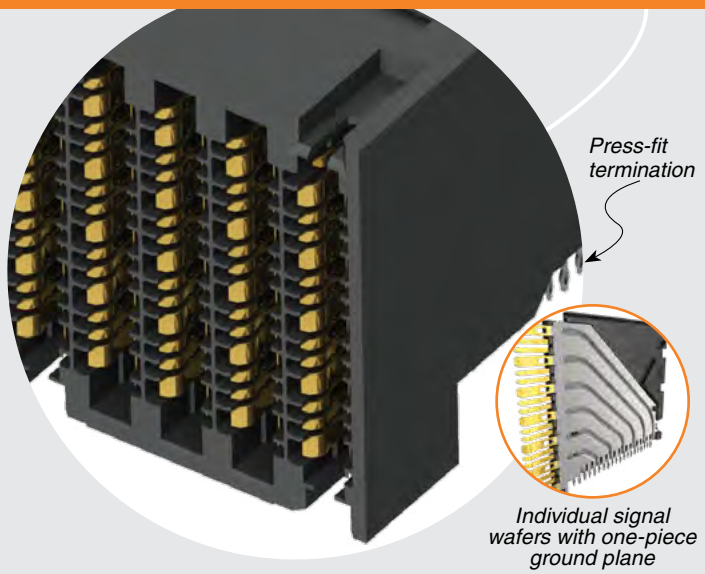
EBTF–6–12–2.0–S–RA–1



EBTF–4–10–2.0–S–RA–1

EBTF-RA SERIES





Individual signal wafers with one-piece ground plane

PLATING	RA	1	GUIDANCE	KEYING

–S
= 30 µ" (0.76 µm) Gold on contact area, Matte Tin on tail

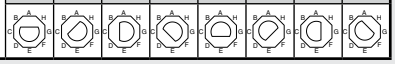
(Leave Blank for no Guidance)

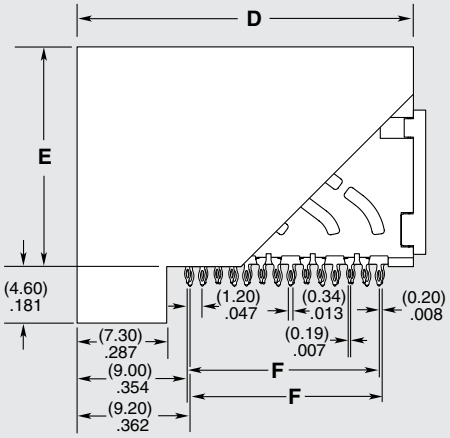
–L
= Left Guidance

–R
= Right Guidance

(Only available with –L or –R guidance)
(Leave Blank for no keying)

–A thru –H
= Position of flat on Key
(See table for Key)

GUIDANCE	KEYING							
	–A	–B	–C	–D	–E	–F	–G	–H
–R /–L								



EBTF–4–10–2.0–S–RA–1–L–A SHOWN

APPLICATION



NO. OF PAIRS PER COLUMN	D	E	F
–4	(28.40) 1.118	(17.90) .705	(15.60) .614
–6	(35.60) 1.402	(25.10) .988	(22.80) .898

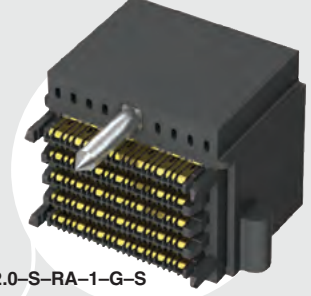
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ExaMAX®



EBDM–6–12–2.0–S–RA–1–G



EBDM–6–10–2.0–S–RA–1–G–S

(2.00 mm) .0787"

EBDM-RA SERIES

ExaMAX® DIRECT-MATE ORTHOGONAL

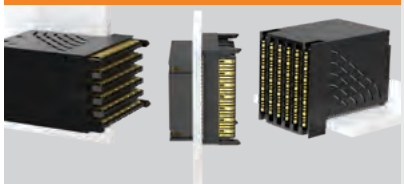
SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?EBDM-RA

Insulator Material:
Liquid Crystal Polymer
Contact Material:
Copper Alloy
Plating:
Sn or Au over
50 µ" (1.27 µm) Ni
Shield:
Copper Alloy
Operating Temp Range:
Testing Now!
Current Rating:
Testing Now!
RoHS Compliant:
Yes

Mates with:
EBTF-RA

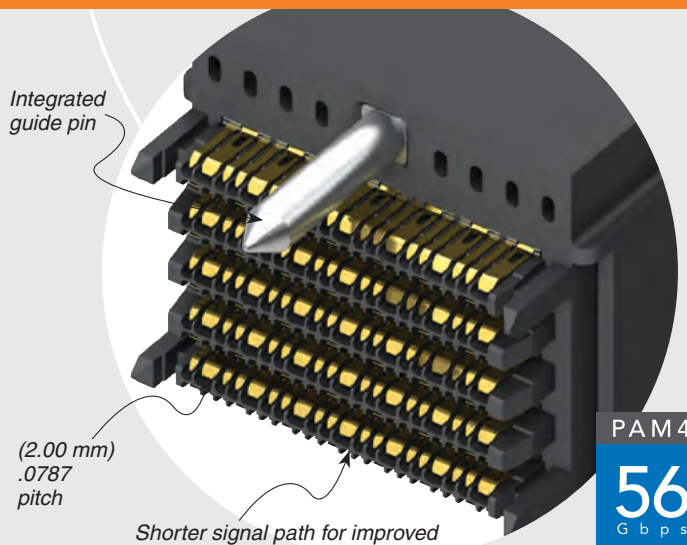
APPLICATION



Traditional Midplane



Direct-Mate Orthogonal
Improves airflow and requires fewer connectors by eliminating the midplane



PAM4
56
Gbps

IN DESIGN

- 6 and 8 columns

EBDM – PAIRS – COLUMN – 2.0 – PLATING – RA – 1 – GUIDE – MOUNT

–6
= 6 Pairs

–10
= Ten Columns

–12
= Twelve Columns

–S
= 30 µ" (0.76 µm) Gold in contact area, Matte Tin on tail

Leave blank for no guide pin

–G
= Guide Pin

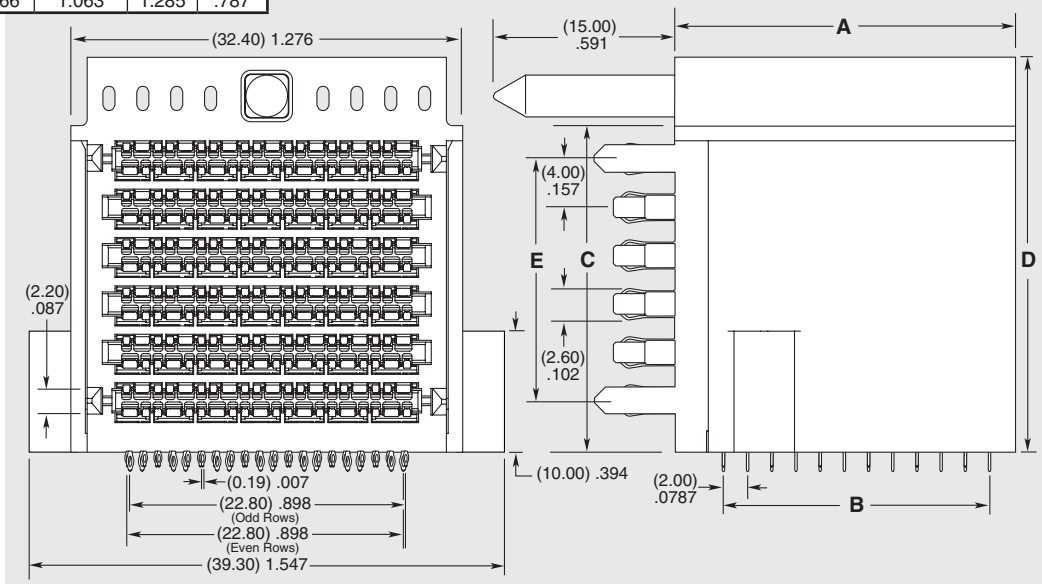
Leave blank for no screw mount

–S
= Screw Mount

COLUMNS	A	B	C (without –G)	D (with –G)	E
–10	(24.15) .951	(18.00) .709	(23.00) .906	(28.65) 1.128	(16.00) .630
–12	(28.15) 1.108	(22.00) .866	(27.00) 1.063	(32.65) 1.285	(20.00) .787

TOOLING

- For press-fit extraction and insertion tool options, visit www.samtec.com/tooling



Notes:
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ExaMAX®



EPTS–2–P–D–VT–01

EPTS–2–P–D–RA–04





EPTT–2–P–11.5–D–RA

(2.00 mm) .0787"

EPTT, EPTS SERIES

ExaMAX® POWER MODULES

Mates with:
EPTS

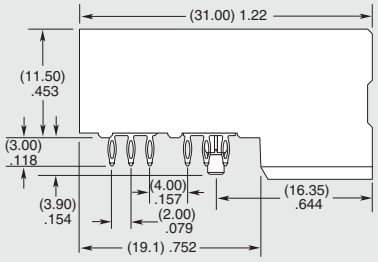
SPECIFICATIONS

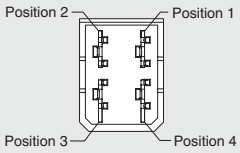
For complete specifications see www.samtec.com?EPTT

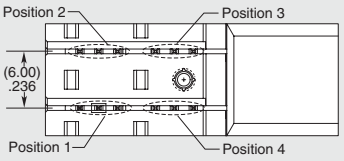
Insulator Material:
Black LCP
Contact Material:
Copper Alloy
Current Rating:
14.8 A per pin
(2 pins powered)

Note:
Some sizes, styles and options are non-standard, non-returnable.

EPTT	–	POSITIONS PER ROW	–	PLATING OPTION	–	HEIGHT	–	D	–	RA
		–2 = 4 Positions		–P = Palladium with flash Gold on contacts, Matte Tin on tails		–11.5 = (11.50 mm) .453" Height				







APPLICATION



Mates with:
EPTT

SPECIFICATIONS

For complete specifications see www.samtec.com?EPTS

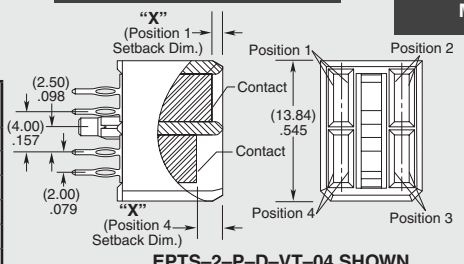
Insulator Material:
Vectra E130i
Terminal Material:
Phosphor Bronze
Current Rating:
14.8 A per pin
(2 pins powered)

PIN STAGING	LENGTH CALLOUT ("X" = SETBACK DIM.)			
	POS. 1	POS. 2	POS. 3	POS. 4
–01	1.10	1.10	1.10	1.10
–02	1.10	1.10	2.60	2.60
–03	1.10	2.60	2.60	1.10
–04	1.10	2.60	2.60	2.60
–05	2.60	2.60	2.60	1.10
–06	2.60	2.60	2.60	2.60

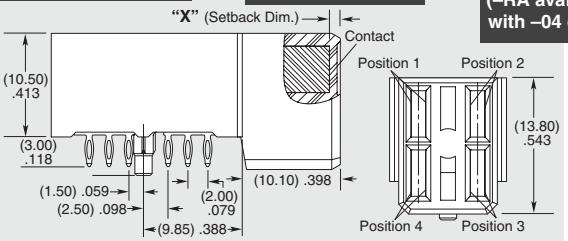
Notes:
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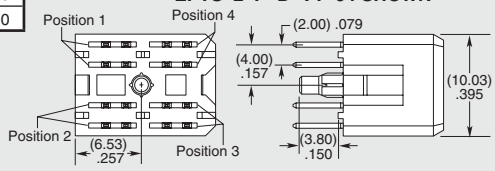
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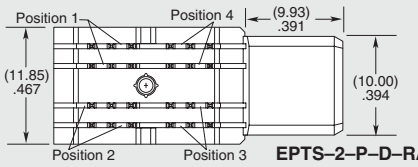
EPTS	–	POSITIONS PER ROW	–	PLATING OPTION	–	D	–	ORIENTATION	–	PIN STAGING
		–2 = 4 Positions		–P = Palladium with flash Gold on contacts, Matte Tin on tails				–VT = Vertical –RA = Right-angle		–01 thru –06 (See chart) (–RA available with –04 only)



EPTS–2–P–D–VT–04 SHOWN







EPTS–2–P–D–RA–04 SHOWN

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ExaMAX®


EGBM–RA–20


EGBM–VT–1–25.3–20


EGBF–RA–20

EGBM, EGBF SERIES

ExaMAX® GUIDE MODULES

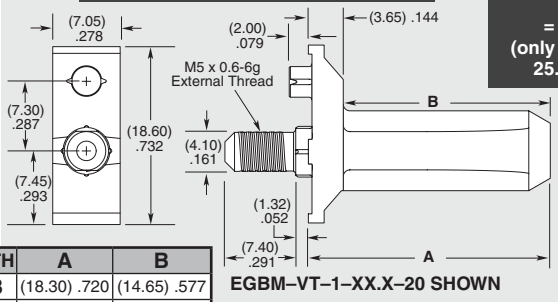
Mates with:
EGBF

SPECIFICATIONS

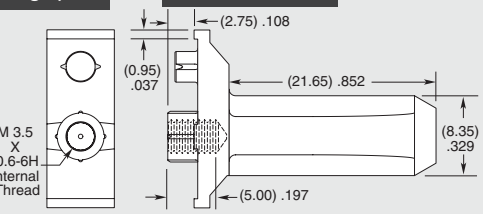
For complete specifications see www.samtec.com?EGBM

Insulator Material:
Zinc Alloy
RoHS Compliant:
Yes
Lead–Free Solderable:
Yes

EGBM	–	ORIENTATION	–	THREADING	–	LENGTH	–	CARD SPACING
		–VT = Vertical –RA = Right-angle		(Leave Blank –RA) –1 = External –2 = Internal (only available in 25.3 length)		(Leave Blank –RA) –18.3 = 18.30 mm .720" –25.3 = 25.30 mm .996"		–20 = 20 mm .787"



EGBM–VT–1–XX.X–20 SHOWN



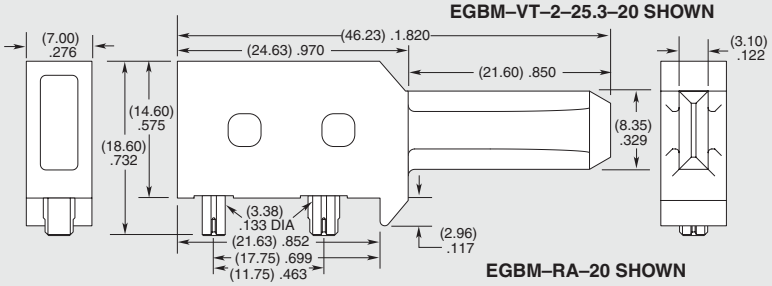
EGBM–VT–2–25.3–20 SHOWN

Note:
Some sizes, styles and options are non-standard, non-returnable.

LENGTH	A	B
–18.3	(18.30) .720	(14.65) .577
–25.3	(25.30) .996	(21.65) .852

APPLICATION





EGBM–RA–20 SHOWN

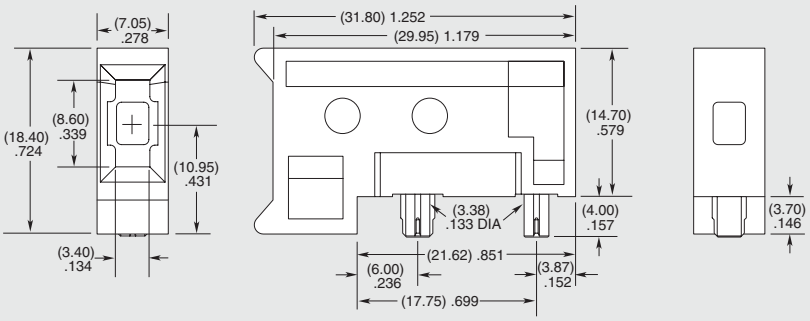
Mates with:
EGBM

SPECIFICATIONS

For complete specifications see www.samtec.com?EGBF

Insulator Material:
Zinc Alloy
RoHS Compliant:
Yes
Lead–Free Solderable:
Yes

EGBF	–	ORIENTATION	–	CARD SPACING
		–RA = Right-angle		–20 = 20 mm .787"



Notes:
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ExaMAX® is a registered trademark of AFCI.

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HIGH-SPEED CABLE ASSEMBLIES

FLYOVER™ SYSTEMS

AcceleRate® Slim Body Cable System (ARC6, ARF6) 158-159

NovaRay™ Extreme Density and Performance System (NVAC, NVAM-C) 160-161

ExaMAX® Cable System (EBCM, EBCF, EBCB, EBCL) 162-165

Flyover™ QSFP28 Cable Systems
(FQSFP, QSFPC, HS-QSFP, LP-FQSFP, FQSFP-DD, QSFPC-DD, HS-QSFP-DD) 166-169

Direct Connect™ Press-Fit Cable (DCH) 173

FIREFLY™

FireFly™ Micro Flyover™ Copper Cable (ECUE) 170

PCIe® Over FireFly™ Micro Flyover™ Cable (PCUE) 171

FireFly™ Socket System (UEC5, UCC8) 172

COAX & TWINAX SYSTEMS

Edge Card Cables (ECDP, FEDP, FCDP) 174-176

Twinax Cables (HQDP, EQDP, ERDP) 177-178

Razor Beam™ Hermaphroditic Coax Cable (HLCD) 179

Coax Cables (HQCD, EQCD, EQRD, ERCD) 180-183

SEARAY™ Cable & Jumpers (ESCA, SEAC) 184-185

PCI Express® System (PCIEC) 186

Cost-Effective Cable System (FCF8, FCS8) 187

Bulls Eye® RF Test Systems 188

APPLICATIONS

Flyovers™ 22-25

High-Speed Cable-to-Board Systems 28-29

ULTRA LOW SKEW CABLE TWINAX

Samtec's Eye Speed® co–extruded twinax cable technology eliminates the performance limitations and inconsistencies of individually extruded dielectric twinax cabling, improving signal integrity, bandwidth and reach for high–performance system architectures.

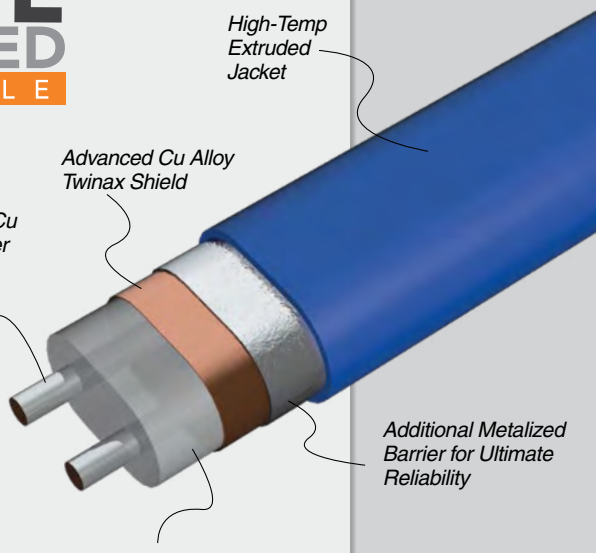
Ultra Low Skew Twinax

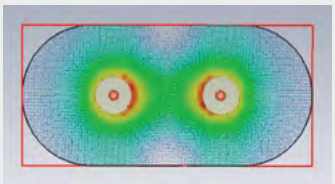
- Tight coupling between signal conductors
- Improved bandwidth and reach
- Improved signal integrity and eye pattern opening
- Low skew over extended lengths
- Supports Samtec's flyover technology

Micro Cellular Dielectric Extrusion

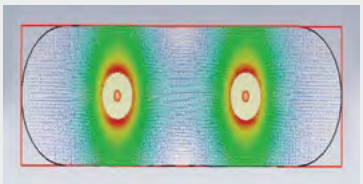
- Critical dimensions measured at every dielectric spool
- Inline laser and CAPAC devices for capacitance monitoring and diameter control
- In–process stats summary sheet for Cpk acceptance

EYE® SPEED CABLE





✔ Good design coupling with **co–extruded** low skew twinax



✖ Bad design coupling with paralleled pair twinax

NOMINAL PERFORMANCE SPECIFICATIONS

			28 AWG	30 AWG	32 AWG	34 AWG	36 AWG
Eye Speed® Ultra-Low Skew Twinax Cable							
14 GHz (28 Gbps)	**0.25 m**	**IL (dB)**	-1.0	-1.2	-1.5	-1.8	-2.2
	1.00 m		-3.9	-4.7	-5.9	-7.2	-8.7
28 GHz (56 Gbps)	**0.25 m**		-1.5	-1.8	-2.2	-2.6	-3.2
	1.00 m		-6.0	-7.0	-8.7	-10.6	-12.7
Density / Flexibility			Good	Good	Better	Best	Best

Eye Speed® Ultra Low Skew Twinax Cable is available in engineered impedance configurations of 85 Ω, 92 Ω and 100 Ω.

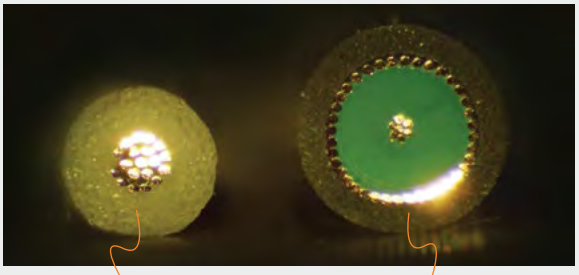
MICRO COAX CABLE

Samtec's foamed dielectric cable technology reduces dielectric constant and overall cable size for higher speeds and higher densities at lower costs.

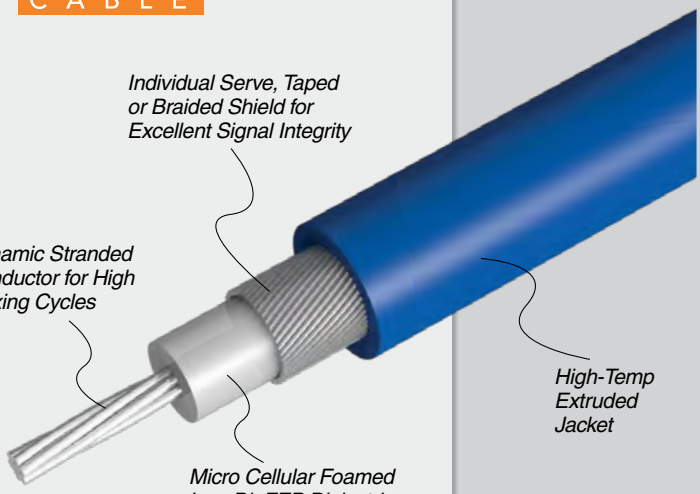
Micro Coax Cable

- Foaming introduces air voids for signal to travel faster
- Solid extrusion of foamed dielectric provides a constant and more durable construction
- Lighter weight and smaller size with higher bandwidth capabilities at longer lengths
- Incredible flexibility with mix and match end options to create application specific solutions
- 26 – 38 AWG cable available
- Choice of signal conductor, shield and FEP dielectric to meet performance and cost specifications

EYE® SPEED CABLE



Samtec's Foamed Dielectric vs. Traditional Solid Dielectric



NOMINAL PERFORMANCE SPECIFICATIONS

			30 AWG	32 AWG	34 AWG	36 AWG	38 AWG
Eye Speed® Micro Coax Cable							
5 GHz (10 Gbps)	**0.25 m**	**IL (dB)**	-0.9	-1.0	-1.3	-2.2	-2.6
	1.00 m		-3.4	-3.3	-6.0	-6.9	-8.5
10 GHz (20 Gbps)	**0.25 m**		-1.4	-1.6	-2.2	-3.5	-4.0
	1.00 m		-5.1	-5.5	-9.0	-10.7	-12.7
Density / Flexibility			Good	Better	Better	Best	Best

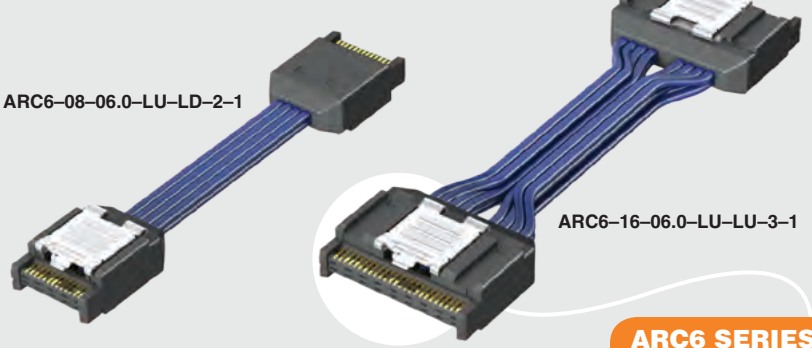
Eye Speed® Micro Coax Cable is available in engineered impedance configurations of 50 Ω and 75 Ω.

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samtec

ACCELERATE®



(0.635 mm) .025"

ARC6 SERIES

SLIM BODY CABLE

SPECIFICATIONS

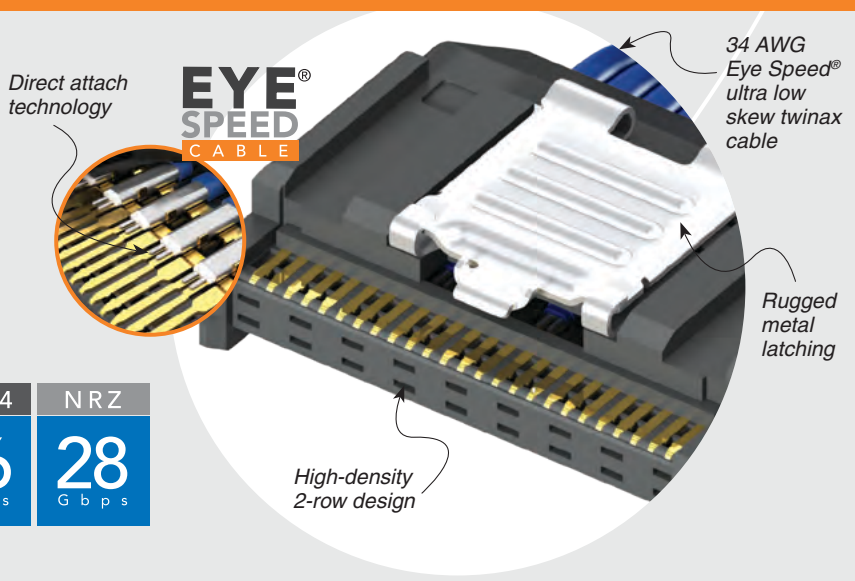
For complete specifications and recommended PCB layouts see www.samtec.com?ARC6

Cable:
34 AWG Eye Speed® ultra low skew twinax cable
Signal Routing:
100 Ω Differential
Insulator Material:
LCP
Terminal Material:
Copper Alloy
Cable Insulator:
THV
Operating Temp Range:
-40 °C to +125 °C
RoHS Compliant:
Yes

Mates with:
ARF6

PROCESSING

Lead–Free Solderable:
Yes



PAM4 56 Gbps

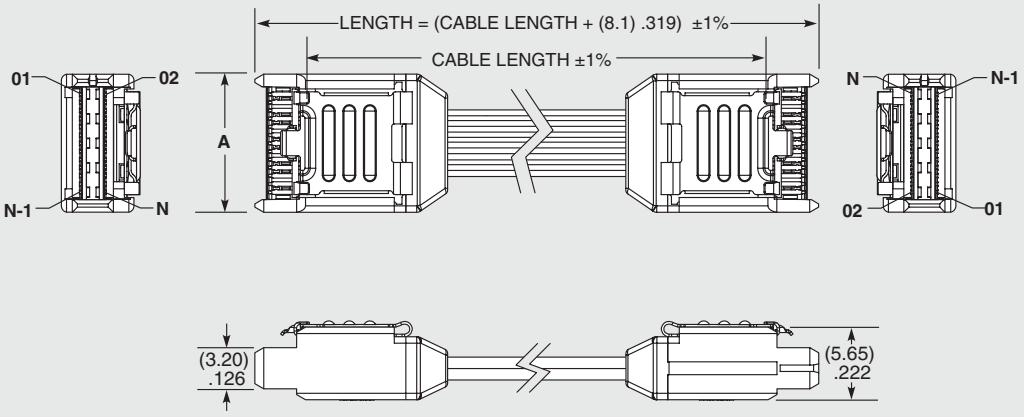
NRZ 28 Gbps

APPLICATION



ARC6	– NO. OF PAIRS	– CABLE LENGTH	– END 1	– END 2	– WIRING OPTION	– CABLE TYPE
	–08 = 8 Pairs –16 = 16 Pairs	–"XX.X" = Length in Inches 06.0" (152.4 mm) minimum	–LU = Latch Up	–LU = Latch Up –LD = Latch Down	–2 = Pin 1 to Pin 2 (End 2 -LD option only) –3 = Pin 1 to Pin N-1 (End 2 -LU option only)	–1 = 34 AWG 100 Ω Eye Speed®

NO. OF PAIRS	A	N	N-1
–08	(10.75) .423	26	25
–16	(18.37) .723	50	49



ARC6–08–XX.X-LU–LU–3–1 SHOWN

Notes:
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ACCELERATE®



ARF6–16–L–D–A



ARF6–08–L–D–A

(0.635 mm) .025"

ARF6 SERIES

RUGGED SLIM BODY SOCKET

SPECIFICATIONS

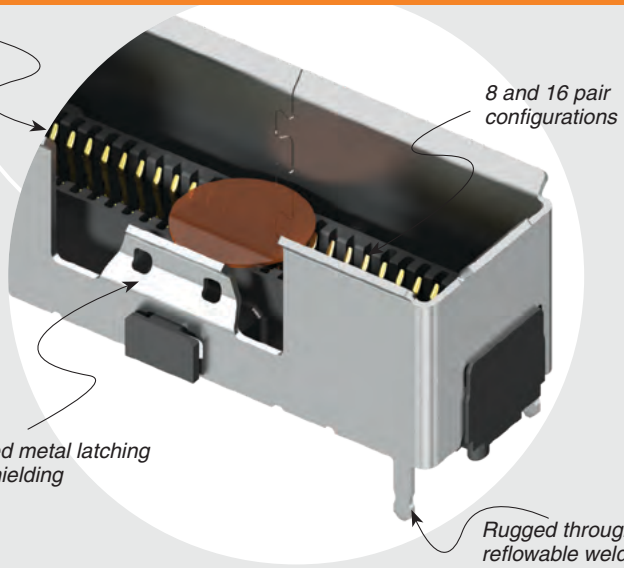
For complete specifications see www.samtec.com?ARF6

Insulator Material:
LCP, Black
Contact Material:
Copper Alloy
Terminal Material:
Copper Alloy
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-40 °C to +125 °C
Shield Material:
Phosphor Bronze

Mates with:
ARC6

PAM4 56 Gbps

NRZ 28 Gbps



APPLICATION

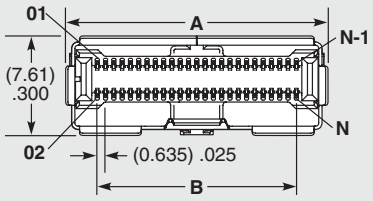


IN DEVELOPMENT

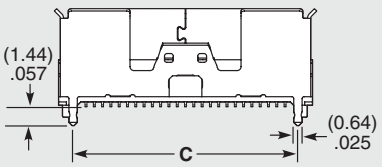


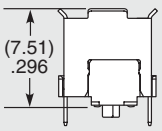
Right-angle

ARF6	–	NO. OF PAIRS	–	PLATING	–	ROW	–	OPTION
		–08 = 8 Pairs –16 = 16 Pairs		–L = 10 µ" (0.25 µm) Gold on contact area, Matte Tin on tail		–D = Double Row		–A = Alignment Pin



NO. OF PAIRS	A	B	C	N	N-1
–08	(12.46) .491	(7.62) .300	(9.59) .378	26	25
–16	(20.08) .791	(15.24) .600	(17.21) .678	50	49





ARF6–16–L–D–A SHOWN

Notes:
Tape & Reel packaging and K-Dot are standard.

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samtec

NOVARAY™



(0.80 mm) .0315" X (1.80 mm) .071"

NVAC SERIES

EXTREME DENSITY & PERFORMANCE

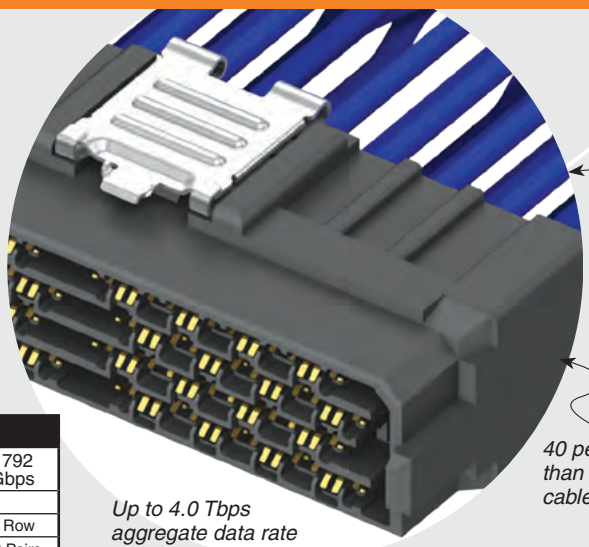
SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?NVAC

Cable:
34 AWG ultra low skew twinax cable
System Impedance:
Designed to work in both 85 Ω and 100 Ω systems
Plating:
Au or Sn over 50 µ" (1.27 µm) Ni
Current Rating:
Testing Now!
RoHS Compliant:
Yes
Lead-Free Solderable:
Yes

Mates with:
NVAM-C

NRZ	PAM4
56 Gbps	112 Gbps



EYE® SPEED CABLE

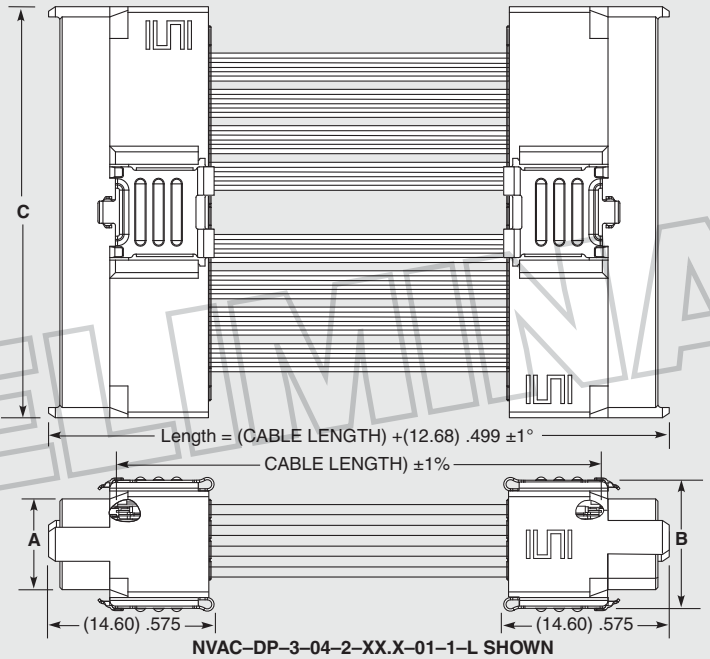
34 AWG Eye Speed® ultra low skew twinax cable

40 percent smaller than conventional cable solutions

Up to 4.0 Tbps aggregate data rate (9 IEEE, 400 G channels)

AGGREGATE DATA RATE (NRZ)					
448 Gbps	672 Gbps	896 Gbps		1344 Gbps	1792 Gbps
1 Bank			2 Bank		
2 Row	3 Row	4 Row	2 Row	3 Row	4 Row
8 Pairs	12 Pairs	16 Pairs		24 Pairs	32 Pairs

NVAC	–	STYLE	–	3	–	NO. OF ROWS	–	NO. OF BANKS	–	CABLE LENGTH	–	01	–	PIN OUT	–	OPTION
		–DP = 4 pairs per wafer				–02 =2 Rows –03 = 3 Rows –04 = 4 Rows		–1 =1 Bank –2 = 2 Banks		–"XX.X" = Length in inches (152.4 mm) 06.0" minimum				–1 = Pin A01 to Pin AN		–L = Latch



NO. OF BANKS	C
–1	(20.25) .797
–2	(36.25) 1.427

ROWS	A	B
–02	(4.40) .173	(7.30) .287
–03	(6.20) .244	(9.10) .358
–04	(8.00) .315	(10.90) .429

NVAC–DP–3–04–2–XX.X–01–1–L SHOWN

Notes:
Cable lengths longer than 40.00" (1 meter) are not supported with S.I. test data.

Some lengths, styles and options are non-standard, non-returnable.

PRELIMINARY

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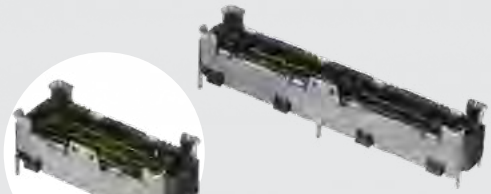
samtec

NOVARAY™

NVAM–DP–04–2–02.0–S–2–C



NVAM–DP–02–2–02.0–S–2–C



NVAM–DP–03–1–02.0–S–2–C



(0.80 mm) .0315" X (1.80 mm) .071"

NVAM-C SERIES

EXTREME DENSITY & PERFORMANCE

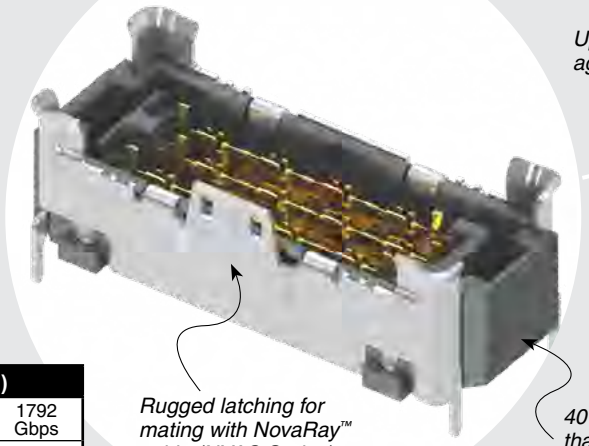
SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?NVAM-C

Insulator Material:
Black LCP
Contact Material:
Copper Alloy
Shield:
Copper Alloy
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Current Rating:
Testing Now!
RoHS Compliant:
Yes
Lead-Free Solderable:
Yes

Mates with:
NVAC

NRZ	PAM4
56 Gbps	112 Gbps



Up to 4.0 Tbps aggregate data rate

Rugged latching for mating with NovaRay™ cable (NVAC Series)

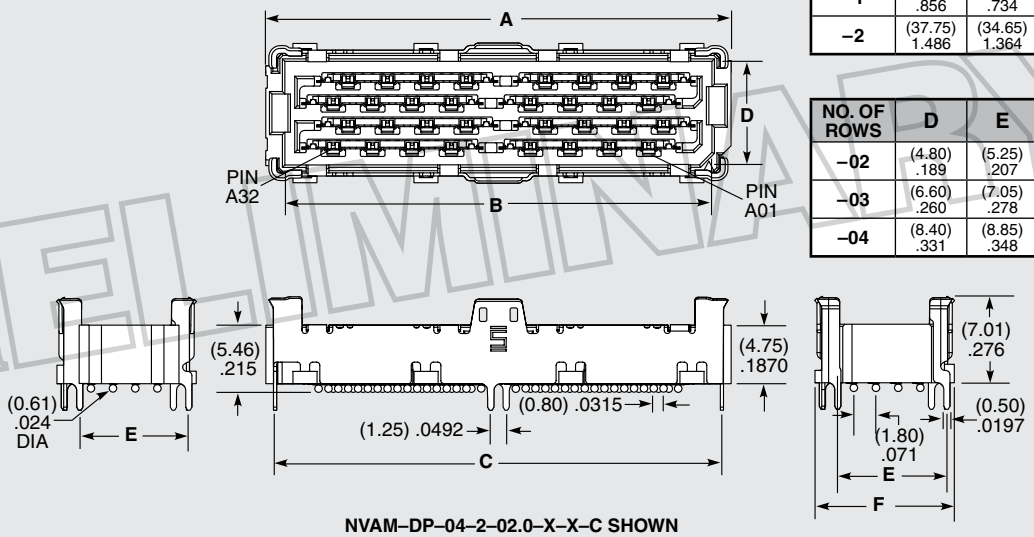
40 percent smaller than coventional cable connectors

AGGREGATE DATA RATE (NRZ)					
448 Gbps	672 Gbps	896 Gbps	1344 Gbps	1792 Gbps	
1 Bank			2 Bank		
2 Row	3 Row	4 Row	2 Row	3 Row	4 Row
8 Pairs	12 Pairs	16 Pairs	24 Pairs	32 Pairs	

NVAM	–	STYLE	–	NO. OF ROWS	–	NO. OF BANKS	–	02.0	–	PLATING OPTION	–	SOLDER TYPE	–	C
		–DP = 4 pairs per wafer		–02 = 2 Rows –03 = 3 Rows –04 = 4 Rows		–1 = 1 Bank –2 = 2 Banks				–S = 30 µ" (0.76 µm) Gold on contact area, Matte Tin on solder tail		–2 = Lead-Free Solder Charge		

NO. OF BANKS	A	B	C
–1	(21.75) .856	(18.65) .734	(20.25) .797
–2	(37.75) 1.486	(34.65) 1.364	(36.25) 1.427

NO. OF ROWS	D	E	F
–02	(4.80) .189	(5.25) .207	(7.70) .303
–03	(6.60) .260	(7.05) .278	(9.50) .374
–04	(8.40) .331	(8.85) .348	(11.30) .445



NVAM–DP–04–2–02.0–X–X–C SHOWN

Note:
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PRELIMINARY

samtec

ExaMAX®



EBCM–1–6–12–1–L–G–06–1–L–G

(2.00 mm) .0787"

ExaMAX® BACKPLANE CABLES

EBCM Mates with:
EBCF, EBTF, EBCB

EBCF Mates with:
EBCM, EBTM, EBCL

SPECIFICATIONS

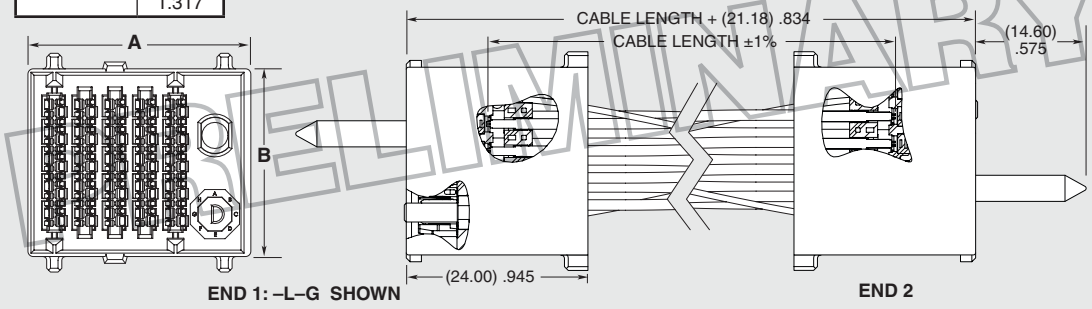
For complete specifications and recommended PCB layouts see www.samtec.com?EBCM or www.samtec.com?EBCF

Cable:
Eye Speed® 30 AWG twinax or Eye Speed® 34 AWG twinax
Signal Routing:
92 Ω Differential
Bend Radius:
(3.18 mm) .125"
RoHS Compliant:
Yes

TYPE	WIRE GAUGE	NO. OF PAIRS PER COLUMN	COLUMNS
EBCM = Cable Header	–1 = 34 AWG –2 = 30 AWG	–4 = 4 Pairs –6 = 6 Pairs	–10 (–4 only) –12 (–6 only)

COLUMNS	A
–10	(29.45) 1.159
–12	(33.45) 1.317

NO. OF PAIRS PER COLUMN	B
–4	(24.80) .976
–6	(32.00) 1.260



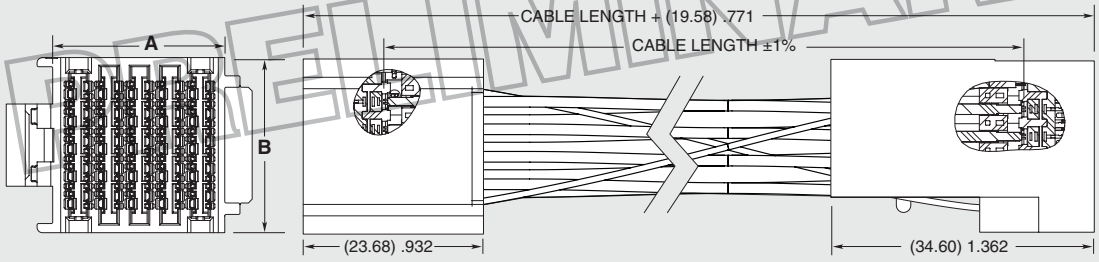
END 1: –L–G SHOWN

END 2

PRELIMINARY

TYPE	WIRE GAUGE	NO. OF PAIRS PER COLUMN	COLUMNS	END 1
EBCF = Cable Socket	–1 = 34 AWG –2 = 30 AWG	–4 = 4 Pairs –6 = 6 Pairs	–10 (–4 only) –12 (–6 only)	–V = Vertical Latch

COLUMNS	A	B
–10	(22.60) .890	(23.00) .906
–12	(26.60) 1.047	(30.20) 1.189



END 1: –V SHOWN

END 2: –R SHOWN

PRELIMINARY

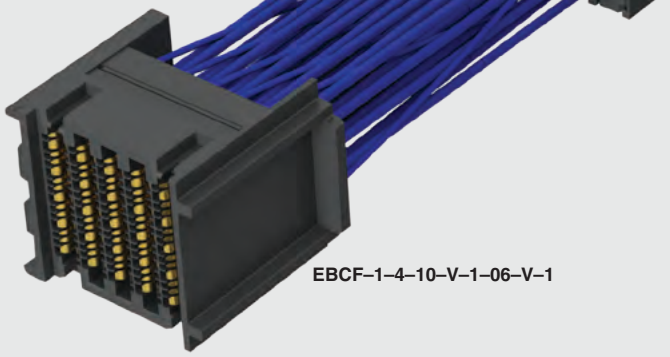
Notes:
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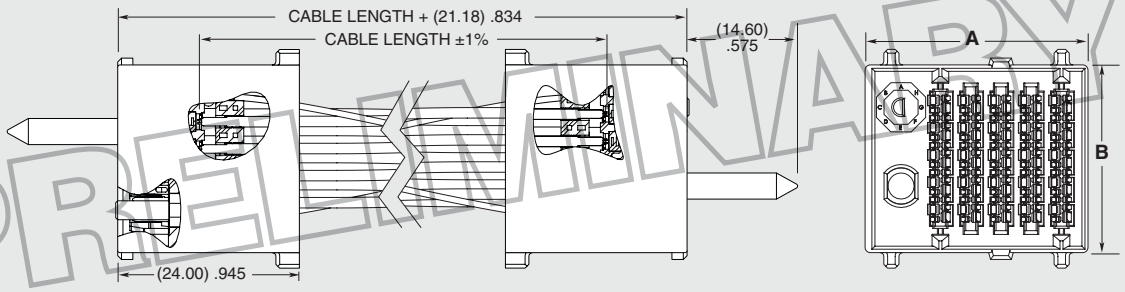


EBCF–1–4–10–V–1–06–V–1



EBCF–1–6–12–V–1–06–R–1–L–G

END 1 PIN	END 1 GUIDE	END 1 KEY	CABLE LENGTH	END 2 PIN	END 2 GUIDE	END 2 KEY
–1 = Standard	–L = Left Guidance –R = Right Guidance	–A thru –H = Position of flat on Key –N = No Key	–"XX" = Length in Inches 06" (152.4 mm) minimum	–1 = Standard	–L = Left Guidance –R = Right Guidance	–A thru –H = Position of flat on Key –N = No Key



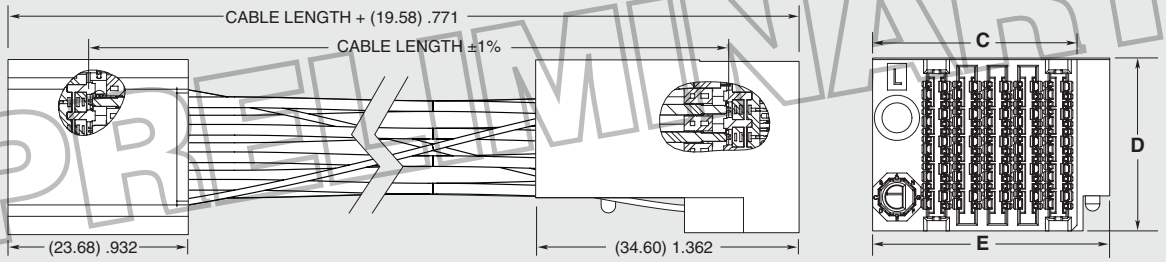
END 1

END 2: –R–G SHOWN

END 1 PIN	CABLE LENGTH	END 2 OPTION	END 2 PIN	END 2 GUIDE	END 2 KEY
–1 = Standard	–"XX" = Length in Inches 06" (152.4 mm) minimum	–V = Vertical Latch –R = Right-angle	–1 = Standard	(Leave Blank for no Guidance) (–R End option only) –L = Left Guidance –R = Right Guidance	(Leave Blank for no key) (–R End option only) –A thru –H = Position of flat on Key (See table for Key)

GUIDE	KEYING							
	–A	–B	–C	–D	–E	–F	–G	–H
–R /–L								

COLUMNS	C	D	E
–10	(26.85) 1.057	(22.70) .894	(31.15) 1.226
–12	(30.85) 1.215	(29.90) 1.177	(35.15) 1.384



END 1: –V SHOWN

END 2_ –L–G SHOWN

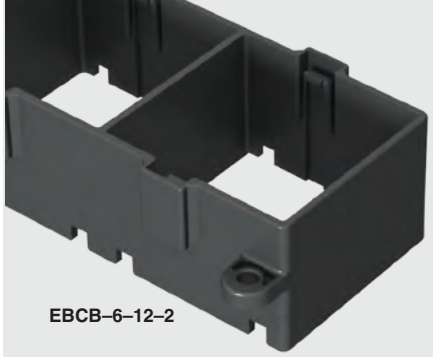
PRELIMINARY

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ExaMAX®


EBCB–6–12–2


EBCB–4–10–1

EBCB SERIES

PANEL RETENTION BRACKET

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?EBCB

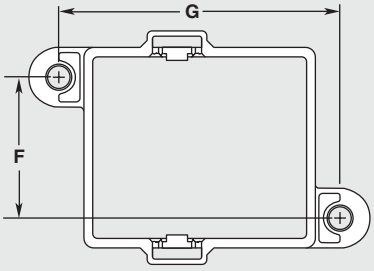
Insulator Material:
Xyron 340Z, Black
RoHS Compliant:
Yes

EBCB	NO. OF PAIRS	NO. OF COLUMNS	NO. OF BANKS	MOUNTING OPTION
	–4 = 4 Pairs –6 = 6 Pairs	–10 (–4 pairs only) –12 (–6 pairs only)	–1, –2, –4	(Leave blank for standard) –S = ASP Side lugs (–1 bank only)

APPLICATION

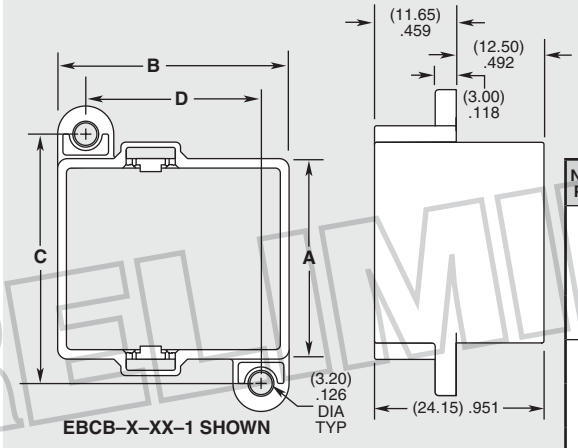


(EBCM cable assembly locks into EBCB)



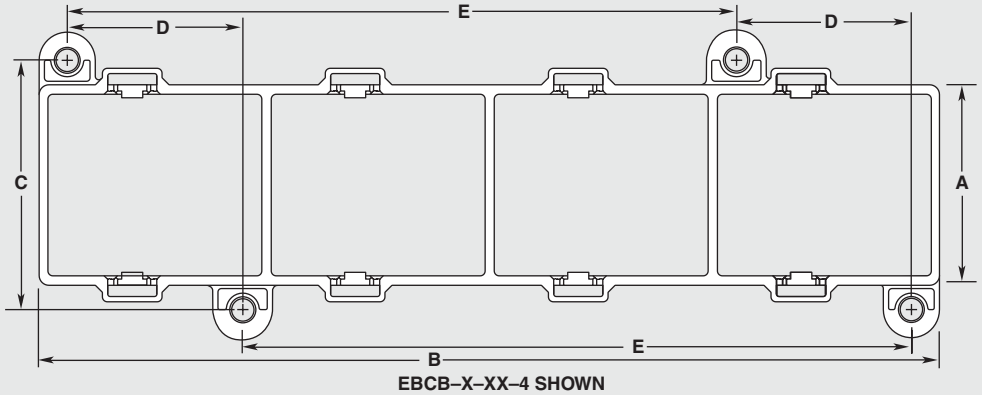
EBCB–X–XX–1–S SHOWN

NO. OF PAIRS	NO. OF COLUMNS	F	G
–4	–10	(20.00) .787	(39.95) 1.573
–6	–12	(27.20) 1.071	(43.95) 1.730



EBCB–X–XX–1 SHOWN

NO. OF PAIRS	NO. OF COLUMNS	NO. OF BANKS	A	B	C	D	E
–4	–10	–1	(28.50) 1.122	(32.95) 1.297	(35.50) 1.398	(24.95) .982	N/A
		–2		(64.65) 2.545		(56.65) 2.230	N/A
		–4		(127.75) 5.030		(24.95) .982	(88.35) 3.478
–6	–12	–1	(35.70) 1.410	(36.95) 1.455	(42.70) 1.681	(28.95) 1.140	N/A
		–2		(72.65) 2.860		(64.65) 2.545	N/A
		–4		(143.75) 5.659		(28.95) 1.140	(100.35) 3.951



EBCB–X–XX–4 SHOWN

PRELIMINARY

Notes:
ExaMAX® is a registered trademark of AFCI.

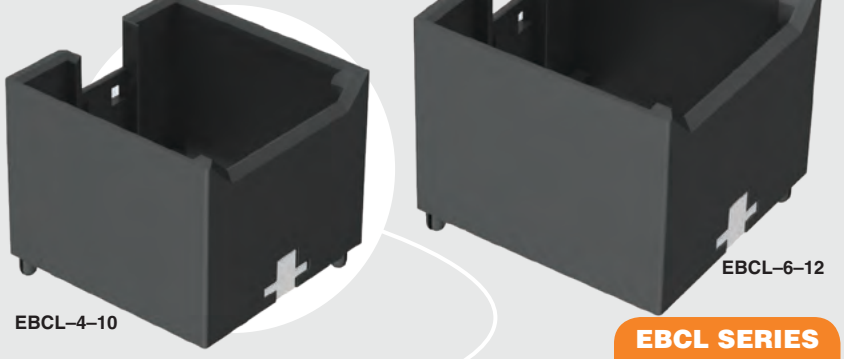
Some lengths, styles and options are non-standard, non-returnable.

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ExaMAX®



EBCL SERIES

VERTICAL LATCHING SHROUD

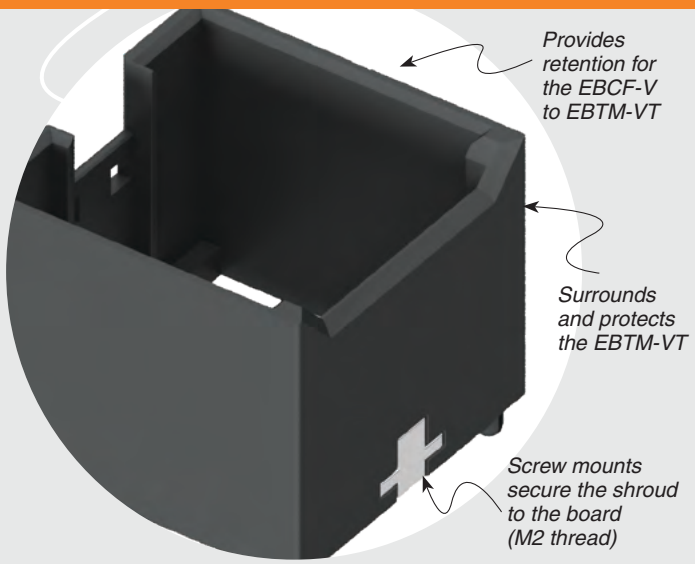
SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?EBCL

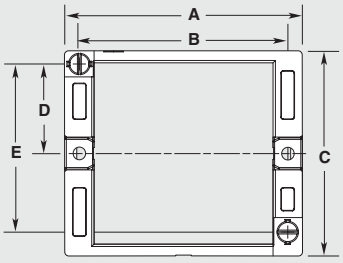
Insulator Material:
Nylon
RoHS Compliant:
Yes

APPLICATION

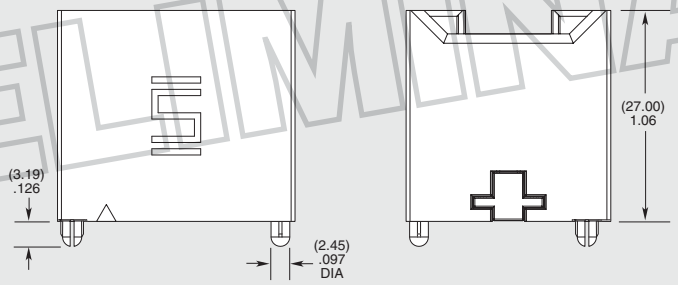




EBCL	–	NO. OF PAIRS	–	NO. OF COLUMNS
		–4 = 4 Pairs –6 = 6 Pairs		–10 (–4 pairs only) –12 (–6 pairs only)



NO. OF COLUMNS	A	B	C	D	E
–10	(30.40) 1.197	(26.66) 1.050	(26.20) 1.031	(11.45) .451	(21.50) .846
–12	(34.40) 1.354	(30.66) 1.207	(33.40) 1.315	(15.05) .593	(28.70) 1.130



EBCL–4–10 SHOWN

PRELIMINARY

Notes:
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FQSFP SERIES

FLYOVER™ QSFP28 CABLE ASSEMBLY

FEATURES

- 4 Channels (x4 Bidirectional, 8 Differential Pairs)
- 28 Gbps NRZ per channel
- Aggregate: 100 Gbps NRZ (200 Gbps PAM4)
- Compatible with all MSA QSFP pluggables
- Signal integrity is improved and extended by flying critical data over lossy PCB materials
- Reduced PCB costs due to lower layer counts and increased material options
- Heat dissipation (~3.5 W / cable) is improved through power reduction and by freeing designers to place ICs in preferred locations

SPECIFICATIONS

For complete specifications see www.samtec.com?FQSFP

Cable:
DCH: 30 AWG twinax cable
ECUE: 34 AWG twinax cable
Signal Routing:
100 Ω Differential
Operating Temp Range:
-25 °C to +105 °C
RoHS Compliant:
Yes

OTHER SOLUTIONS

- Cage, heat sinks & light pipes come separately:
  QSFPC-X-X-X-XX-F
  HS-QSFP-XX-XX-XX
  LP-FQSFP-XX

Contact FQSFP@samtec.com

TOOLING

- Press-Fit
  CAT-PT-FQSFP-01

For more information, visit www.samtec.com/tooling

Notes:
Patent Pending

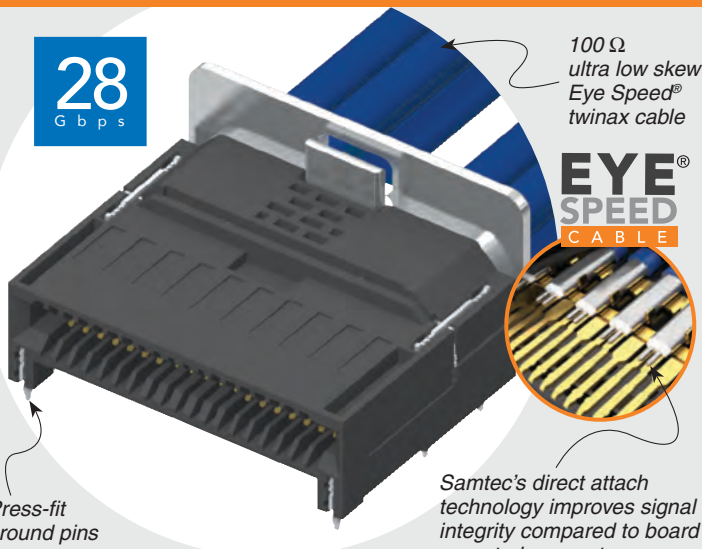
Some sizes, styles and options are non-standard, non-returnable.

APPLICATION



Press-fit tails provide low speed signals and power to the PCB

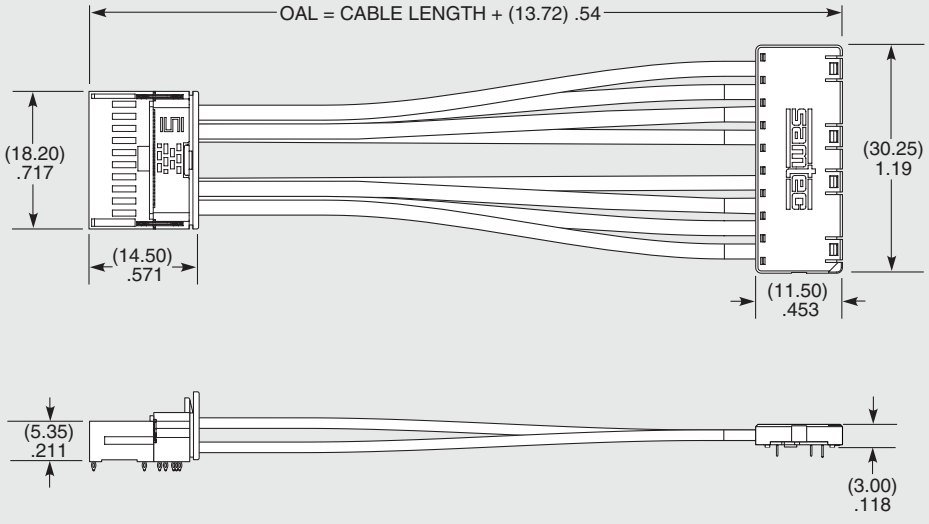
28 Gbps



IN DEVELOPMENT

- Other end options

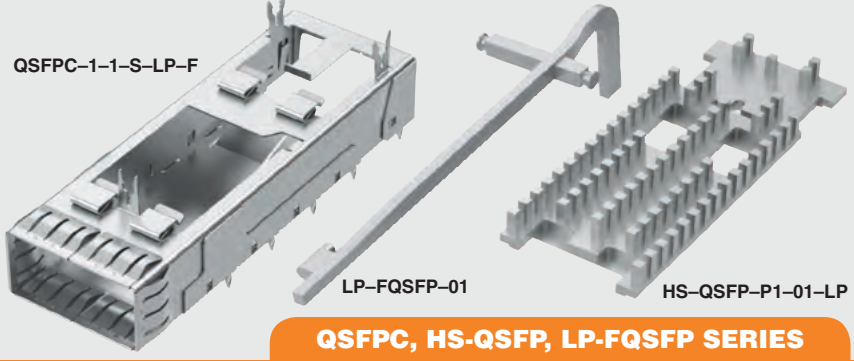
FQSFP	LEAD STYLE	CABLE LENGTH	PLATING	CONTACT TYPE	END OPTION
	–01 = 10 Low-Speed, 8 Pairs High-Speed	–"XX.X" = Length in inches (152.4 mm) 06.0" minimum	–L = 10 µ" (0.25 µm) Gold over 50 µ" (1.27 µm) Ni on contact area, Matte Tin on tail	–PF = Press-fit	–1 = DCH-PF (1 X 8 Pair) –2 = DCH-PF (2 X 4 Pair) –3 = ECUE



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QSFPC, HS-QSFP, LP-FQSFP SERIES

FQSFP CAGE, HEAT SINK & LIGHT PIPE

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?QSFPC, www.samtec.com?HS-QSFP or www.samtec.com?LP-FQSFP

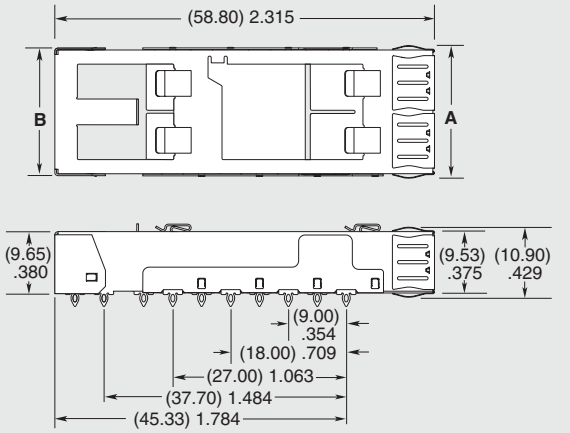
TOOLING

- Press-Fit CAT-PT-FQSFP-03

For more information, visit www.samtec.com/tooling

Note:
Some lengths, styles and options are non-standard, non-returnable.

QSFPC	CAGE OPTION	NO. OF PORTS	EMI PANEL OPTION	OPTION	FLYOVER
	–1 =Single Stack	–1 = One Port –2 = Two Ports	–S = Spring Fingers	(Leave blank for no Light Pipe) –LP = Light Pipe (1 port only) –N = No heat sink closed top (Not available with –LP)	(Leave blank for no flyover) –F = Flyover

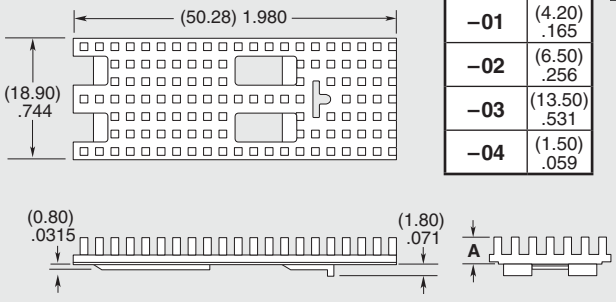


QSFPC–1–1–S–F SHOWN

NO. OF PORTS	A	B	C
–1	(20.62) .812	(19.85) .781	(19.00) .748
–2	(39.62) 1.560	(38.85) 1.530	(38.00) 1.496

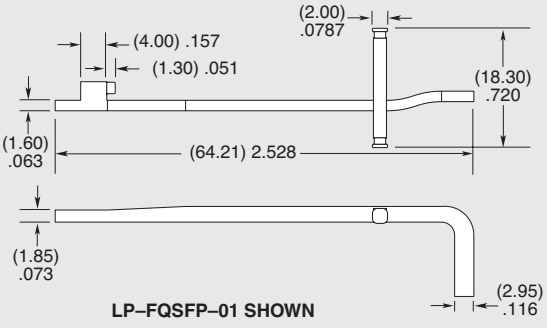
HS-QSFP	HEAT SINK STYLE	HEAT SINK HEIGHT	LIGHT PIPE
	–P1 = Pin (Aluminum)	Specify HEAT SINK HEIGHT from chart	(Leave blank for no Light Pipe) –LP = Light Pipe

HEAT SINK HEIGHT	A
–01	(4.20) .165
–02	(6.50) .256
–03	(13.50) .531
–04	(1.50) .059



HS–QSFP–P1–01 SHOWN

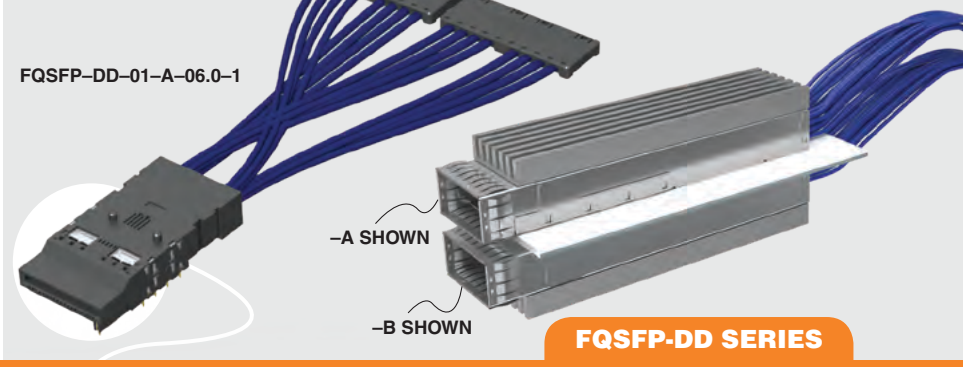
LP	FQSFP	NO. OF PORTS
		–01 = One Light Pipe –02 = Two Light Pipes –04 = Four Light Pipes



LP–FQSFP–01 SHOWN

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FQSFP-DD SERIES

FLYOVER™ QSFP28 DOUBLE DENSITY

FEATURES

- 8 Channels (x8 Bidirectional, 16 Differential Pairs)
- 28 Gbps NRZ per channel
- Compatible with MSA compliant transceivers
- Aggregate: 200 Gbps NRZ (400 Gbps PAM4)
- Heat dissipation: ~7 W / cable
- 2 rows of contact pads
- Backward compatible with QSFP modules
- Belly-to-Belly mating for maximum density
- Direct solder attach to connector contacts

SPECIFICATIONS

For complete specifications see www.samtec.com?FQSFP-DD

Cable:
30 or 34 AWG twinax cable
Signal Routing:
100 Ω Differential
Operating Temp Range:
-25 °C to +105 °C
RoHS Compliant:
Yes

OTHER SOLUTIONS

- Cage & heat sinks come separately:
  QSFPC-DD-X-X-X--F
  HS-QSFP-DD-XX-XX

Contact FQSFP@samtec.com

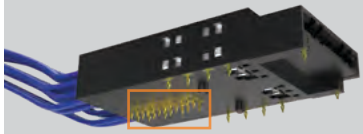
TOOLING

- Press-Fit
  CAT-PT-FQSFP-DD-01

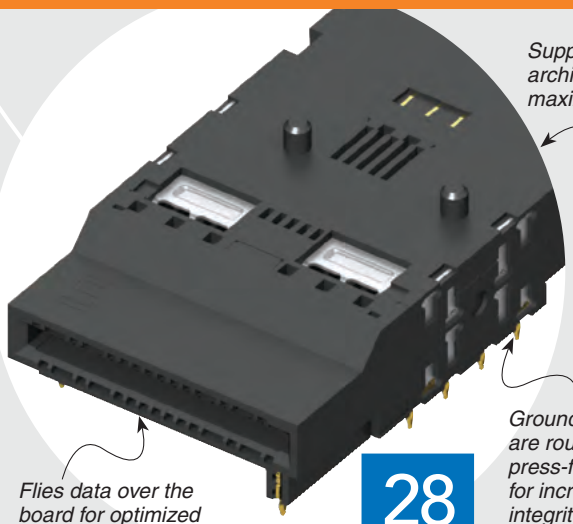
For more information, visit www.samtec.com/tooling

Note:
Some sizes, styles and options are non-standard, non-returnable.

APPLICATION



Localized Press-Fit Control & Power Contacts
Direct Connect Sidebands = Increased Airflow & No Extra Cables Needed



Supports dual port architecture for maximum density

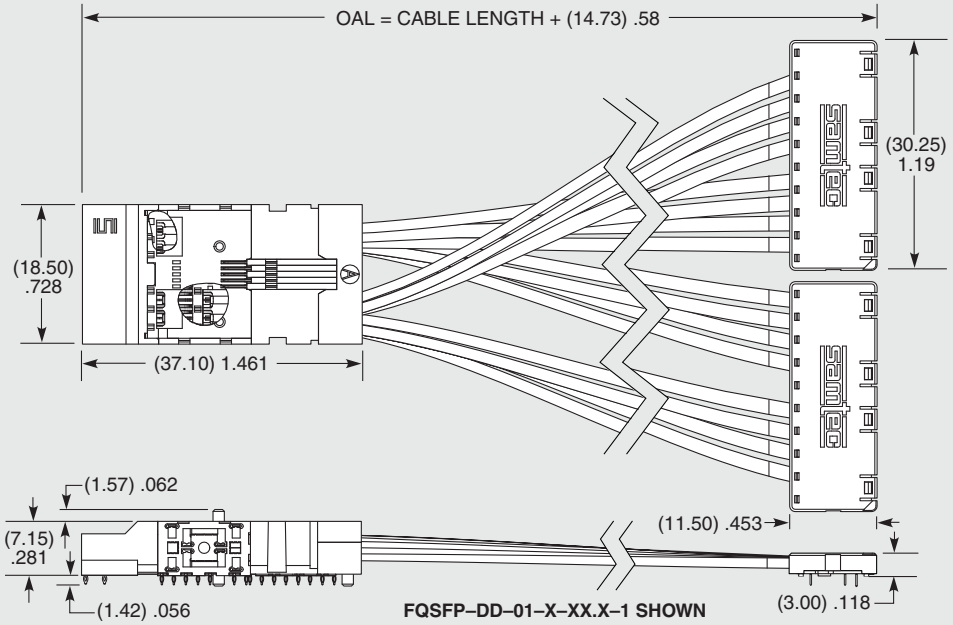
Flies data over the board for optimized signal integrity

Ground connections are routed through press-fit contacts for increased signal integrity

28 Gbps

FQSFP	DD	LEAD STYLE	FOOTPRINT	CABLE LENGTH	END 2 OPTION
		–01 = 20 Low-Speed, 16 Pairs High-Speed	–A = Primary –B = Secondary (Belly-to-Belly only)	–"XX.X" = Length in inches (152.4 mm) 06.0" minimum	–1 = DCH-08 (Quantity 2) –2* = FEDP-40 Edge Card (Quantity 1) –3 = ARC6-16

***Note:**
–2 End Option mates with FCDP Edge Card Socket

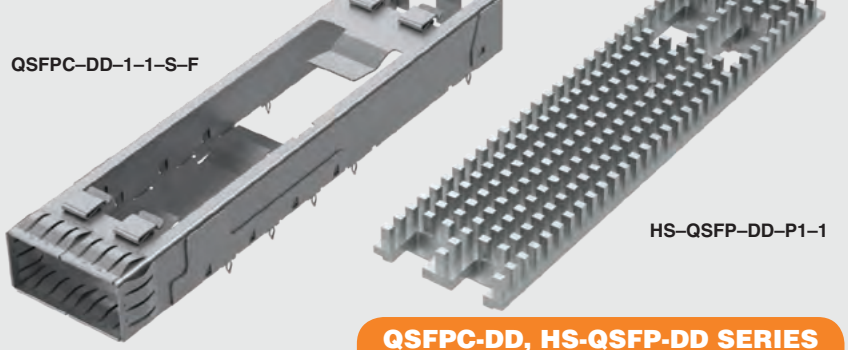


FQSFP–DD–01–X–XX.X–1 SHOWN

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QSFPC-DD, HS-QSFP-DD SERIES

CAGE & HEAT SINK FOR FQSFP-DD

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?QSFPC-DD

Cage Material:
Nickel plated copper alloy
EMI Fingers:
Stainless steel

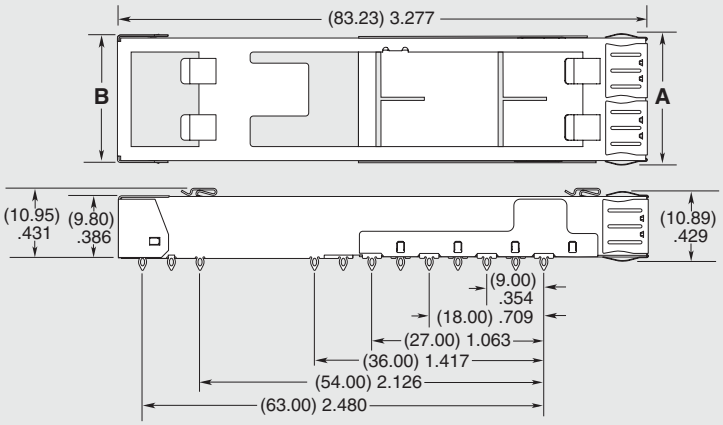
TOOLING

- Press-Fit
  CAT-PT-FQSFP-DD-02

For more information, visit www.samtec.com/tooling

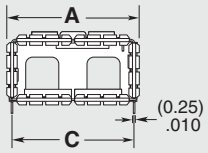
Note:
Some lengths, styles and options are non-standard, non-returnable.

QSFPC	–	DD	–	STACK	–	NO. OF PORTS	–	EMI PANEL OPTION	–	STYLE
				–1 =Single Stack		–1 = One Port –3 = Three Port		–S = Spring Fingers		–F = Flyover



QSFPC–DD–1–1–S–F SHOWN

NO OF PORFTS	A	B	C
–1	(20.62) .812	(19.86) .782	(19.00) .748
–3	(58.62) 2.308	(57.87) 2.278	(57.00) 2.244



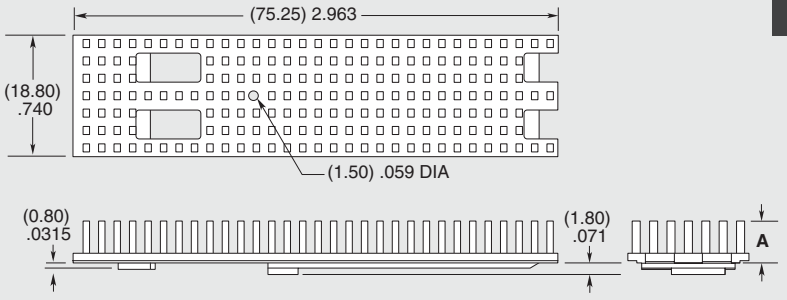
SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?HS-QSFP-DD

Plating Material:
X1: Aluminum, No plating
X2: Copper, Nickel plated

Note:
Some lengths, styles and options are non-standard, non-returnable.

HS-QSFP	–	DD	–	HEAT SINK STYLE	–	HEAT SINK HEIGHT
				–P1 = Pin (Aluminum) –P2 = Pin (Copper)		–1 = (4.20 mm) .165" height (Only available with –P1) –2 = (6.50 mm) .256" height –3 = (13.50 mm) .531" height



HS–QSFP–DD–PX–2 SHOWN

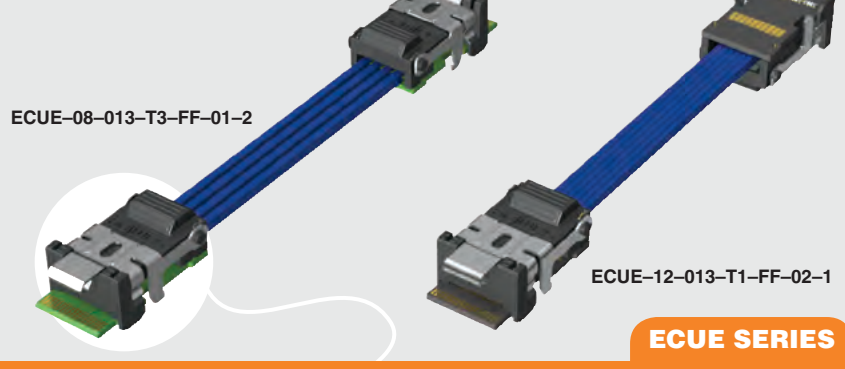
HEAT SINK HEIGHT	A
–1	(4.20) .165
–2	(6.50) .256
–3	(13.50) .531

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FIREFLY™



ECUE SERIES

LOW-PROFILE MICRO FLYOVER™ ASSEMBLY

SPECIFICATIONS

For complete specifications see www.samtec.com?ECUE

Cable:
Eye Speed® 34 AWG twinax,
Eye Speed® 34 AWG
ulta low skew twinax
or Eye Speed® 36 AWG twinax
Signal Routing:
100 Ω Differential
Bend Radius:
(3.18 mm) .125"
RoHS Compliant:
Yes

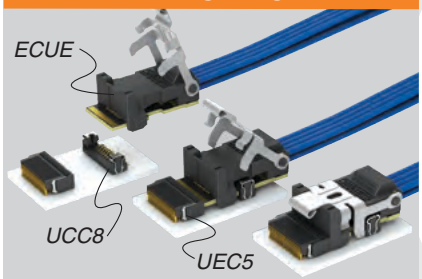
RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

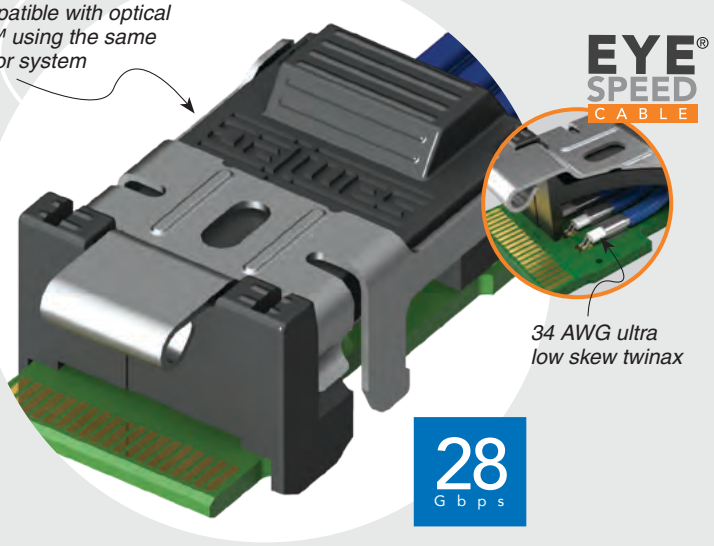
Mates with:
UEC5, UCC8

APPLICATION



The UEC5 and UCC8 connectors were designed to work specifically with the FireFly™ flyover™ system. They were not designed for use with mating cards other than those used with FireFly™. For other edge card options, please see samtec.com/edgecard or contact CustomerEngineeringSupport@samtec.com.

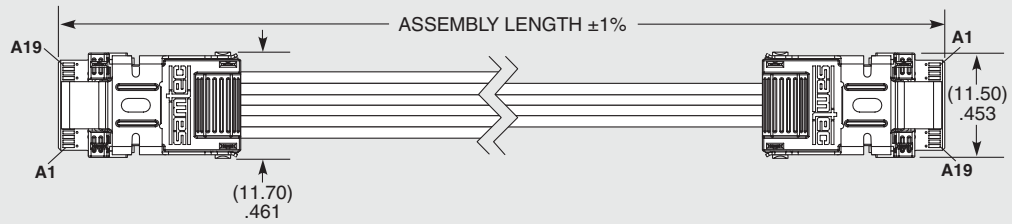
Pin compatible with optical FireFly™ using the same connector system



ALSO AVAILABLE
(MOV Required)

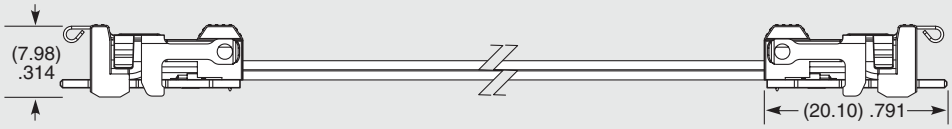
- A selection of connectors for end 2 option

TYPE	NO. OF PAIRS	ASSEMBLY LENGTH	CABLE TYPE	END 2 OPTION	WIRING OPTION	DATA RATE	OPTION
ECUE = Rugged FireFly™ Cable Assembly	**–08** = Eight Pair (–T2 & –T3 cable only) **–12** = Twelve Pair (–T1 cable only)	**–"XXX"** = Assembly Length in Centimeters (007 cm to 999 cm)	**–T1** = 36 AWG twinax (–12 pairs only) **–T2** = 34 AWG twinax (–08 pairs only) **–T3** = 34 AWG ultra low skew twinax (–08 pairs only)	**–FF** = FireFly™ (Mates with UEC5/UCC8)	**–01** = Pin A1 to Pin A19 **–02** = Pin A1 to Pin B1 **–B4** = Pin A1 to Pin B19 (–08 pair only)	**–1** = 14 Gbps (–T1 or –T2 only) **–2** = 28 Gbps (–T3 only)	Leave blank for standard FireFly™ **–D1** = Decoupling Capacitors (only available with –02 & –B4 wire options)



ECUE–12–XXX–T1 SHOWN

ECUE–08–XXX–T3 SHOWN



Notes:
Patents pending

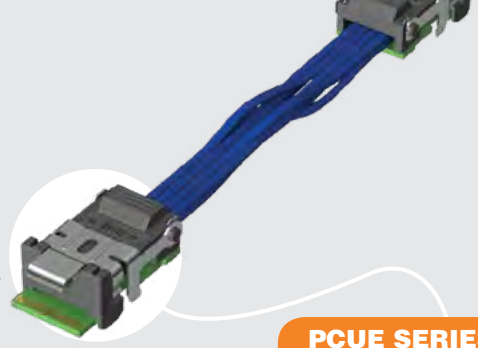
All FireFly™ designs, specifications and components are preliminary and subject to change without notice.

Cable lengths longer than 150 cm (59.06") are not supported with S.I. test data.

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Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.

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FIREFLY™



PCUE–G4–04–009–FF

PCUE SERIES

PCIe®-OVER-FIREFLY™ COPPER FLYOVER™

SPECIFICATIONS

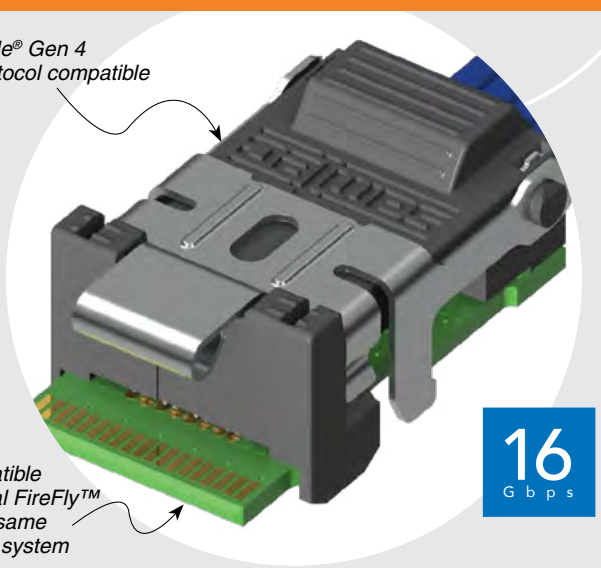
For complete specifications see www.samtec.com?PCUE

Cable:
Eye Speed® 34 AWG ultra low skew twinax
Signal Routing:
100 Ω
Bend Radius:
(3.18 mm) .125"
RoHS Compliant:
Yes

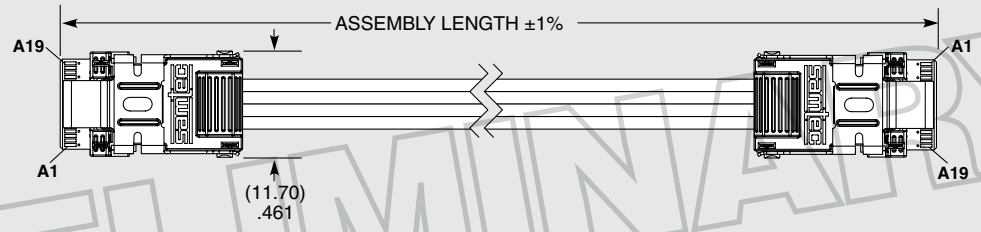
Mates with:
UEC5, UCC8

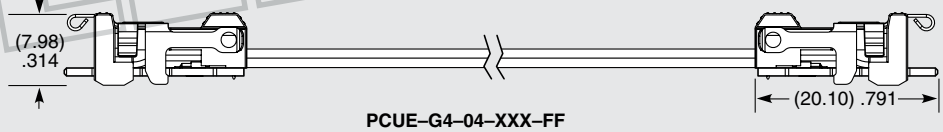
OTHER SOLUTIONS

- 85 Ω signal routing available



PCUE	SPEED	NO. OF CHANNELS	CABLE LENGTH	END 2
	–G4 = Gen 4 Speed	–04 = 8 pairs	–"XXX" = Overall Length in Centimeters (010 cm to 999 cm)	–FF = FireFly™ (Mates with UEC5/UCC8)





PCUE–G4–04–XXX–FF

Notes:
Supports PCIe® sideband signals

Two additional low speed channels compatible with PCUO or custom usage

Decoupling capacitors in-line with signals on PCB.

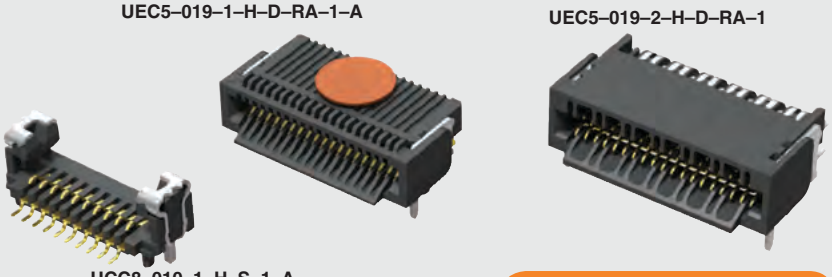
PCI-SIG®, PCI Express® and the PCIe® design marks are registered trademarks and/or service marks of PCI-SIG.

Some sizes, styles and options are non-standard, non-returnable.

PRELIMINARY

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FIREFLY™



UEC5, UCC8 SERIES

RUGGED MICRO FLYOVER™ SOCKET SYSTEM

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?UEC5-1 or www.samtec.com?UEC5-2

Insulator Material: Black LCP
Contact Material: BeCu
Plating: Au or Sn over 50 µ" (1.27 µm) Ni
Current Rating: 1.8 A per pin (2 pins powered)
Operating Temp Range: -55° C to +125° C
RoHS Compliant: Yes

PROCESSING

Lead–Free Solderable: Yes
SMT Lead Coplanarity: (0.10 mm) .004" max

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

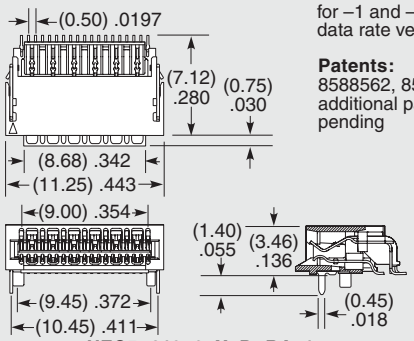
Note: Some lengths, styles and options are non-standard, non-returnable.

UEC5	–	NO. OF POSITIONS	–	DATA RATE	–	PLATING OPTION	–	D	–	RA	–	WELD TAB	–	OPTION
Mates with: ECUE, ECUO, PCUO, PCUE, ETUO		–019 (Per Row)		–1 = Up to 16 Gbps –2 = 28 Gbps+		–H = 30 µ" (0.76 µm) Gold on contact, Gold flash on tail (–1 Data Rate only) –H = 30 µ" (0.76 µm) Gold on contact, Matte Tin on tail (–2 Data Rate only)				–1 = Through-hole –2 = Surface Mount (Data Rate –1 only)				Leave blank for –2 Data Rate –A = Alignment Pin (Available with Data Rate –1 only)

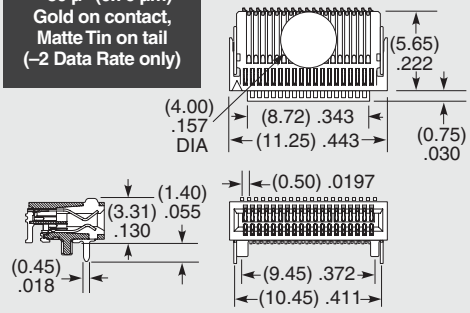
EDGE® RATE CONTACT

Note: PCB footprints are not interchangeable for –1 and –2 data rate versions.

Patents: 8588562, 8588561 additional patents pending



UEC5–019–2–X–D–RA–1



UEC5–019–1–X–D–RA–1–A

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?UCC8

Insulator Material: Black LCP
Contact Material: BeCu
Weld Tab: Copper Alloy
Plating: Au or Sn over 50 µ" (1.27 µm) Ni
Current Rating: 2.6 A per pin (1 pin powered)
Operating Temp Range: -55° C to +125° C
RoHS Compliant: Yes

PROCESSING

Lead–Free Solderable: Yes
SMT Lead Coplanarity: (0.10 mm) .004" max

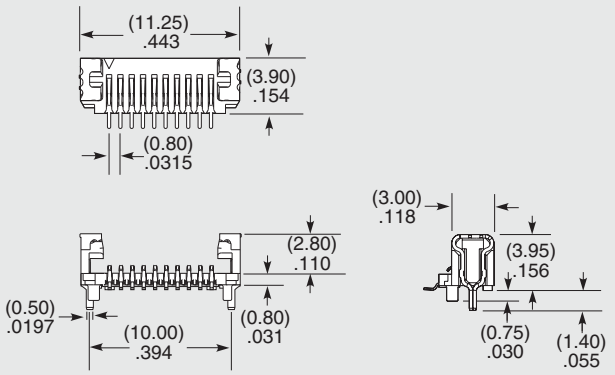
RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

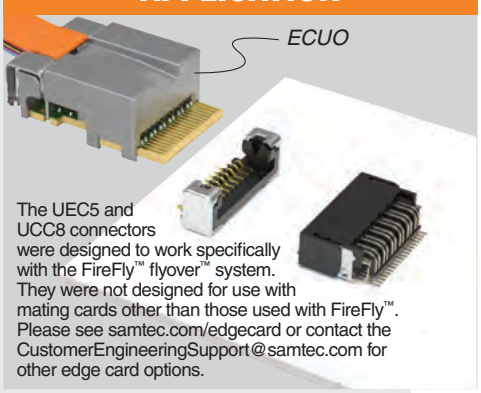
Note: Some lengths, styles and options are non-standard, non-returnable.

UCC8	–	NO. OF POSITIONS	–	1	–	PLATING OPTION	–	S	–	WELD TAB	–	A
Mates with: ECUE, ECUO, PCUO, PCUE, ETUO		–010				–H = 30 µ" (0.76 µm) Gold on contact, Gold flash on tail				–1 = Through-hole		



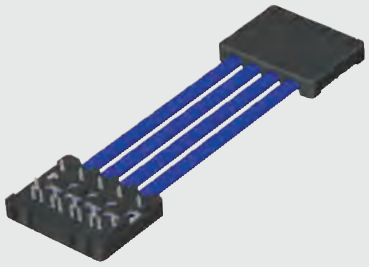
Patents: 8588562, 8588561 additional patents pending

APPLICATION

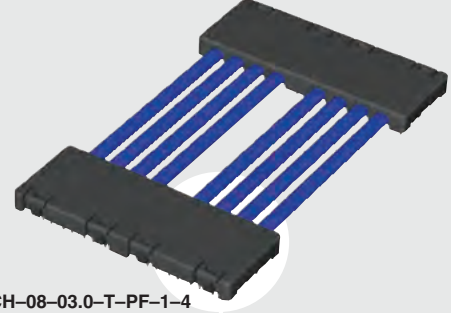


The UEC5 and UCC8 connectors were designed to work specifically with the FireFly™ flyover™ system. They were not designed for use with mating cards other than those used with FireFly™. Please see samtec.com/edgecard or contact the CustomerEngineeringSupport@samtec.com for other edge card options.

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DCH–04–03.0–T–PF–1–1



DCH–08–03.0–T–PF–1–4

DCH SERIES

HIGH-SPEED PRESS-FIT TO BOARD

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?DCH

Cable:
30 AWG solid core twinax cable
Signal Routing:
100 Ω
Insulator Material:
Liquid Crystal Polymer
Terminal Material:
Copper Alloy
Operating Temp Range:
-25 °C to +105 °C
RoHS Compliant:
Yes

TOOLING

- Flat block is recommended as a mating tool.
- Extraction Tool: CAT-EX-DCC-01

ALSO AVAILABLE (MOQ Required)

- Other cable lengths
- Other wiring options

APPLICATION



HIGH-SPEED CHANNEL PERFORMANCE

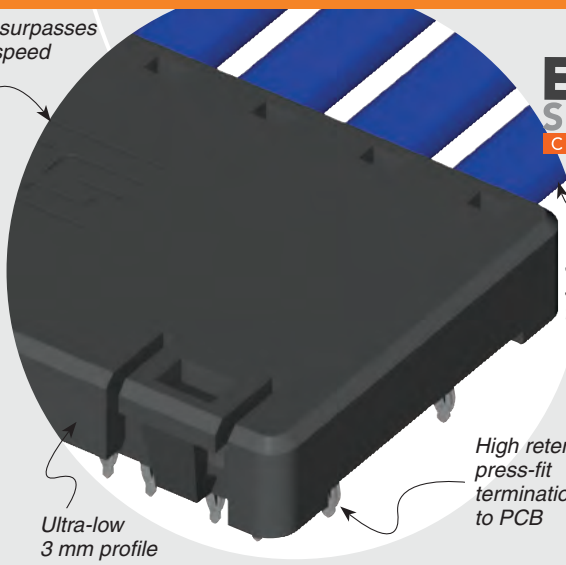
DCH

Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

PAM4

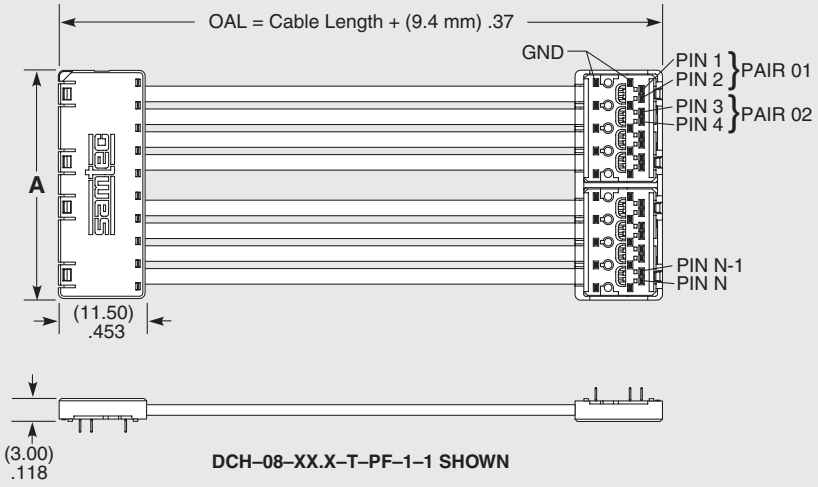
56 Gbps

Supports and surpasses PCIe® Gen 3 speed at 2 meters



DCH	–	NO. OF PAIRS	–	CABLE LENGTH	–	PLATING OPTION	–	CONTACT STYLE	–	END 2 OPTION	–	WIRING OPTION
		–04, –08		–XX.X = Cable Length in Inches (50.8 mm) 02.0" minimum		–T = Matte Tin		–PF = Press-fit		–1 = DCH		–1 = Pin 1 to Pin 1 –4 = Pin 1 to Pin N (Contact Samtec for other options)

NO. OF PAIRS	A
–04	(15.25) .600
–08	(30.25) 1.191



DCH–08–XX.X–T–PF–1–1 SHOWN

Notes:
Patent Pending

Cable lengths longer than 40.00" (1 meter) are not supported with S.I. test data.

Design your High-Speed Cable with Samtec's High-Speed Cable Solutionator® at www.samtec.com/hdr

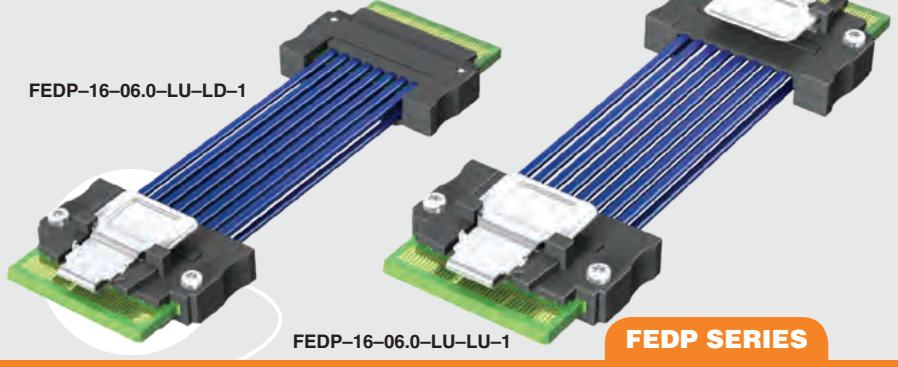
PCI-SIG®, PCI Express® and the PCIe® design marks are registered trademarks and/or service marks of PCI-SIG.

Some lengths, styles and options are non-standard, non-returnable.

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(0.50 mm) .0197"

FEDP SERIES

HIGH-SPEED EDGE CARD CABLE ASSEMBLY

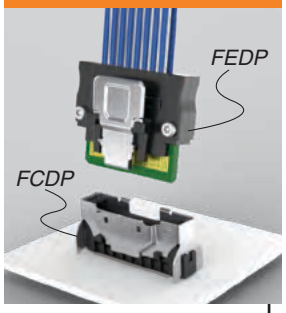
SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?FEDP

Cable:
34 AWG Eye Speed® ultra low skew twinax
Signal Routing:
100 Ω
Operating Temp Range:
-40 °C to +125 °C
RoHS Compliant:
Yes

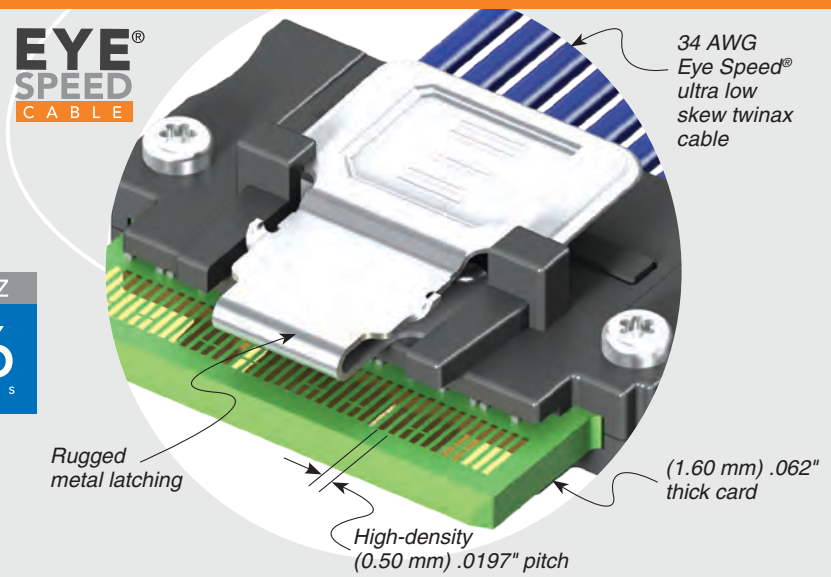
Mates with:
FCDP-DV, FCDP-RA

APPLICATION

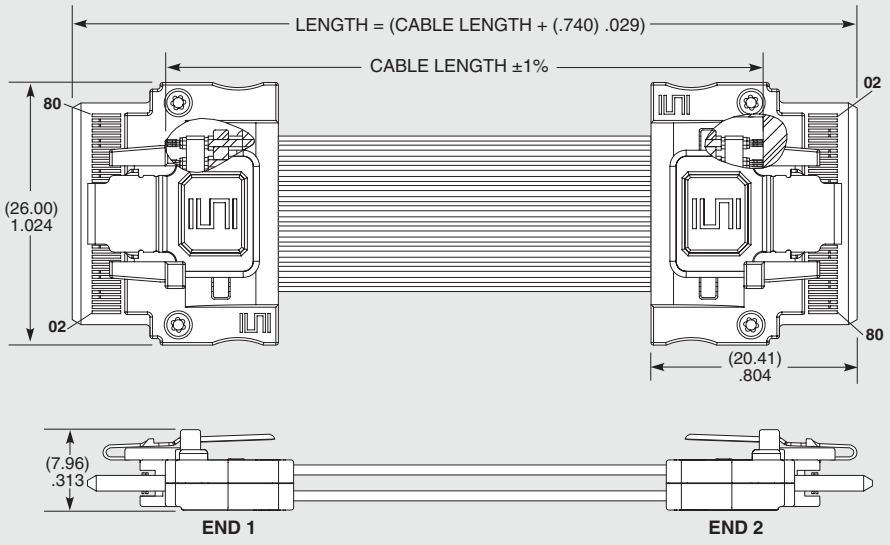


EYE® SPEED CABLE

NRZ 16 Gbps



FEDP	NO. OF PAIRS	CABLE LENGTH	END 1	END 2	CABLE TYPE
	–16 = 16 Pairs	–"XX.X" = Length in Inches 06.0" (152.4 mm) minimum	–LU = Latch Up	–LU = Latch Up –LD = Latch Down	–1 = 34 AWG 100 Ω Eye Speed®



FEDP–16–XX.X–LU–LU–1 SHOWN

Note:
For speeds up to 28G NRZ/56G PAM4, FEDP must be paired with FQSFP and FQSFP-DD. Contact hdr@samtec.com for more information.

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FCDP–16–01–S–DV–S1

FCDP–16–01–L–RA



(0.50 mm) .0197"

FCDP-DV, FCDP-RA SERIES

HIGH-SPEED EDGE CARD SOCKET

Mates with:
FEDP

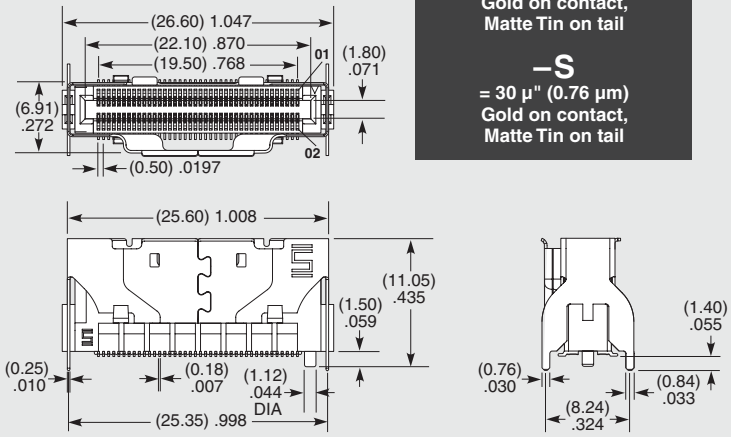
SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?FCDP-DV or www.samtec.com?FCDP-RA

Insulator Material:
Black LCP
Contact Material:
Copper Alloy
Plating:
Au or Sn over 50 µ" (1.27 µm) Ni
Shield Material:
Copper Alloy
RoHS Compliant:
Yes

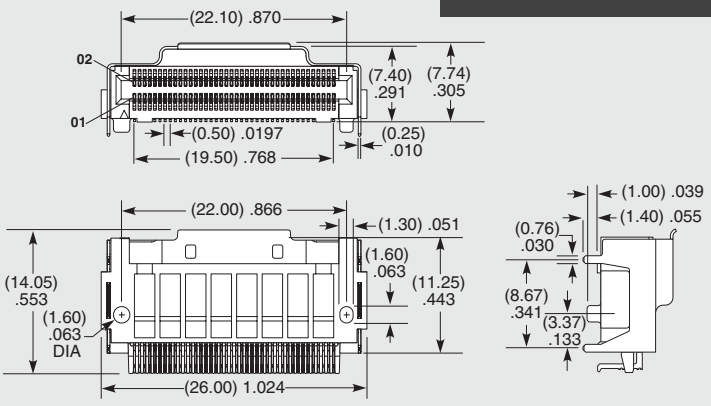
Note:
Some sizes, styles and options are non-standard, non-returnable.

FCDP	NO. OF PAIRS	01	PLATING OPTION	ROW	OPTION
	–16 = 16 Pairs		–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail –S = 30 µ" (0.76 µm) Gold on contact, Matte Tin on tail	–DV = Double Vertical	–S1 = Latch opposite pin 1 –S2 = Latch toward pin 1



FCDP–16–01–X–DV–S1 SHOWN
(Pick & Place Pad has been removed for clarity)

FCDP	NO. OF PAIRS	01	PLATING OPTION	ROW
	–16 = 16 Pairs		–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail	–RA = Right-angle



FCDP–16–01–L–RA SHOWN

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(0.80 mm) .0315"

ECDP SERIES

TWINAX EDGE CARD CABLE ASSEMBLY

SPECIFICATIONS

For complete specifications see www.samtec.com?ECDP

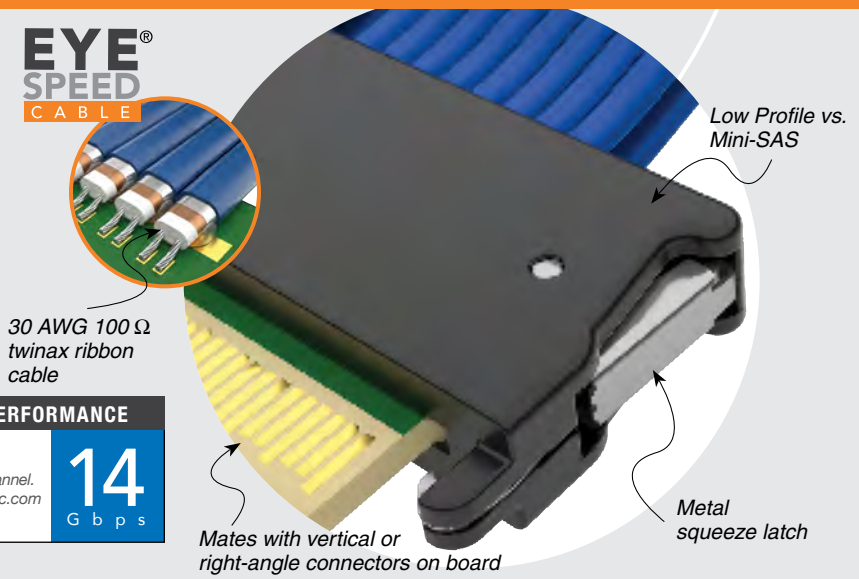
Cable:
30 AWG twinax cable
Plating:
Edge Card = ENIG, 3-10 microinches
Operating Temp Range:
-25 °C to +105 °C
Current Rating:
2.3 A per pin
(2 adjacent pins powered)
Impedance:
100 Ω Differential
Bend Radius:
(3.18 mm) .125"
Pinout Map:
See web address above
RoHS Compliant:
Yes

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

Mates with:
HSEC8 (–L2 option),
HSEC8 (–BL option)



HIGH-SPEED CHANNEL PERFORMANCE

ECDP

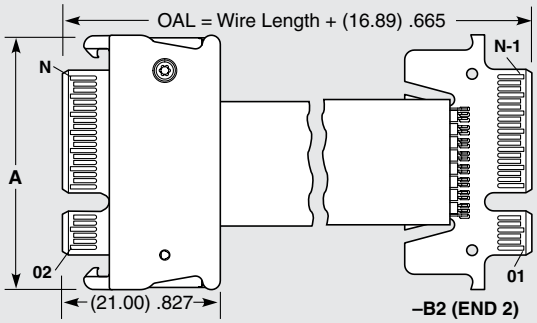
Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

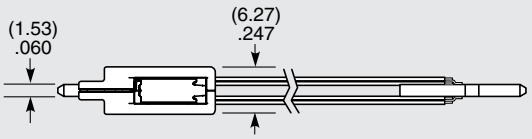
14 Gbps

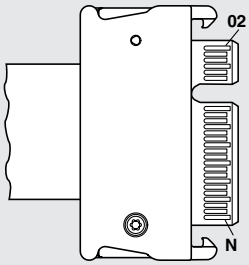
TYPE	NO. OF PAIRS	WIRE LENGTH	END 1	END 2	WIRING OPTION	CABLE TYPE
ECDP = Edge Card Cable	–04, –08, –16, –32	–"XX.XX" = Wire Length in Inches (95.3 mm) 03.75" minimum	–L1 = Double Vertical with latches –B1 = Board lock, No housing	–L1 = Double Vertical with latches (Wiring option –3 & –4 only) –L2 = Double Vertical with latches (Wiring option –1 & –2 only) –B1 = Board lock, No housing (Wiring option –3 & –4 only) –B2 = Board lock, No housing (Wiring option –1 & –2 only)	–1 = Pin 1 to Pin 1 –2 = Pin 1 to Pin 2 –3 = Pin 1 to Pin N-1 –4 = Pin 1 to Pin N	–3 = 100 Ω Eye Speed®

NO. OF PAIRS	A
–04	(20.85) .821
–08	(24.05) .947
–16	(33.66) 1.325
–32	(52.86) 2.081

CABLE	CONNECTOR
ECDP–04	HSEC8–109–XX
ECDP–08	HSEC8–113–XX
ECDP–16	HSEC8–125–XX
ECDP–32	HSEC8–149–XX







*Same pinout for –B1 end 2 and –L1 end 2.

Notes:
Cable lengths longer than 40.00" (1 meter) are not supported with S.I. test data.

Design your High-Speed Cable with Samtec's High-Speed Cable Solutionator® at www.samtec.com/hdr

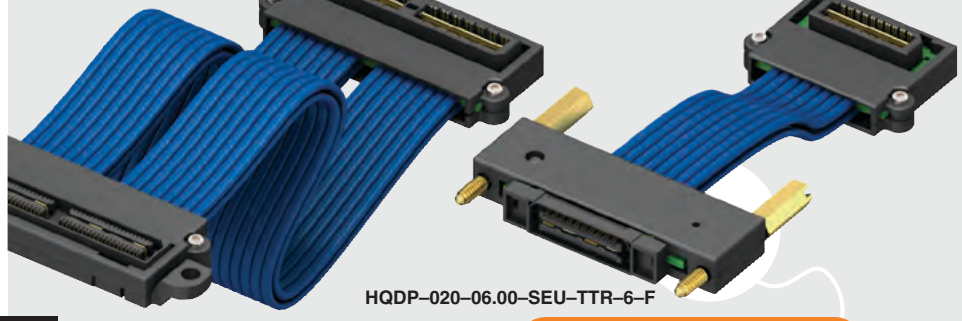
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QPAIRS®



HQDP–020–06.00–SEU–TTR–6–F

EQDP–028–06.00–STR–TTL–7–F

(0.50 mm) .0197"(HQDP) (0.80 mm) .0315"(EQDP)

HQDP, EQDP SERIES

Q PAIRS® TWINAX CABLE ASSEMBLIES

SPECIFICATIONS

For complete specifications see www.samtec.com?EQDP or www.samtec.com?HQDP

Cable:
30 AWG twinax ribbon
Signal Routing:
100 Ω Differential
Cable Bending Radius:
(3.18 mm) 1/8" min
Plating:
Au over 50 µ" (1.27 µm) Ni
Current Rating:
EQDP = 500 mA per pin
HQDP = 400 mA per pin
(6 adjacent pins powered)
Propagation Delay:
4.67 nsec/meter
Operating Temp Range:
-25 °C to +105 °C
Skew (pair-to-pair):
<10 ps/ft
Skew (within a pair):
<5 ps/ft
EMI Performance:
FCC Class A
RoHS Compliant:
Yes

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

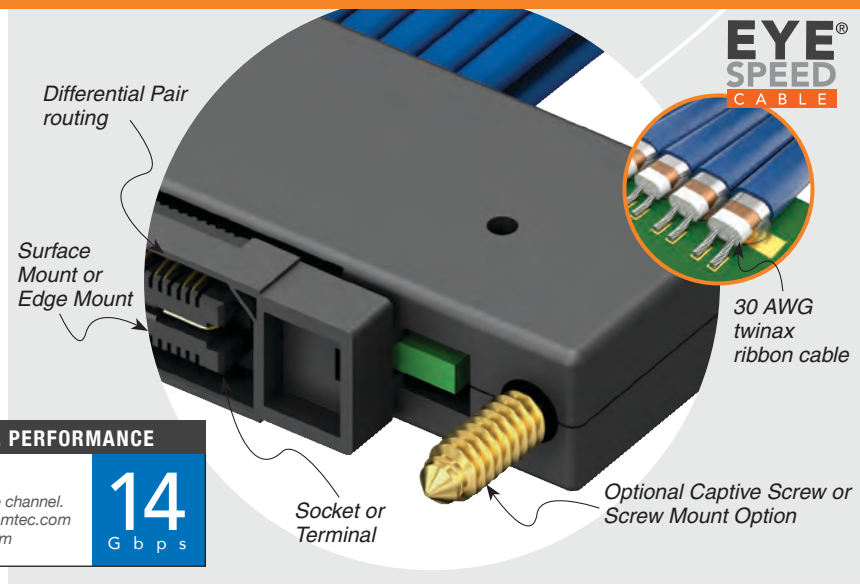
FILE NO. E111594

ALSO AVAILABLE
(MOV Required)

- Pairs
- Terminations

EQDP Mates with:
QTE-DP, QSE-DP

HQDP Mates with:
QTH-DP, QSH-DP



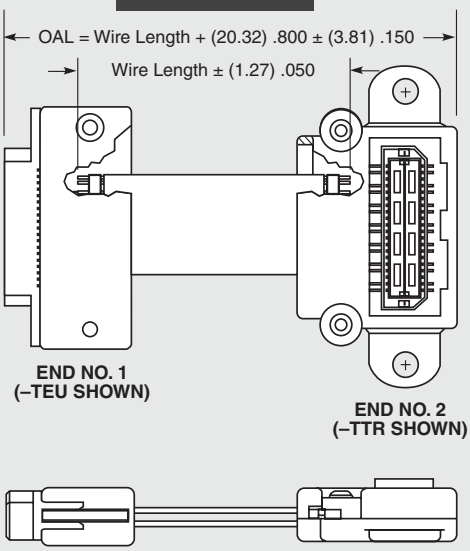
HIGH-SPEED CHANNEL PERFORMANCE

HQDP or EQDP

Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

14 Gbps

TYPE	NO. OF PAIRS	WIRE LENGTH	END NO. 1	END NO. 2	WIRING OPTION	SCREW OPTION
HQDP = (0.50 mm) .0197" pitch **EQDP** = (0.80 mm) .0315" pitch	–020, –040, –060 (20 pairs per bank) HQDP Series –014, –028, –042, –056 (14 pairs per bank) EQDP Series	–"XX.XX" = Wire Length in Inches (43.7 mm) 01.72" minimum	Specify END ASSEMBLIES from chart		–5 = Pin 1 to Pin 1 –6 = Pin 1 to Pin 2 –7 = Pin 1 to Second Last Pin –8 = Pin 1 to Last Pin	Leave blank for no Screw Option –F = End No. 1 –S = End No. 2 –B = Both Ends



END	SURFACE MOUNT
TTR	Terminal, Top, Notch Right
TTL	Terminal, Top, Notch Left
TBR	Terminal, Bottom, Notch Right
TBL	Terminal, Bottom, Notch Left
STR	Socket, Top, Notch Right
STL	Socket, Top, Notch Left
SBR	Socket, Bottom, Notch Right
SBL	Socket, Bottom, Notch Left

END	EDGE MOUNT (HQDP only)
TEU	Terminal, Edge, Notch Up
TED	Terminal, Edge, Notch Down
SEU	Socket, Edge, Notch Up
SED	Socket, Edge, Notch Down

WIRING REQUIREMENTS	
WIRING OPTION	END OPTIONS
5 or 6	TTR, TBL, STL, SBR, TEU, SED to TTR, TBL, STL, SBR, TED, SEU or TTL, TBR, STR, SBL, TED, SEU to TTL, TBR, STR, SBL, TEU, SED
7 or 8	TTR, TBL, STL, SBR, TEU, SED to TTL, TBR, STR, SBL, TEU, SED or TTL, TBR, STR, SBL, TED, SEU to TTR, TBL, STL, SBR, TED, SEU

Notes:
Cable lengths longer than 40.00" (1 meter) are not supported with S.I. test data.

Design your High-Speed Cable with Samtec's High-Speed Cable Solutionator® at www.samtec.com/hdr

This Series is non-standard, non-returnable.

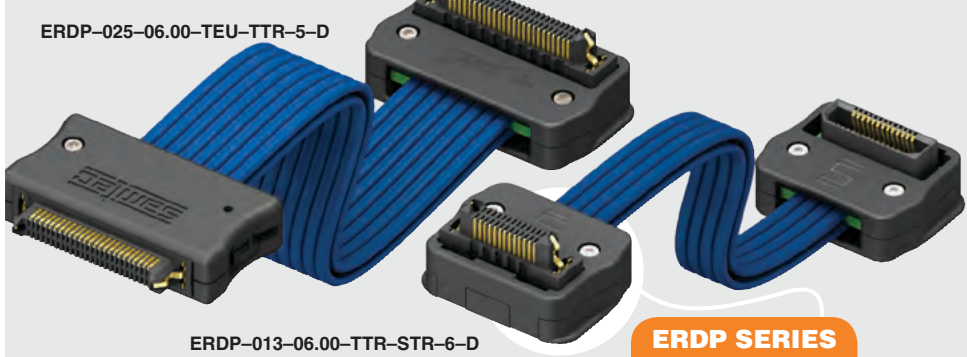
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samtec

EDGE® RATE SYSTEM

(0.80 mm) .0315"



ERDP SERIES

EDGE RATE® TWINAX CABLE ASSEMBLIES

SPECIFICATIONS

Mates with:
ERF8, ERM8

For complete specifications and recommended PCB layouts see www.samtec.com?ERDP

Cable:
30 AWG twinax ribbon cable
Signal Routing:
100 Ω Differential
Plating:
Au over 50 µ" (1.27 µm) Ni
Operating Temp Range:
-25 °C to +105 °C
RoHS Compliant:
Yes



HIGH-SPEED CHANNEL PERFORMANCE

ERDP

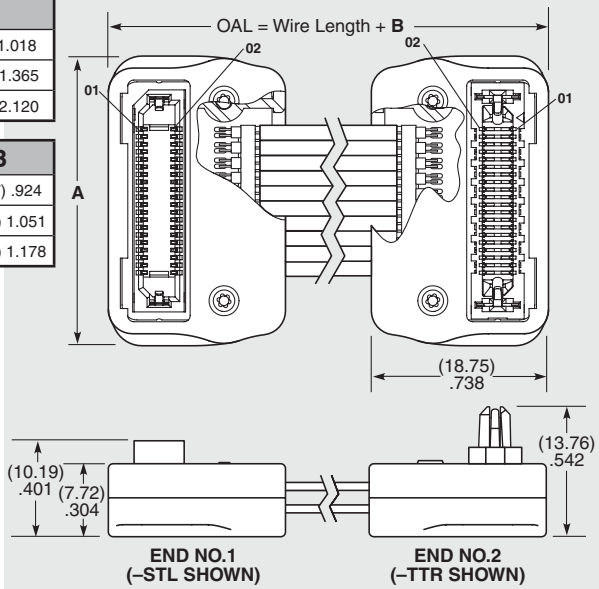
Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

14 Gbps

ERDP	NO. POSITIONS PER ROW	WIRE LENGTH	END NO. 1	END NO. 2	WIRING OPTION	LATCH
	–013 = 8 Pair, –025 = 16 Pair, –049 = 32 Pair	–"XX.XX" = Wire Length in Inches (43. 7 mm) 01.72" minimum	–TTR = Terminal, Top Right –TTL = Terminal, Top Left –TBR = Terminal, Bottom Right –TBL = Terminal, Bottom Left –STR = Socket, Top Right –STL = Socket, Top Left –SBR = Socket, Bottom Right –SBL = Socket, Bottom Left –TEU = Terminal, Edge Mount Up –TED = Terminal, Edge Mount Down		–5 = Pin 1 to Pin 1 –6 = Pin 1 to Pin 2 –7 = Pin 1 to Pin N -1 –8 = Pin 1 to Pin N	Specify LATCH from chart (Required callout)

POSITIONS PER ROW	A
–013	(25.86) 1.018
–025	(34.67) 1.365
–049	(53.85) 2.120

END TO END	B
DV to DV	(23.47) .924
DV to Edge Mount (-TEX)	(26.69) 1.051
Edge Mount (-TEX)	(29.92) 1.178



LATCH	ASSEMBLY
† –L	End No. 1 Standard Latch, End No. 2 Squeeze Latch
♦ –R	End No. 1 Squeeze Latch, End No. 2 Standard Latch
–D	Both Ends Standard Latch
–N	No Housing Both Ends Standard Latch
* –B	Both Ends Squeeze Latch
♦ –F	End No. 1 Screw Option, End No. 2 Friction Latch
† –S	End No. 1 Friction Latch, End No. 2 Screw Option
* –C	Both Ends Screw Option
* –G	End No. 1 Screw Option, End No. 2 Squeeze Latch
* –T	End No. 1 Squeeze Latch, End No. 2 Screw Option

* –B, –C, –G & –T option only available with –TEX on both ends.
† –L & –S option only available with –TEX on second end.
♦ –R & –F option only available with –TEX on first end.

Notes:
Cable lengths longer than 40.00" (1 meter) are not supported with S.I. test data.

Design your High-Speed Cable with Samtec's High-Speed Cable Solutionator® at www.samtec.com/hdr

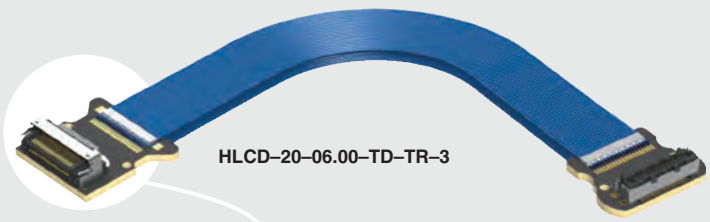
Some lengths, styles and options are non-standard, non-returnable.

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RAZOR™ BEAM SYSTEM



(0.50 mm) .0197"

HLCD SERIES

HIGH-SPEED HERMAPHRODITIC CABLE

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?HLCD

Cable:
38 AWG 50 Ω coax cable
Signal Routing:
50 Ω Single-Ended
Plating:
Au over 50 µ" (1.27 µm) Ni
Operating Temp Range:
-25 °C to +105 °C
Current Rating:
0.9 A per pin
(2 pins powered)
SI Performance:
Testing Now!
RoHS Compliant:
Yes

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

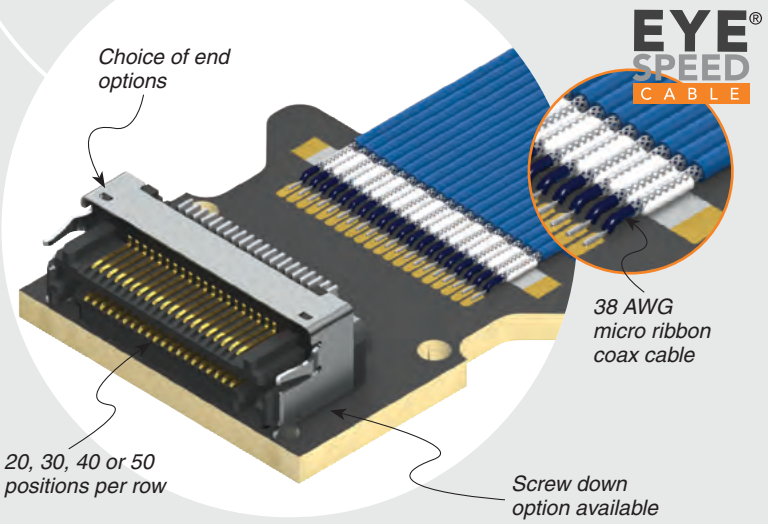
Notes:
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Design your High-Speed Cable with Samtec's High-Speed Cable Solutionator® at www.samtec.com/hdr

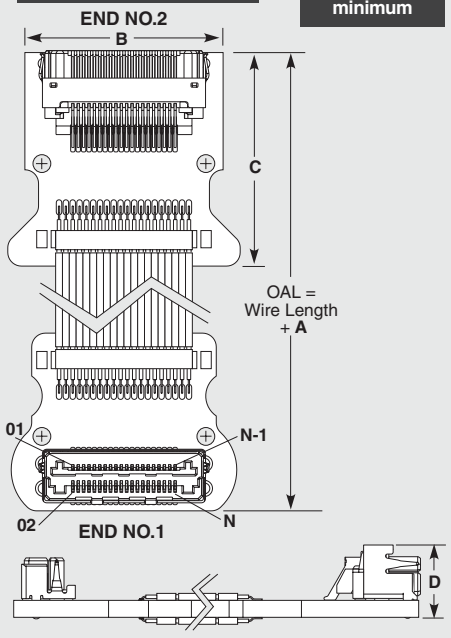
Some lengths, styles and options are non-standard, non-returnable.

Mates with:
LSHM

RUGGEDIZED BY SAMTEC
• Screw downs



HLCD	POSITIONS PER ROW	WIRE LENGTH	END NO. 1	END 1 OPTION	END NO. 2	END 2 OPTION	WIRING OPTION
	–20, –30, –40, –50 (Standard sizes)	–"XX.XX" = Wire Length in Inches (43.7 mm) 01.72" minimum	–TR = Vertical, Top Right –TL = Vertical, Top Left –BR = Vertical, Bottom Right –BL = Vertical, Bottom Left –TD = Right-angle, Top –TH = Reversed Right-angle, Top –BD = Right-angle, Bottom –BH = Reversed Right-angle, Bottom	Leave blank for no screw down. Screw down not available for –TD TH, –BD & –BH options. S = Screw down in PCB	–TR = Vertical, Top Right –TL = Vertical, Top Left –BR = Vertical, Bottom Right –BL = Vertical, Bottom Left –TD = Right-angle, Top –TH = Reversed Right-angle, Top –BD = Right-angle, Bottom –BH = Reversed Right-angle, Bottom	Leave blank for no screw down. Screw down not available for –TD TH, –BD & –BH options. S = Screw down in PCB	–1 = Pin 1 to Pin 1 –2 = Pin 1 to Pin 2 –3 = Pin 1 to Pin N-1 –4 = Pin 1 to Pin N



END NO. 1 (–TR SHOWN) END NO. 2 (–TD SHOWN)

END TO END	A
Vertical to Vertical	(21.84) .860
Vertical to Right-angle	(25.35) .998
Vertical to Reverse Right-angle	
Right-angle to Right-angle	(28.85) 1.136
Right-angle to Reverse Right-angle	
Reverse Right-angle to Reverse Right-angle	

NO. OF POSITIONS	B	
	XR, XL	XH, XD
–020	(22.23) .875	(18.42) .725
–030	(24.77) .975	(26.04) 1.025
–040	(32.39) 1.275	(33.66) 1.325
–050	(40.01) 1.575	(41.28) 1.625

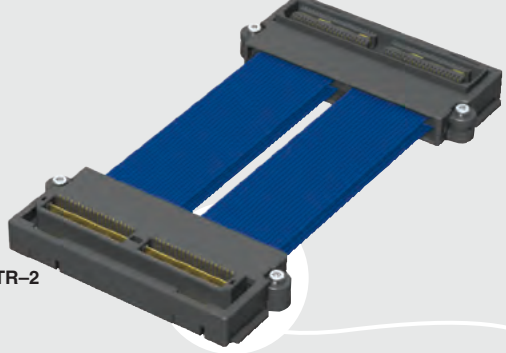
END OPTION	C	D
XL, XR	(16.51) .650	(6.02) .237
XD	(20.02) .788	(6.71) .264
XH		

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QSTRIP®



EQCD–040–04.00–TTL–STR–2

(0.50 mm) .0197"(HQCD) (0.80 mm) .0315"(EQCD)

Q STRIP® COAX CABLE ASSEMBLIES

SPECIFICATIONS

For complete specifications see www.samtec.com?HQCD or www.samtec.com?EQCD

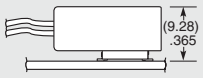
Cable:
38 AWG micro coax ribbon
Signal Routing:
50 Ω Single-Ended
Overall Length:
(95.3 mm) 03.75" to
(1 m) 40" standard
Cable Flexing Life:
>10,000 cycles
Cable Bending Radius:
<2.5mm
Plating:
Au over 50 µ" (1.27 µm) Ni
Current Rating:
EQCD: 500 mA per pin
HQCD: 300 mA per pin
(6 adjacent pins powered)
Cable Propagation Delay:
4.79 nsec/meter
Operating Temp Range:
-25 °C to +105 °C
Unmating Force (-RT1 option):
-RT1 option increases unmating force up to 50%
RoHS Compliant:
Yes

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

APPLICATIONS



Processing conditions will affect mated height.

ALSO AVAILABLE
(MOV Required)

- Other sizes and lengths
- Other terminations
- Other wire AWG
- Retention pin

Notes:
Cable lengths longer than 40.00" (1 meter) are not supported with S.I. test data.

Design your High-Speed Cable with Samtec's High-Speed Cable Solutionator® at www.samtec.com/hdr

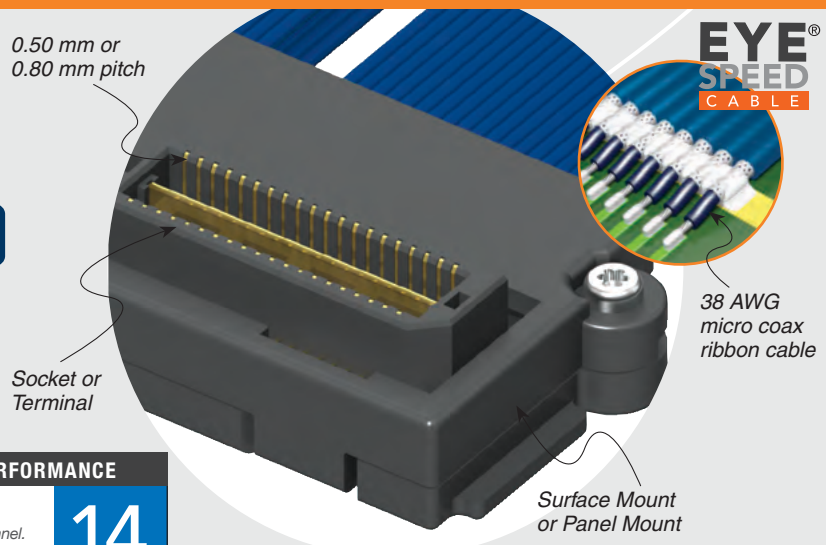
This Series is non-standard, non-returnable.

HQCD Mates with:
QTH, QSH

EQCD Mates with:
QTE, QSE

RUGGEDIZED BY SAMTEC

- Screw & panel mount options
- Retention pins



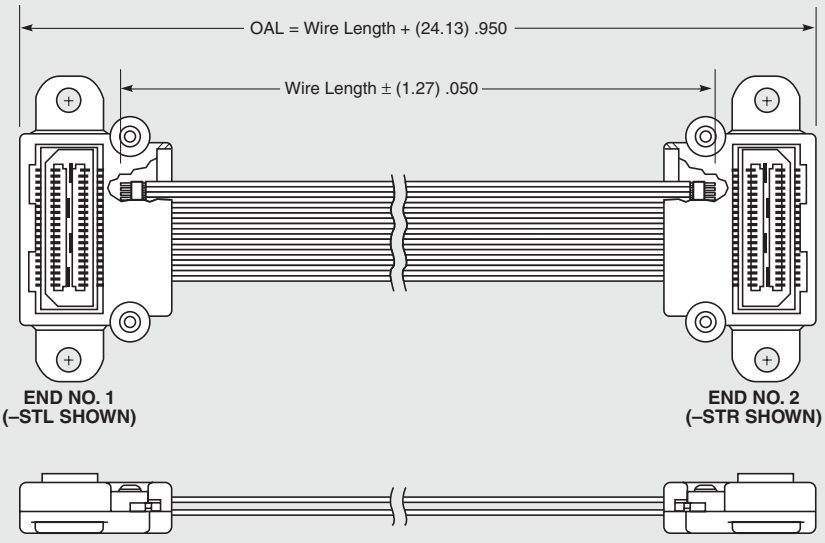
HIGH-SPEED CHANNEL PERFORMANCE

HQCD or EQCD

Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

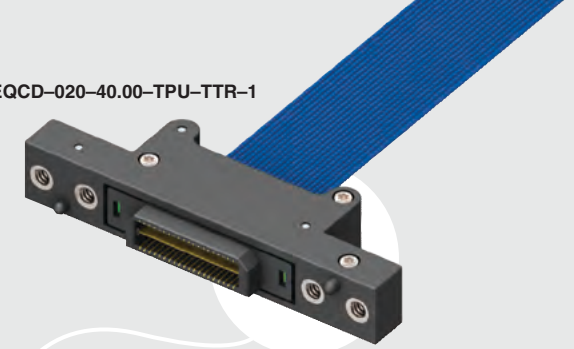
14 Gbps

TYPE	NO. OF POSITIONS PER ROW	WIRE LENGTH
HQCD = (0.50 mm) .0197" pitch **EQCD** = (0.80 mm) .0315" pitch	–030, –060, –090 (HQCD Series) –020, –040, –060 (EQCD Series)	–"XX.XX" = Wire Length in Inches (43.7 mm) 01.72" minimum

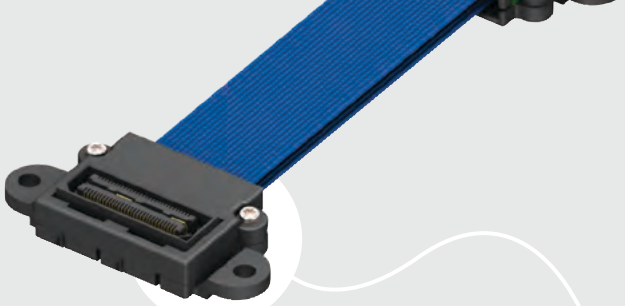


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EQCD–020–40.00–TPU–TTR–1



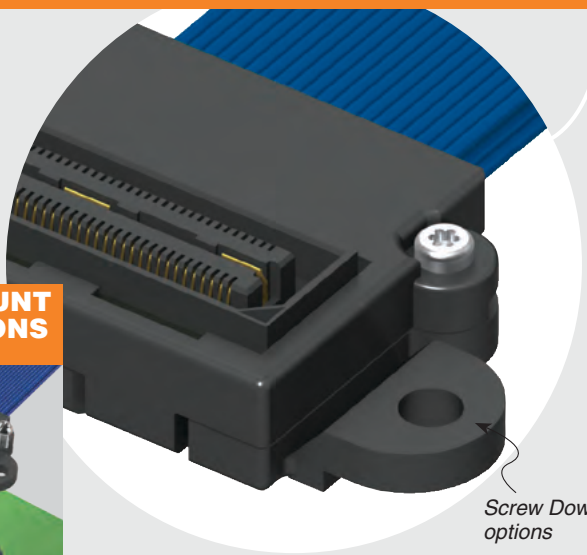
HQCD–030–06.00–STL–TTR–1–B



SCREW MOUNT APPLICATIONS
(–F, –S, –B)



SO–0318–04–01–02



END NO. 1

Specify
END ASSEMBLIES
from chart

END NO. 2

Specify
END ASSEMBLIES
from chart

WIRING OPTION

–1
= Pin 1 to Pin 1

–2
= Pin 1 to Pin 2

–3
= Pin 1 to Second to Last Pin

–4
= Pin 1 to Last Pin

END OPTIONS

Leave blank for no Screw Mount
& Retention End Option

–F
= Screw Mount End No. 1 only
(Not available with XPX options)

–S
= Screw Mount End No. 2 only

–B
= Screw Mount Both Ends
(Not available with XPX options)

–1
= End No. 1 Screw Mount.
End No. 2 Retention Pin or Socket

–2
= End No. 1 Retention Pin or Socket.
End No. 2 Screw Mount Option

PANEL MOUNT END OPTION APPLICATIONS
(–TPU, –TPD, –SPU, SPD)



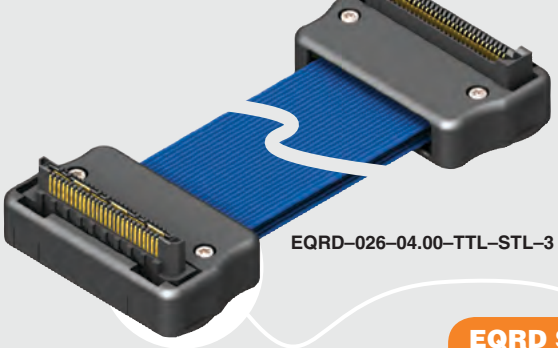
END 1 ONLY	PANEL MOUNT
TPU	Terminal, Panel Mount, Notch Up
TPD	Terminal, Panel Mount, Notch Down
SPU	Socket, Panel Mount, Notch Up
SPD	Socket, Panel Mount, Notch Down

END 1 or END 2	SURFACE MOUNT
TTR	Terminal, Top Mount, Notch Right
TTL	Terminal, Top Mount, Notch Left
TBR	Terminal, Bottom Mount, Notch Right
TBL	Terminal, Bottom Mount, Notch Left
STR	Socket, Top Mount, Notch Right
STL	Socket, Top Mount, Notch Left
SBR	Socket, Bottom Mount, Notch Right
SBL	Socket, Bottom Mount, Notch Left

All parts within this catalog are built to Samtec's specifications.
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QRATE®



EQRD–026–04.00–TTL–STL–3

(0.80 mm) .0315"

EQRD SERIES

Q RATE® COAX CABLE ASSEMBLY

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?EQRD

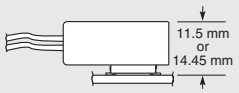
Cable:
34 AWG micro ribbon coax cable
Signal Routing:
50 Ω Single-Ended
Overall Length:
(95.3 mm) 03.75" to (1 m) 40" standard
Cable Flexing Life:
>10,000 cycles
Cable Bending Radius:
<2.5 mm
Plating:
Au over 50 µ" (1.27 µm) Ni
Cable Propagation Delay:
4.4 nsec/meter
Operating Temp Range:
-25 °C to +105 °C
RoHS Compliant:
Yes

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

APPLICATIONS



Processing conditions will affect mated height.

ALSO AVAILABLE
(MOV Required)

- Other sizes and lengths
- Other terminations
- Other wire AWG

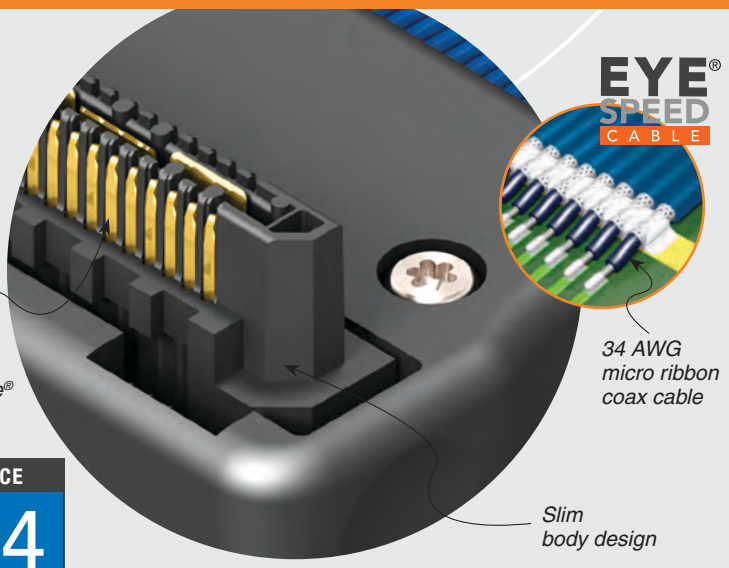
Notes:
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Design your High-Speed Cable with Samtec's High-Speed Cable Solutionator® at www.samtec.com/hdr

Some lengths, styles and options are non-standard, non-returnable.

Mates with:
QRF8, QRM8

EDGE® RATE CONTACT

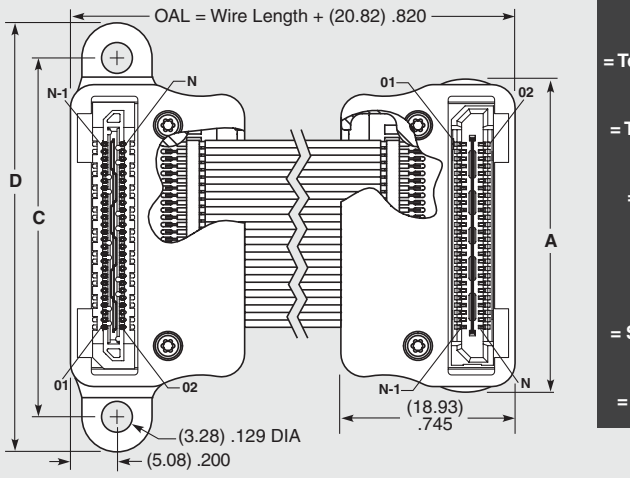


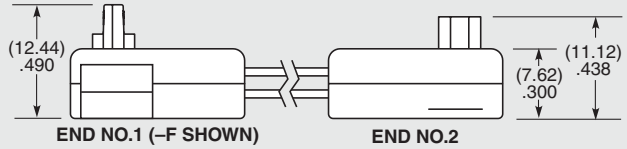
HIGH-SPEED CHANNEL PERFORMANCE

EQRD
Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

14 Gbps

EQRD	NO. OF POSITIONS	WIRE LENGTH	END NO. 1	END NO. 2	WIRING OPTION	SCREW OPTION
	–026, –052, –078 (Per Row)	–"XX.XX" = Wire Length in Inches (43.7 mm) 01.72" minimum		–TTR = Terminal, Top Right –TTL = Terminal, Top Left –TBR = Terminal, Bottom Right –TBL = Terminal, Bottom Left –STR = Socket, Top Right –STL = Socket, Top Left –SBR = Socket, Bottom Right –SBL = Socket, Bottom Left	–1 = Pin 1 to Pin 1 –2 = Pin 1 to Pin 2 –3 = Pin 1 to Pin N-1 –4 = Pin 1 to Pin N	Leave blank for no Screw Option –F = Screw option (First end only) –S = Screw option (Second end only) –B = Screw option (Both ends)





NO. OF POSITIONS	A	C	D
–026	(33.02) 1.300	(39.12) 1.540	(46.74) 1.840
–052	(57.81) 2.276	(63.91) 2.516	(71.53) 2.816
–078	(82.63) 3.253	(88.70) 3.492	(96.32) 3.792

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EDGE® RATE SYSTEM

(0.80 mm) .0315"



ERCD–050–08.00–SBR–STR–3–D

ERCD–020–10.00–TEU–STR–3–R

ERCD SERIES

EDGE RATE® COAX CABLE ASSEMBLIES

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?ERCD

Cable:
34 AWG coax ribbon cable
Signal Routing:
50 Ω Single-Ended
Plating:
Au over 50 µ" (1.27 µm) Ni
Operating Temp Range:
-25 °C to +105 °C
Current Rating:
1.3 A per pin (2 pins powered)
RoHS Compliant:
Yes

Mates with:
ERF8, ERM8

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594



HIGH-SPEED CHANNEL PERFORMANCE

ERCD

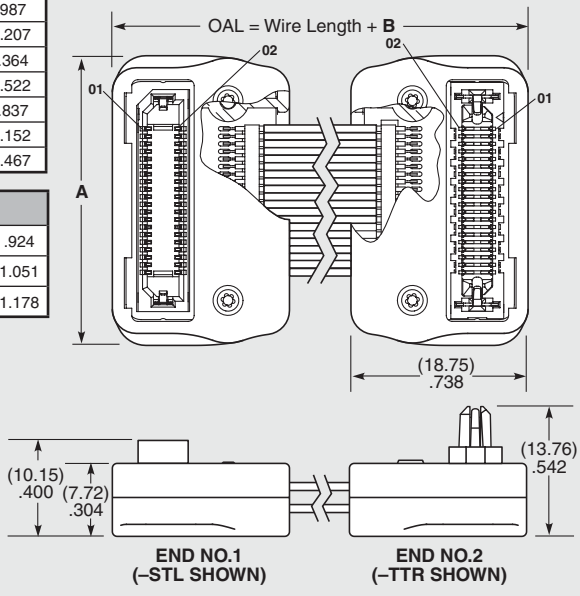
Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

14 Gbps

ERCD	NO. POSITIONS PER ROW	WIRE LENGTH	END NO. 1	END NO. 2	WIRING OPTION	LATCH
	–010, –013, –020, –025, –030, –040, –050, –060	–"XX.XX" = Wire Length in Inches (43.7 mm) 01.72" minimum	–TTR = Terminal, Top Right –TTL = Terminal, Top Left –TBR = Terminal, Bottom Right –TBL = Terminal, Bottom Left –STR = Socket, Top Right –STL = Socket, Top Left –SBR = Socket, Bottom Right –SBL = Socket, Bottom Left –TEU = Terminal, Edge Mount Up –TED = Terminal, Edge Mount Down		–1 = Pin 1 to Pin 1 –2 = Pin 1 to Pin 2 –3 = Pin 1 to Pin N -1 –4 = Pin 1 to Pin N	Specify LATCH from chart (Required callout)

POSITIONS PER ROW	A
–010	(22.66) .892
–013	(25.06) .987
–020	(30.66) 1.207
–025	(34.65) 1.364
–030	(38.66) 1.522
–040	(46.66) 1.837
–050	(54.66) 2.152
–060	(62.66) 2.467

END TO END	B
DV to DV	(23.47) .924
DV to Edge Mount (-TEX)	(26.69) 1.051
Edge Mount (-TEX)	(29.92) 1.178



LATCH	ASSEMBLY
† –L	End No. 1 Standard Latch, End No. 2 Squeeze Latch
♦ –R	End No. 1 Squeeze Latch, End No. 2 Standard Latch
–D	Both Ends Standard Latch
–N	No Housing Both Ends Standard Latch
* –B	Both Ends Squeeze Latch
–F	End No. 1 Screw Option, End No. 2 Friction Latch
–S	End No. 1 Friction Latch, End No. 2 Screw Option
–C	Both Ends Screw Option
† –G	End No. 1 Screw Option, End No. 2 Squeeze Latch
♦ –T	End No. 1 Squeeze Latch, End No. 2 Screw Option

* –B option only available with –TEX on both ends.
† –L & –G option only available with –TEX on second end.
♦ –R & –T option only available with –TEX on first end.

Notes:
Cable lengths longer than 40.00" (1 meter) are not supported with S.I. test data.

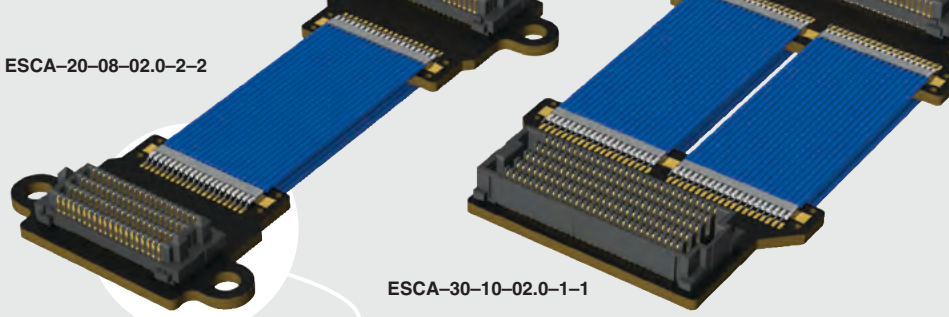
Design your High-Speed Cable with Samtec's High-Speed Cable Solutionator® at www.samtec.com/hdr

Some lengths, styles and options are non-standard, non-returnable.

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SEARAY™ .8mm

(0.80 mm) .0315"



ESCA SERIES

SEARAY™ MICRO COAX CABLE ASSEMBLY

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?ESCA

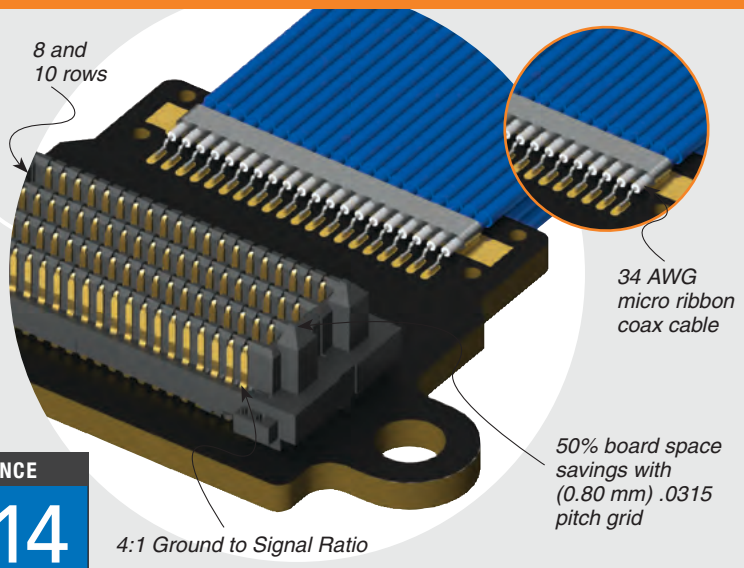
Cable:
34 AWG micro ribbon coax cable
Signal Routing:
50 Ω Single-Ended
Plating:
Au over 50 µ" (1.27 µm) Ni
Operating Temp Range:
-25 °C to +105 °C
RoHS Compliant:
Yes

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

Mates with:
SEAM8. SEAF8



HIGH-SPEED CHANNEL PERFORMANCE

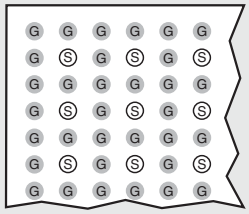
ESCA

Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

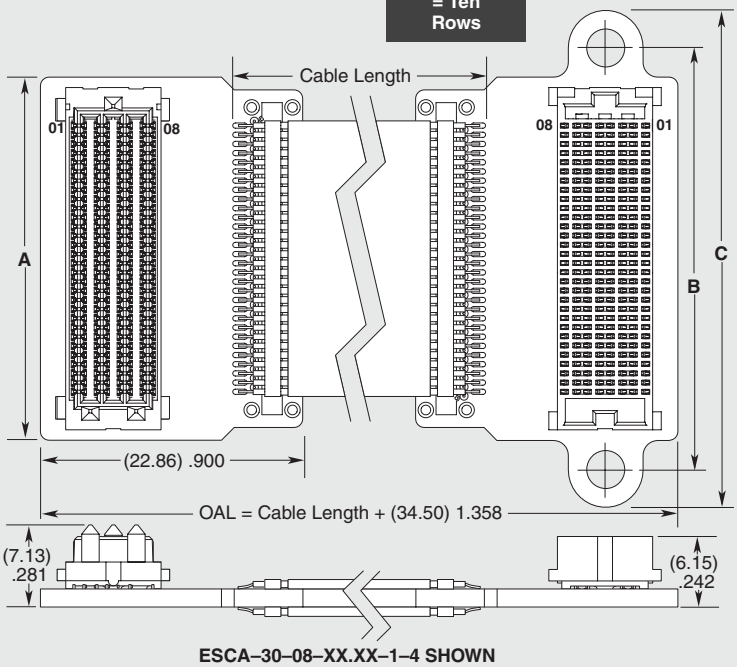
14 Gbps

ESCA	–	NO. PINS PER ROW	–	NO. OF ROWS	–	CABLE LENGTH	–	END 1	–	END 2
		–20, –30		–08 = Eight Rows –10 = Ten Rows		–"XX.X" = Overall Length in Inches (50.8 mm) 02.0" minimum		–1 = SEAM8 without Screw Down –2 = SEAM8 with Screw Down –3 = SEAF8 without Screw Down –4 = SEAF8 with Screw Down		

SIGNAL MAPPING



For complete signal mapping, see www.samtec.com?ESCA
For other alternative mapping options, contact hdr@samtec.com.



NO. PINS PER ROW	A	B	C
–20	(23.65) .931	(28.73) 1.131	(35.20) 1.386
–30	(31.65) 1.246	(36.73) 1.446	(43.20) 1.701

ESCA–30–08–XX.XX–1–4 SHOWN

Notes:
Cable lengths longer than 40.00" (1 meter) are not supported with S.I. test data.

Design your High-Speed Cable with Samtec's High-Speed Cable Solutionator® at www.samtec.com/hdr

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SEARAY™



SEAC–030–06–06.0–TU–TU–N

(1.27 mm) .050"

SEAC SERIES

HIGH-SPEED/HIGH-DENSITY JUMPER

SPECIFICATIONS

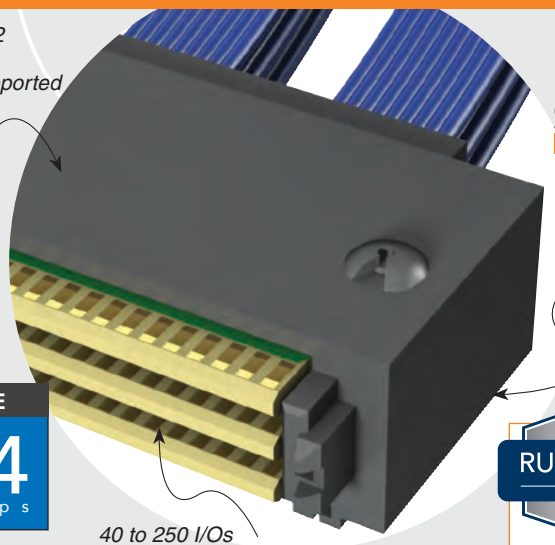
For complete specifications and recommended PCB layouts see www.samtec.com?SEAC

Cable:
36 AWG 50 Ω coax, or
32 AWG 100 Ω twinax
Signal Routing:
50 Ω Single-Ended, or
100 Ω Differential Pair
Plating:
Au over 50 µ" (1.27 µm) Ni
Operating Temp Range:
-40 °C to +125 °C
RoHS Compliant:
Yes

SEAC-N Mates with:
SEAF, SEAF-RA, SEAFP

SEAC with latch posts, Mates with:
SEAF-LP, SEAF-RA-LP

PCIe® GEN 2 and Gen 3 Protocol Supported



EYE® SPEED CABLE

No latch, top latch or rugged latch post designs available

40 to 250 I/Os (½ pins are dedicated to ground)

RUGGEDIZED BY SAMTEC

- Positive latching
- Top latch

HIGH-SPEED CHANNEL PERFORMANCE

SEAC

Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

14 Gbps

SIGNAL ROUTING

Product has some lines dedicated to ground. For single-ended and differential pair signal/ground assignments see signal routing information on the assembly print at the web address above.

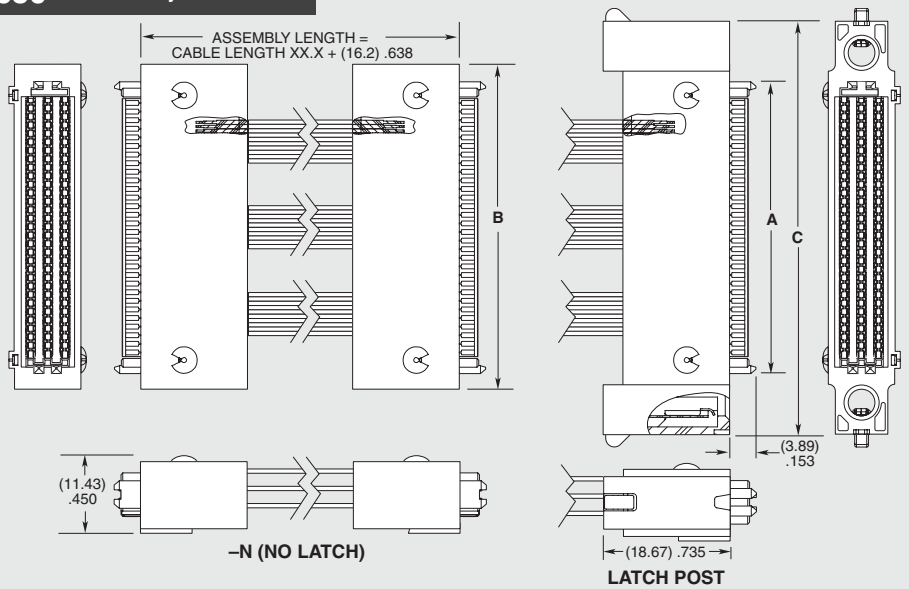
Design your High-Speed Cable with Samtec's High-Speed Cable Solutionator® at www.samtec.com/hdr

OTHER SOLUTIONS

- Other end options
- Mixed SEAC end types
- 300 positions or greater

SEAC	NO. OF POSITIONS PER ROW	NO. OF ROWS	CABLE LENGTH	TU	TU	CABLE TYPE	LATCH OPTION
	–020 = –04, –06, –08 & –10 row only –030 = –04, –06 & –08 row only –040 = –04 & –06 row only –050 = –04 row only	–04, –06, –08, –10	–"XX.X" = Cable Length in Inches (152.4 mm) 06.0" minimum		Leave Blank for 36 AWG 50 Ω coax –2 = 32 AWG 100 Ω twinax		Leave Blank for latch post –N = No Latch (Not available with –04)

POSITIONS PER ROW	A	B	C
–020	(30.38) 1.196	(33.53) 1.320	(48.26) 1.900
–030	(43.08) 1.696	(46.23) 1.820	(60.96) 2.400
–040	(55.78) 2.196	(58.93) 2.320	(73.66) 2.900
–050	(68.48) 2.696	(71.63) 2.820	(86.36) 3.400



Notes:
Mixed latch styles not available

Cable lengths longer than 40.00" (1 meter) are not supported with S.I. test data.

PCI-SIG®, PCI Express® and the PCIe® design marks are registered trademarks and/or service marks of PCI-SIG.

Some lengths, styles and options are non-standard, non-returnable.

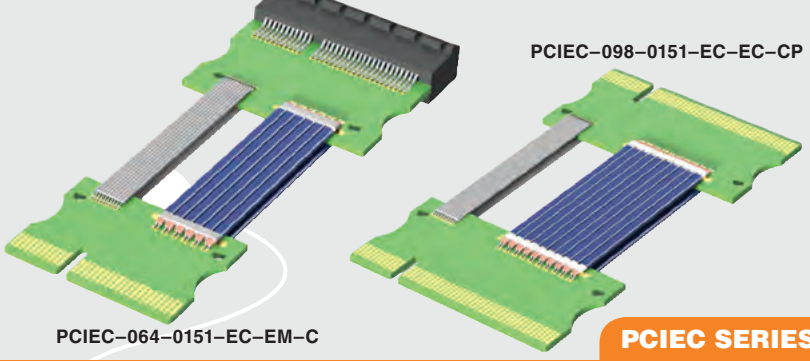
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PCI EXPRESS®
PCIe® Gen 2 and Gen 3 protocol supported

(1.00 mm) .0394"



PCIEC SERIES

PCI EXPRESS® JUMPERS

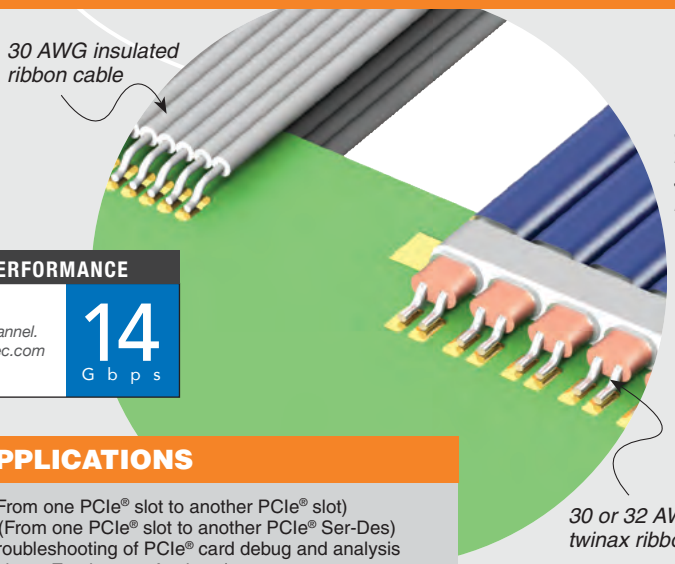
SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?PCIEC

CABLE ASSEMBLY

Cable:
Eye Speed® 30 AWG twinax or Eye Speed® 32 AWG twinax; 30 AWG insulated ribbon
Operating Temp:
-25 °C to +105 °C
Contact:
Phosphor Bronze
Plating:
Au or Sn over 50 µ" Ni
Performance:
Supports PCIe® Gen 1 & 2
Bend Radius:
(3.18 mm) .125"
-EM Connector:
Black Nylon
Card Insertion Depth:
(8.00 mm) .315"
RoHS Compliant:
Yes

Mates with:
PCIE, PCIE-LP



HIGH-SPEED CHANNEL PERFORMANCE

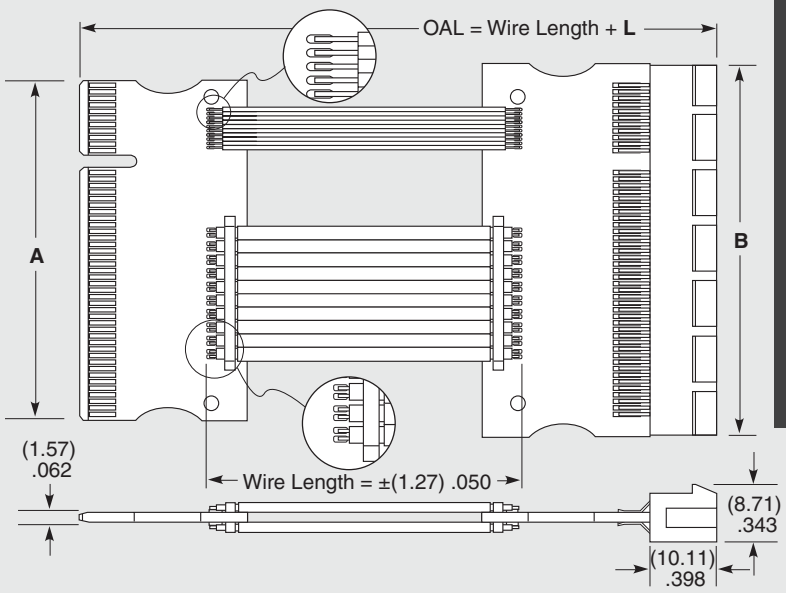
PCIEC
Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

14 Gbps

APPLICATIONS

Loop back Extender (From one PCIe® slot to another PCIe® slot)
Ser-Des Physical Extender (From one PCIe® slot to another PCIe® Ser-Des)
Physical Extender for easy troubleshooting of PCIe® card debug and analysis (PCIe® slot to Emulator or Analyzer)

PCIEC	NO. OF POSITIONS	WIRE LENGTH	END NO. 1	END NO. 2	CABLE OPTION	IMPEDANCE
	–036 (x1), –064 (x4), –098 (x8), –164 (x16)	–"XXXX" = Wire Length in millimeters 0050 mm minimum	–EC = Edge Card	–EC = PCIe® Edge Card –EM = PCIe® Edge Mount Connector	Leave blank for 32 AWG Eye Speed® Cable and no Power Lines (85 Ω only) –C 30 AWG Eye Speed® Cable and no Power Lines (100 Ω only) –CP 30 AWG Eye Speed® Cable and Power Lines (100 Ω only) –P 32 AWG Eye Speed® Cable and Power Lines (85 Ω only)	Leave blank for 100 Ω –85 = 85 Ω



END TO END	L
–EC to –EC	(39.6) 1.56
–EC to –EM	(49.6) 1.95

NO. OF POS.	A	B
–036 (x1)	(20.30) .800	(25.40) 1.00
–064 (x4)	(34.30) 1.35	(39.40) 1.55
–098 (x8)	(51.30) 2.02	(56.40) 2.22
–164 (x16)	(84.30) 3.32	(89.40) 3.52

Notes:
PCI-SIG®, PCI Express® and the PCIe® design marks are registered trademarks and/or service marks of PCI-SIG.

Cable lengths longer than 40.00" (1 meter) are not supported with S.I. test data.

This Series is non-standard, non-returnable.

Due to technical progress, all designs, specifications and components are subject to change without notice.

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Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.

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(0.80 mm) .0315"

FCF8, FCS8 SERIES

HIGH-SPEED COST EFFECTIVE COAX CABLE

SPECIFICATIONS

For complete specifications see www.samtec.com?FCF8

Cable: 38 AWG coax
Overmold: Nylon
Terminal Material: Phosphor Bronze
Contact Plating: Au or Sn over 50 µ" (1.27 µm) Ni
Operating Temp Range: -25 °C to +105 °C
Current Rating: 1.8 A per pin (1 pin powered)
RoHS Compliant: Yes

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

Notes:
Design your High-Speed Cable with Samtec's High-Speed Cable Solutionator® at www.samtec.com/hdr

Cable lengths longer than 40.00" (1 meter) are not supported with S.I. test data.

Some lengths, styles and options are non-standard, non-returnable.

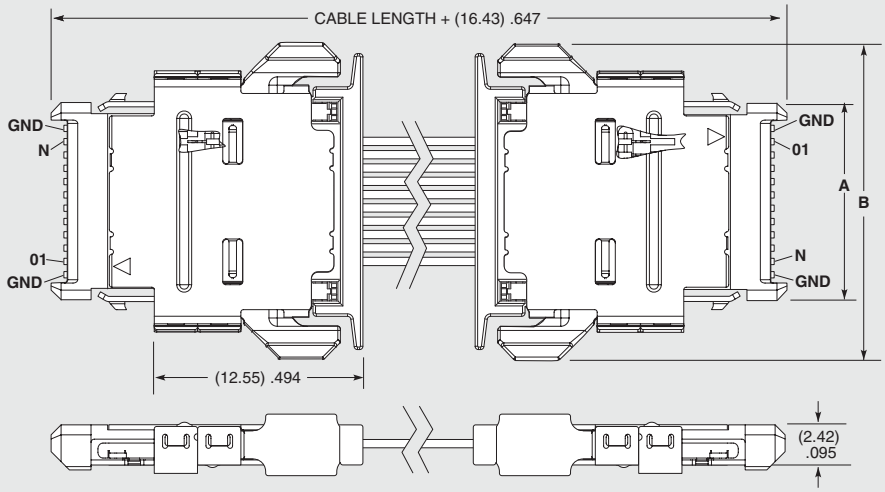
FCF8	–	NO. OF POSITIONS	–	01	–	PLATING OPTION	–	CABLE LENGTH	–	S

Mates with: FCS8

–10, –20, –30

–L
= 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

–"XX.XX"
= Length in Inches
03.00" (76.2 mm) minimum



NO. OF POSITIONS	A	B
–10	(11.85) .467	(19.00) .748
–20	(19.85) .781	(27.00) 1.063
–30	(27.85) 1.096	(35.00) 1.378

ALSO AVAILABLE
(MOV Required)

- Other sizes and lengths

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?FCS8

Insulator Material: Black LCP
Contact Material: BeCu
Contact Plating: Au or Sn over 50 µ" (1.27 µm) Ni
Shield: Nickel Plated Phosphor Bronze
Operating Temp Range: -55 °C to +125 °C
Current Rating: 1.8 A per pin (1 pin powered)
RoHS Compliant: Yes

PROCESSING

Lead–Free Solderable: Yes
SMT Lead Coplanarity: (0.15 mm) .006" max*
*(.004" stencil solution may be available; contact IPG@samtec.com)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

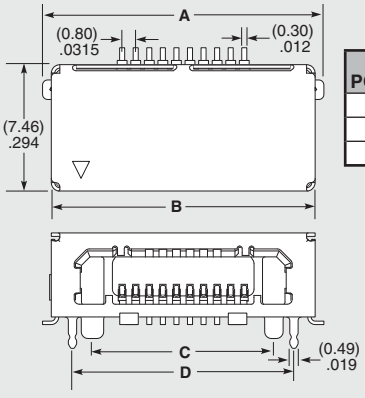
FCS8	–	NO. OF POSITIONS	–	01	–	PLATING OPTION	–	S	–	A	–	TR

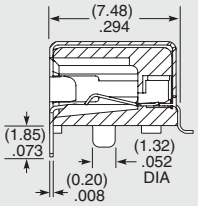
Mates with: FCF8

–10, –20, –30

–L
= 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

–TR
= Tape & Reel





NO. OF POSITIONS	A	B	C	D
–10	(16.59) .653	(15.56) .613	(10.70) .421	(13.06) .514
–20	(24.59) .968	(23.56) .928	(18.70) .736	(21.06) .829
–30	(32.59) 1.283	(31.56) 1.243	(26.70) 1.051	(29.06) 1.144

RUGGEDIZED BY SAMTEC

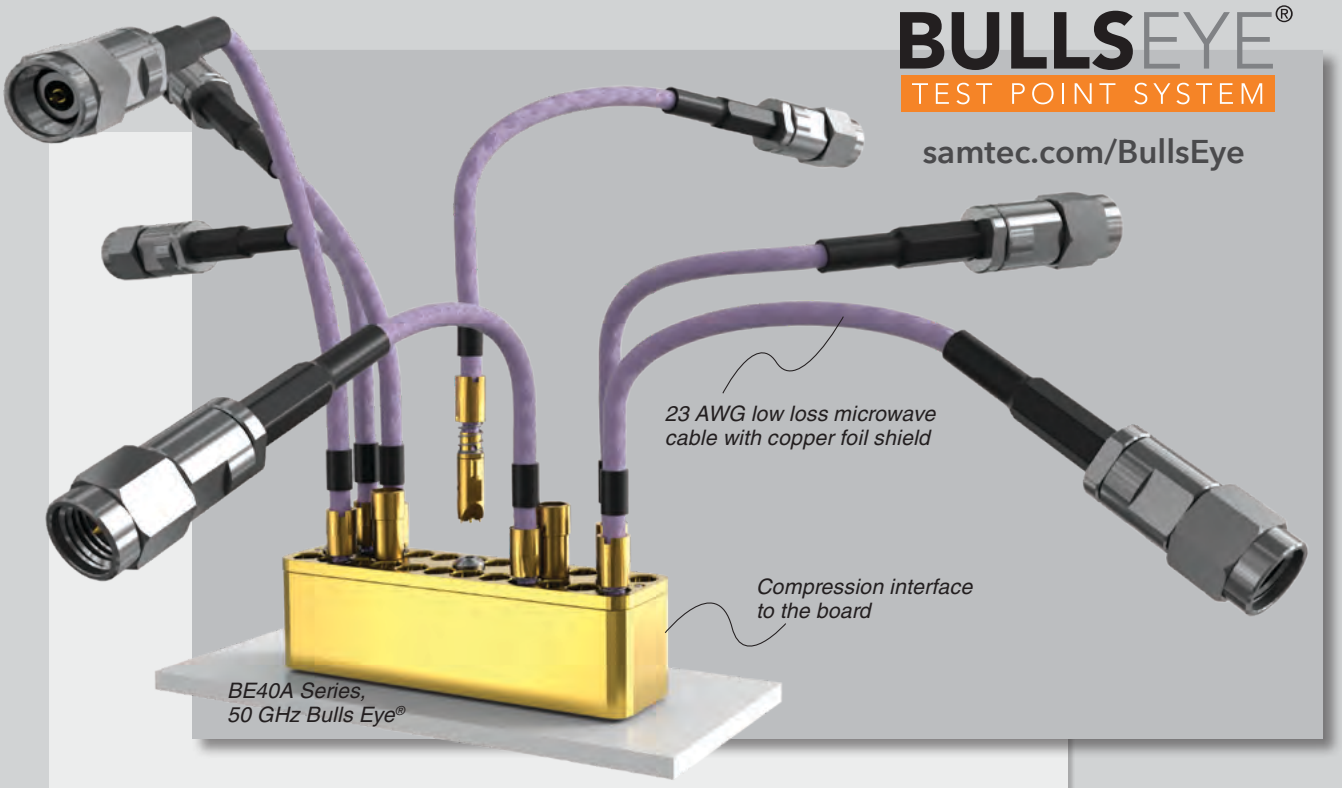
- Weld tabs
- Positive latching
- Shielded for EMI protection

Note: Some lengths, styles and options are non-standard, non-returnable.

Due to technical progress, all designs, specifications and components are subject to change without notice.

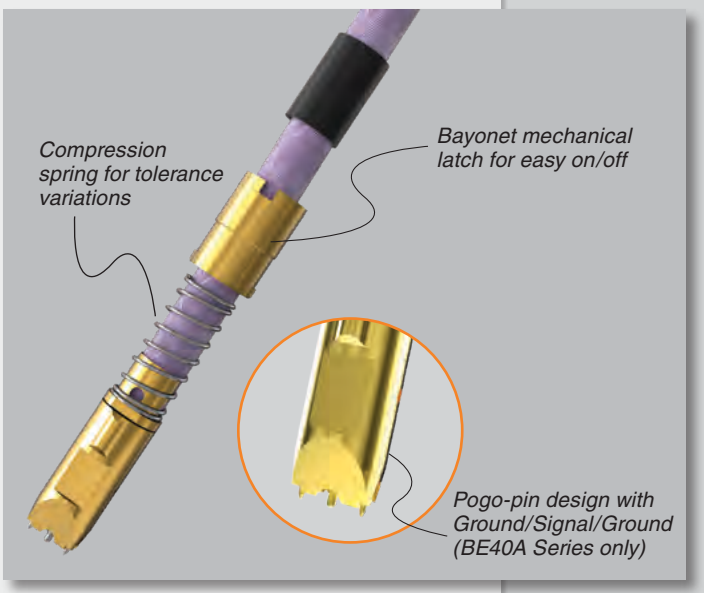
All parts within this catalog are built to Samtec's specifications.
Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.

HIGH-SPEED TEST SYSTEMS TO 50 GHz



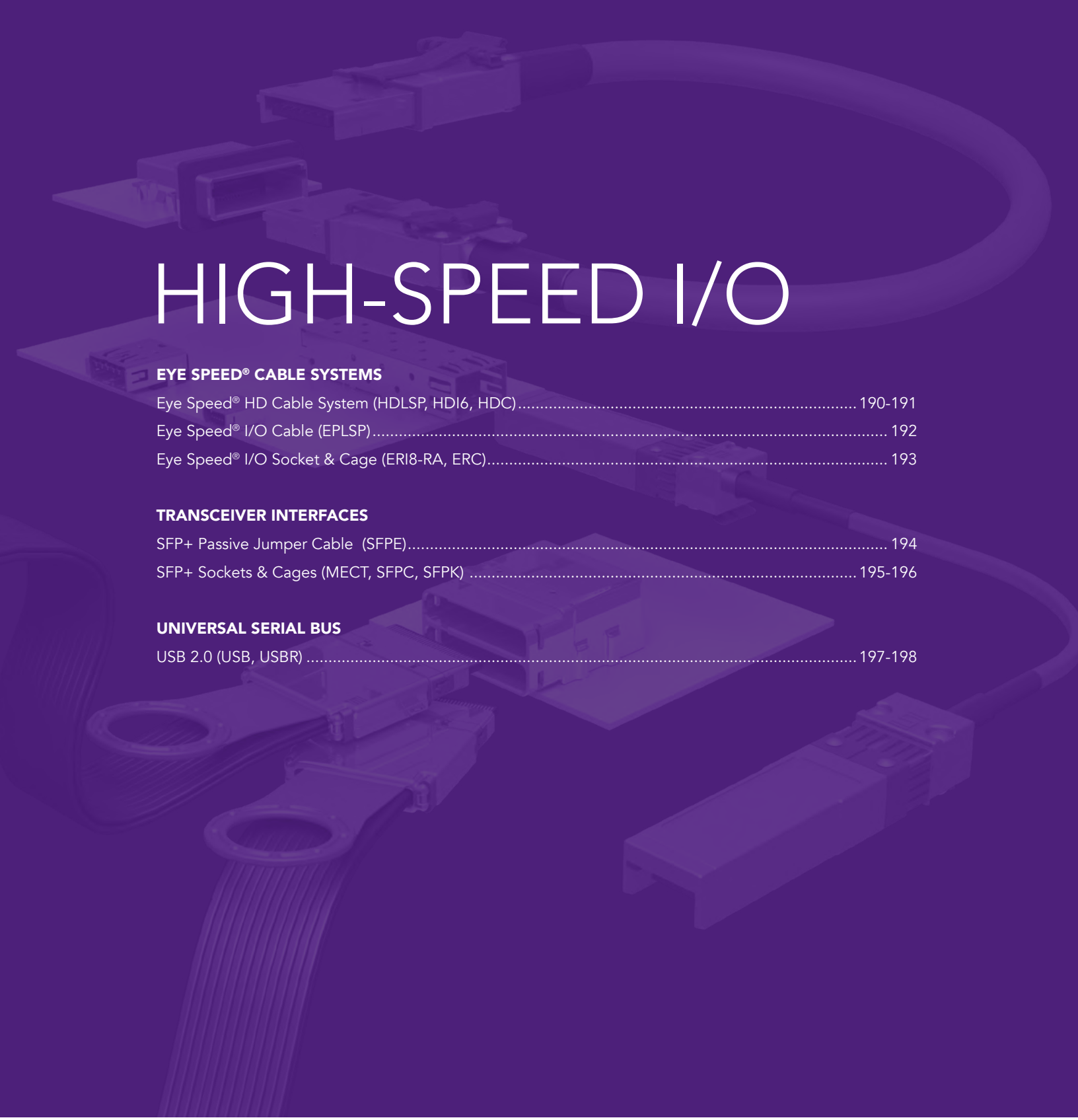
Bulls Eye® Test Point Systems

- Optimized performance up to 50 GHz (65 GHz in development)
- 2.40 mm, 2.92 mm and SMA end options
- Significantly saves space on the board compared to traditional test solutions
- High Frequency 23 AWG microwave cable
- 50 Ω impedance
- Phased matched pairs
- Compression mount allows for re-use and eliminates soldering cost
- BE40A is backward compatible with BDRA
- Transmission types: microstrip (BE40A) or stripline (BE40A, BDRA, BQRA)
- Assembly options: dual row (BE40A, BDRA) and quad row (BQRA)
- Contact **RFTechnicalGroup@samtec.com**



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HIGH-SPEED I/O

EYE SPEED® CABLE SYSTEMS

Eye Speed® HD Cable System (HDLSP, HDI6, HDC) 190-191

Eye Speed® I/O Cable (EPLSP) 192

Eye Speed® I/O Socket & Cage (ERI8-RA, ERC) 193

TRANSCEIVER INTERFACES

SFP+ Passive Jumper Cable (SFPE) 194

SFP+ Sockets & Cages (MECT, SFPC, SFPK) 195-196

UNIVERSAL SERIAL BUS

USB 2.0 (USB, USBR) 197-198

APPLICATIONS

High-Speed I/O 28-29

samtec

EYE® SPEEDHD I/O SYSTEM



HDLSP–035–1000

(0.635 mm) .025"

HDLSP SERIES

HIGH-DENSITY/HIGH-SPEED CABLE SYSTEM

SPECIFICATIONS

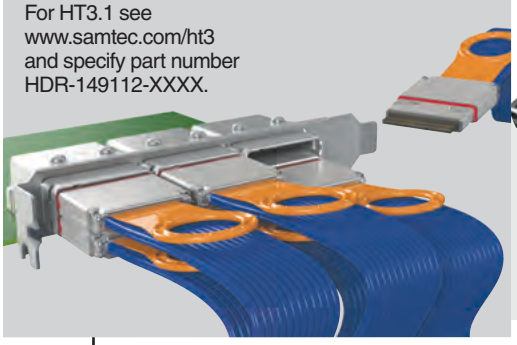
Mates with:
HDI6

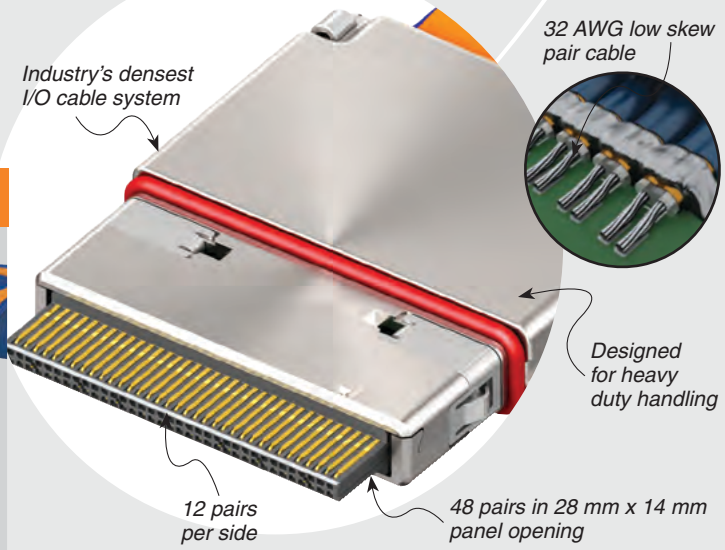
For complete specifications and recommended PCB layouts see www.samtec.com?HDLSP

Cable:
32 AWG low skew pair cable
Insulator Material:
LCP
Terminal Material:
Phosphor Bronze
Jacket Material:
PVC
Insulator:
Dielectric
Conductors:
Copper
Braid:
Tinned Copper
Covers:
Diecast Zinc Alloy
Current Rating:
1.5 A per pin
(4 adjacent pins powered)

OTHER SOLUTIONS

For HT3.1 see www.samtec.com/ht3 and specify part number HDR-149112-XXXX.

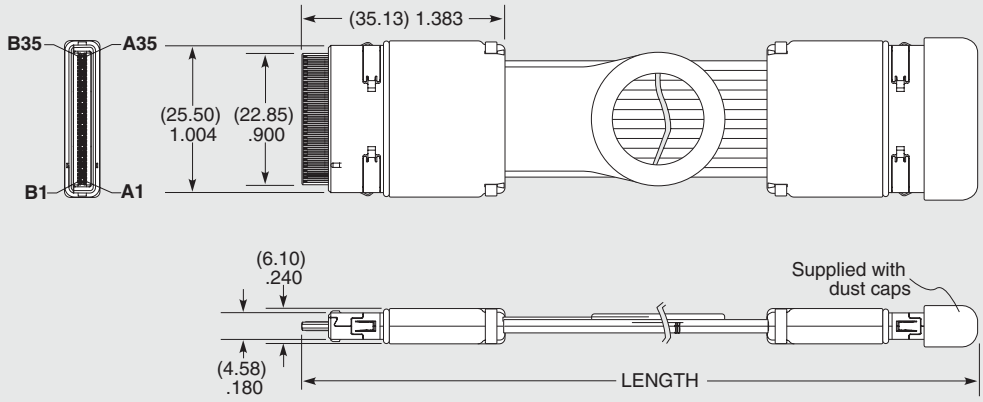




ALSO AVAILABLE
(MOQ Required)

- Other lengths

TYPE	NO. OF POSITIONS	LENGTH
HDLSP = High-density Low Skew Pair Cable	**–035** (Per Row) = 12 Pairs per side	**–"XXXX"** = Length in millimeters –1000, –2000 (Standard lengths)



Note: Some lengths, styles and options are non-standard, non-returnable.

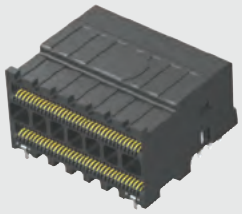
Due to technical progress, all designs, specifications and components are subject to change without notice.

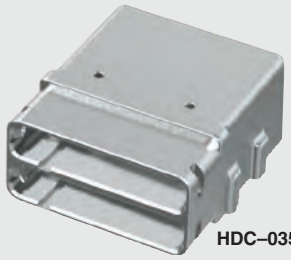
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EYE® SPEEDHD I/O SYSTEM

HDI6–035–01–RA–TR





HDC–035–01

(0.635 mm) .025"

HDI6, HDC SERIES

HIGH-DENSITY HIGH-SPEED I/O SYSTEM

Mates with:
HDLSP

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?HDI6

Insulator Material: Black LCP
Terminal Material: Phosphor Bronze
Plating: Au or Sn over 50 µ" (1.27 µm) Ni
Current Rating: 1.5 A per pin (4 adjacent pins powered)
Operating Temp Range: -25 °C to +105 °C
Voltage Rating: 150 VAC

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

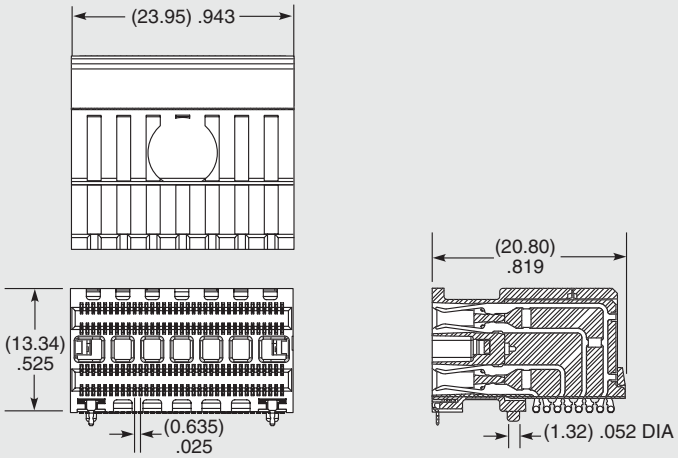
FILE NO. E111594

Notes:
Patented

For HT3.1 see www.samtec.com/ht3 and specify part number ASP-149117-01

Some lengths, styles and options are non-standard, non-returnable.

HDI6	–	NO. OF POSITIONS	–	01	–	RA	–	TR
		–035 (Per Row)						–TR = Tape & Reel Packaging

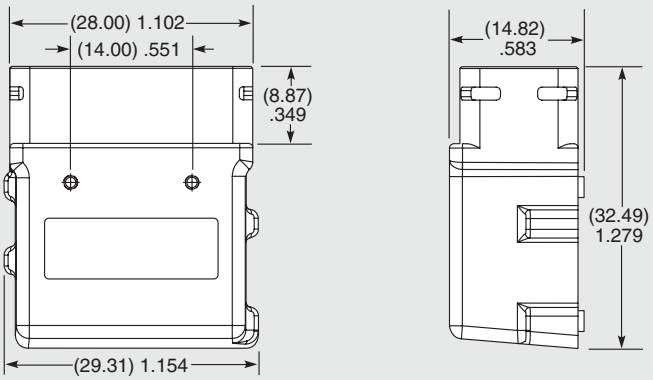


SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?HDC

Note: For HT3.1 see www.samtec.com/ht3 and specify part number ASP-149118-01

TYPE		NO. OF POSITIONS		01
HDC = Cage		–035 = Number of Positions		



Due to technical progress, all designs, specifications and components are subject to change without notice.

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EYE® SPEED I/O SYSTEM



(0.80 mm) .0315"

EPLSP SERIES

RUGGED LATCHING HIGH-SPEED SYSTEM

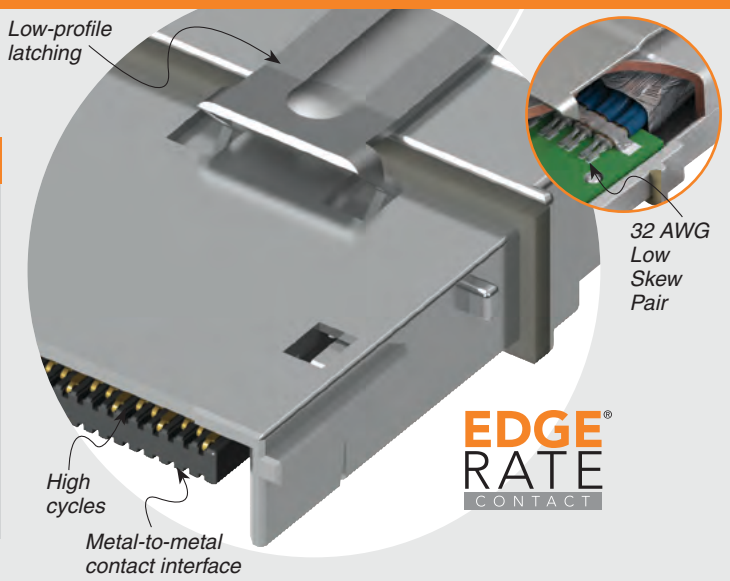
FEATURES

- Rugged external cable
- Small form factor
- Low profile latching
- Metal-to-metal two-piece contact system
- High mating cycles
- High cable flex life (500 cycles 180° bend)
- Small bend radius

Mates with:
ERI8

APPLICATION





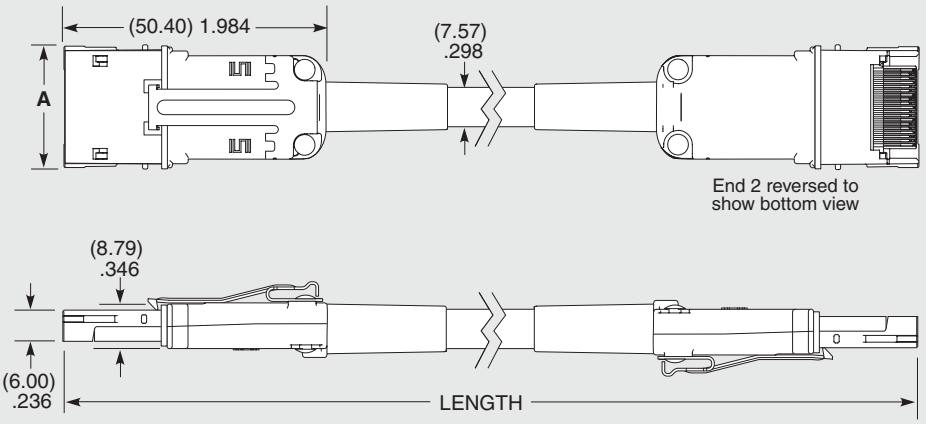
SPECIFICATIONS

For complete specifications see www.samtec.com?EPLSP

Cable:
32 AWG Low Skew Pair/
28 AWG Power
Bend Radius:
(25.40 mm) 1.00"
Signal Routing:
100 Ω Differential
Pinout Map:
1:1 Map Standard
(See web address above for additional information)
Operating Temp Range:
-20 °C to +105 °C
Current Rating:
1.7 A per pin
(2 pins powered)
RoHS Compliant:
Yes

TYPE	NO. OF POSITIONS	LENGTH
EPLSP = Eye Speed® I/O Cable	**–019** = 9 Pairs, 5 Power, 19 positions **–031** = 17 Pairs, 5 Power, 31 positions	**–"XXXX"** = Length in millimeters –1000, –2000, –3000 (Standard lengths)

NO. OF POSITIONS	A
–019	(23.85) .939
–031	(32.95) 1.30



ALSO AVAILABLE (MOQ Required)

- Other lengths

Note:
This Series is non-standard, non-returnable.

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EYE® SPEED I/O SYSTEM

ERI8–019–S–D–RA





ERC–019–01–02

(0.80 mm) .0315"

ERI8, ERC SERIES

HIGH-SPEED I/O SYSTEM

ERI8 Mates with:
EPLSP

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?ERI8

Insulator Material:
Black LCP
Terminal Material:
BeCu
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Current Rating:
1.7 A per pin
(2 pins powered)
Voltage Rating:
225 VAC/320 VDC
Operating Temp Range:
-55 °C to +125 °C
Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max
RoHS Compliant:
Yes

Notes:
Active equalization reference design for Eye Speed® I/O system see www.samtec.com?EPLSP

Some lengths, styles and options are non-standard, non-returnable.

EDGE® RATE CONTACT

ERI8	–	NO. OF POSITIONS	–	PLATING OPTION	D	RA	–	OTHER OPTION

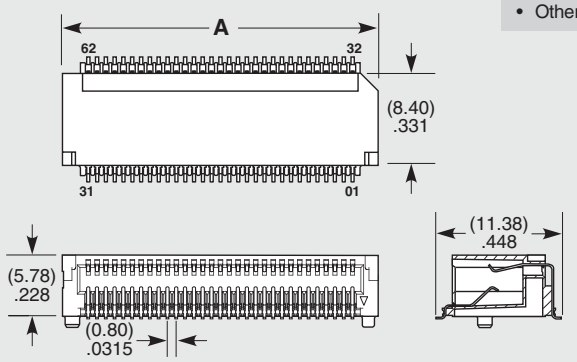
NO. OF POSITIONS
–019 = 9 Pairs, 5 Power, 19 positions
–031 = 17 Pairs, 5 Power, 31 positions

PLATING OPTION
–S = 30 µ" (0.76 µm) Gold on contact, Matte Tin on tail

OTHER OPTION
–TR = Tape & Reel Packaging

ALSO AVAILABLE (MOQ Required)
- Other platings

NO. OF POSITIONS	A
–019	(19.08) .751
–031	(28.68) 1.13



SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?ERC

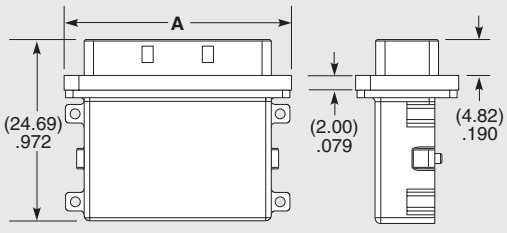
TYPE	–	NO. OF POSITIONS	–	01	–	OPTION

TYPE
ERC = Cage

NO. OF POSITIONS
–019, –031 = Number of Positions

OPTION
–01 = Without Gasket
–02 = With Gasket

NO. OF POSITIONS	A
–019	(30.55) 1.203
–031	(40.15) 1.58



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EYE® SPEED I/O SYSTEM





SFPE SERIES

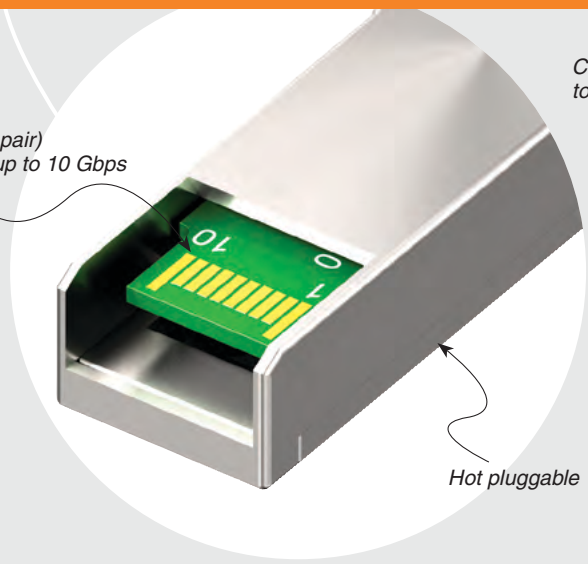
SFP+ PASSIVE JUMPER CABLE

SPECIFICATIONS

Mates with:
MECT, SFPC

For complete specifications see www.samtec.com?SFPE

Impedance:
100 Ω
Signal Routing:
Differential



APPLICATION

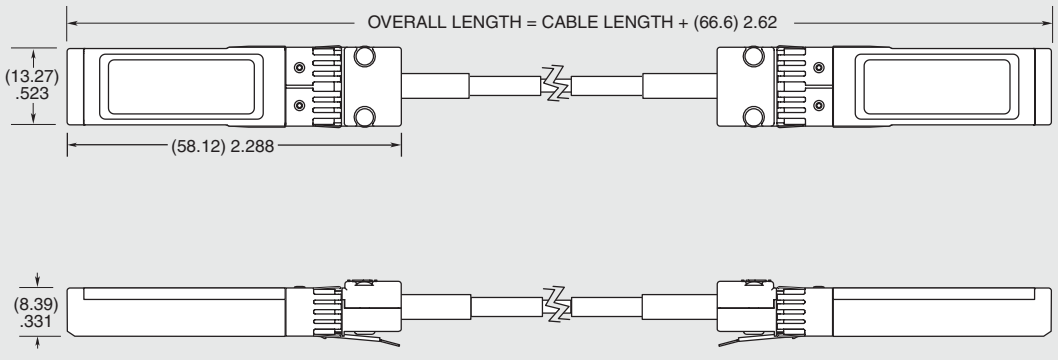


SFPC/MECT cage & connector kit available (SFPK Series).

ALSO AVAILABLE (MOQ Required)

- Other lengths available. Cable assemblies longer than 3 m are not supported with S.I. test data.

SFPE	NO. OF PAIRS	CABLE LENGTH	EQUALIZATION	WIRE GAUGE
	–010 = 2 Pairs	–XXXX = Length in millimeters –1000, –2000, –3000 (Standard lengths)	–NE = Non Equalized	–32 = 32 AWG

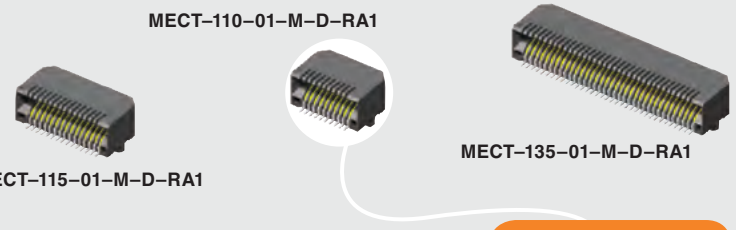


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(0.80 mm) .0315"

MECT SERIES

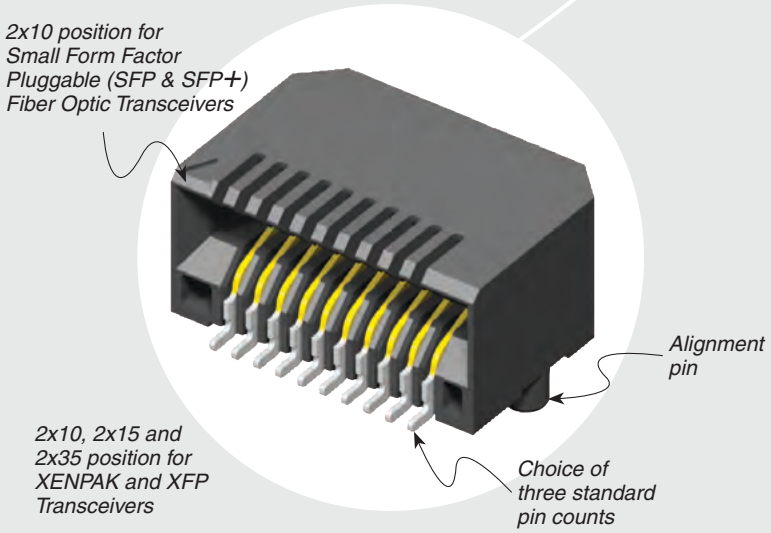
SFP & SFP+ TRANSCEIVER INTERFACES

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?MECT

Insulator Material:
Black LCP
Contact Material:
Phosphor Bronze
Plating:
Sn or Au over
100 µ" (2.54 µm) Ni
Operating Temp Range:
-55 °C to +125 °C
Current Rating:
2 A per pin
(6 pins powered)
Voltage Rating:
265 VAC
RoHS Compliant:
Yes

Mates with:
SFP, SFP+, XFP or XENPAK transceivers



PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (10-35)

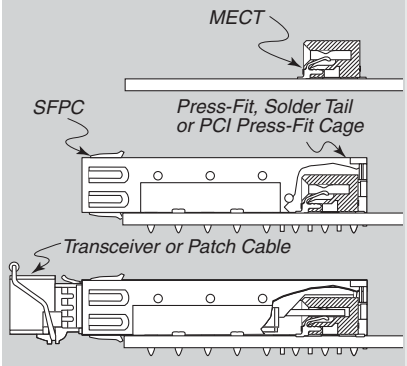
RECOGNITIONS

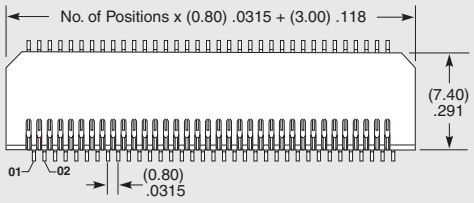
For complete scope of recognitions see www.samtec.com/quality

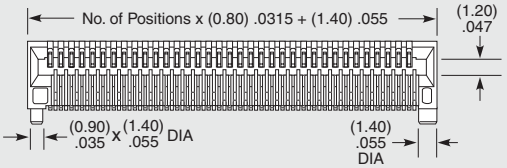
FILE NO. E111594

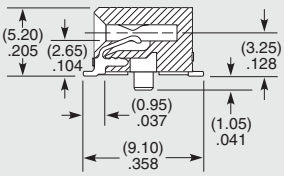
MECT	1	POSITIONS PER ROW	CARD THICKNESS	PLATING OPTION	D	RA1	OTHER OPTION
		10, 15, 35	–01 = (1 mm) .039" thick board	–M = 15 µ" (0.38 µm) Gold on contact, Matte Tin on tail			–TR = Tape & Reel Packaging

APPLICATION







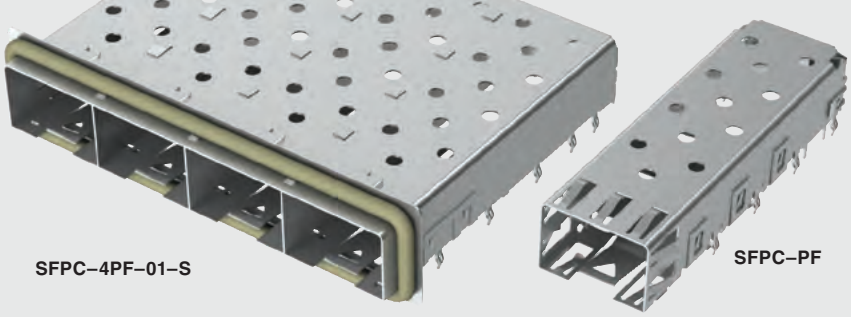


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SFPC, SFPK SERIES

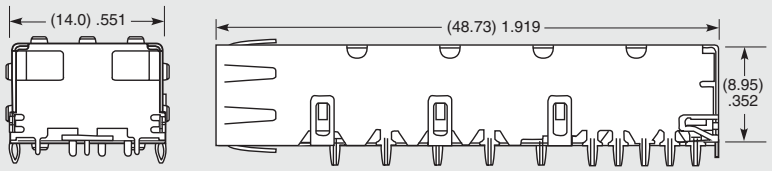
SFP CAGES & CAGE/CONNECTOR KITS

Use with:
MECT

SPECIFICATIONS

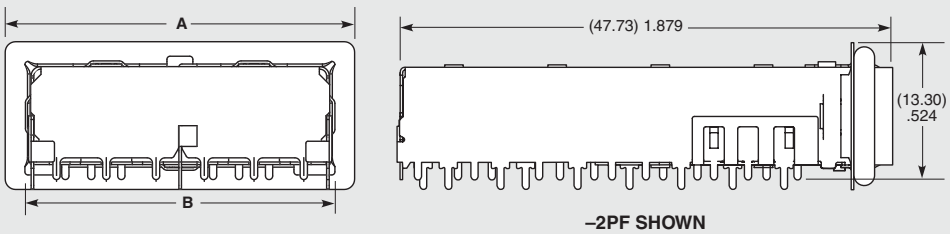
For complete specifications see www.samtec.com?SFPC or www.samtec.com?SFPK

TYPE	TERMINATION	CONNECTOR PACKAGE
SFPC = Cage **SFPK** = Cage and Connector Kit (SFPC & MECT–110–01–M–D–RA1)	**–PF** = Press-Fit **–SL** = Solder Lead **–PC** = PCI Press-Fit (1° slope for PCI specifications)	SFPK only **–TR** = Tape & Reel (Leave blank for tube packaging)



TYPE	NO. OF PORTS	TERMINATION	PANEL MOUNT OPTION	S
SFPC = Cage **SFPK** = Cage and Connector Kit (SFPC & MECT–110–01–M–D–RA1)	**–2** = 1x2 **–4** = 1x4	**PF** = Press-Fit **SL** = Solder Lead **PC** = PCI Press-Fit (1° slope for PCI specifications)	**–01** = Solid Gasket **–02** = Hollow Gasket	**–S** = Single Row

NO. OF PORTS	A	B
–2	(33.70) 1.33	(28.25) 1.11
–4	(62.20) 2.45	(56.50) 2.22



–2PF SHOWN

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USB–A–D–S–B–TH

USBR–A–S–F–O–TH





USB–A–S–F–B–VU

USB–AM–S–F–W–TH



USB-A, USBR-A, USB-AM SERIES

STANDARD & RUGGED USB 2.0

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?USB-A, www.samtec.com?USBR-A or www.samtec.com?USB-AM

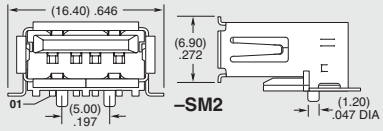
Insulator Material:
High Temperature Thermoplastic
Contact Material:
Phosphor Bronze
Plating:
Gold on Contacts, Nickel on Shell, Tin on Tails
Operating Temp Range:
-50 °C to +85 °C
Voltage Rating:
30 VAC
Cycles:
1500 (max tested)
Packaging:
Packaged and shipped in Bulk Packaging Trays; Trays suitable for automation available
RoHS Compliant:
Yes
Lead–Free Solderable
–TH & –VU=Yes
(Wave Solder only)
TID Numbers (USB-A):
USB-A-D-X-X-TH (61001199)
USB-A-S-X-X-TH (61001180)
USB-A-S-X-X-SM2 (61001152)
TID Number (USB-AM):
USB-AM-S-X-X-SM (61001154)

RECOGNITIONS

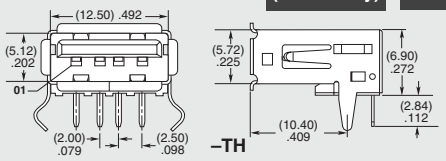
For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

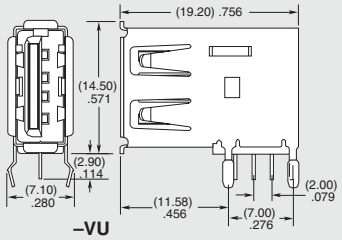
TYPE	A	SHELL TYPE	PLATING	COLOR	TERMINATION
USB = Standard Connector **USBR** = Increased Retention Connector (Complies with Class 1, DIV II minimum withdrawal requirement of 15N.)		**–S** = Single **–D** = Double (–TH option only)	**–F** = Gold Flash on Mating Area, Tin on Tails **–S** = 30 µ" (0.76 µm) Gold on Mating Area, Tin on Tails	**–B** = Black (USB only) **–W** = White (USB only) **–O** = Orange (USBR only)	**–TH** = Through-hole **–SM2** = Surface Mount (USB only) **–VU** = Upright, Through-hole



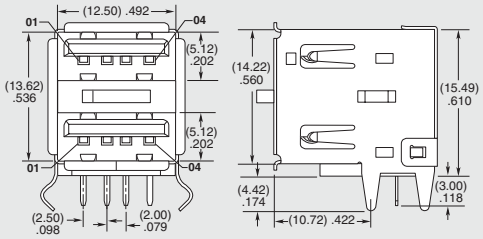
–SM2



–TH

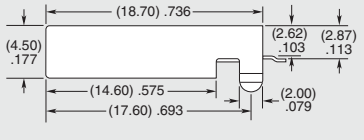


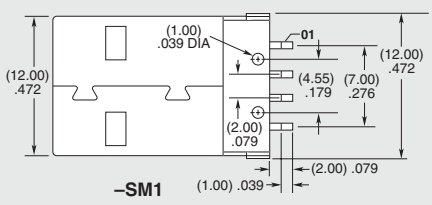
–VU



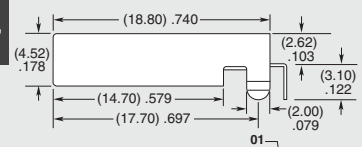
–D (Requires –TH)

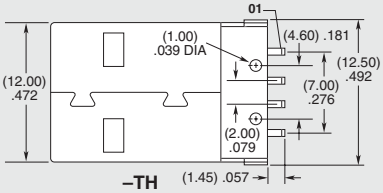
USB	TYPE	SHELL TYPE	PLATING	COLOR	TERMINATION
	–AM = A Type (Plug)	**–S** = Single	**–F** = Gold Flash on Mating Area, Tin on Tails **–S** = 30 µ" (0.76 µm) Gold on Mating Area, Tin on Tails	**–B** = Black **–W** = White	**–TH** = Through-hole **–SM1** = Surface Mount





–SM1





–TH

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USB-B, USBR-B SERIES

STANDARD & RUGGED USB 2.0

SPECIFICATIONS

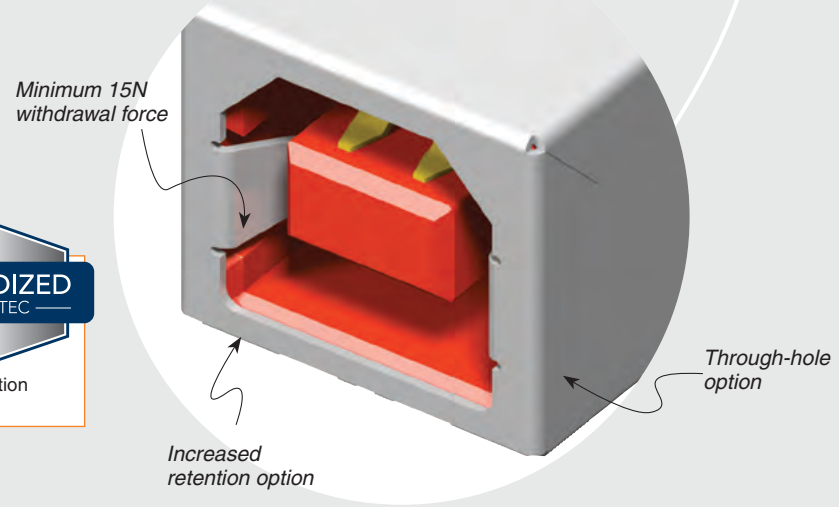
For complete specifications and recommended PCB layouts see www.samtec.com?USB-B or www.samtec.com?USBR-B

Insulator Material:
High Temperature Thermoplastic
Contact Material:
Phosphor Bronze
Plating:
Gold on Contacts, Nickel on Shell, Tin on Tails
Operating Temp Range:
-50 °C to +85 °C
Voltage Rating:
30 VAC
Cycles:
1500 (maximum number of cycles tested)
Packaging:
Packaged and shipped in Bulk Packaging Trays; Trays suitable for automation are available upon request.
RoHS Compliant:
Yes
Lead–Free Solderable:
USB-SM=Yes
USB-TH= Yes (Wave Solder only)
USBR=Yes (Wave Solder only)
TID Number:
USB-B-S-X-X-TH (61001155)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594 (USB only)
FILE NO. E225096 (USBR only)

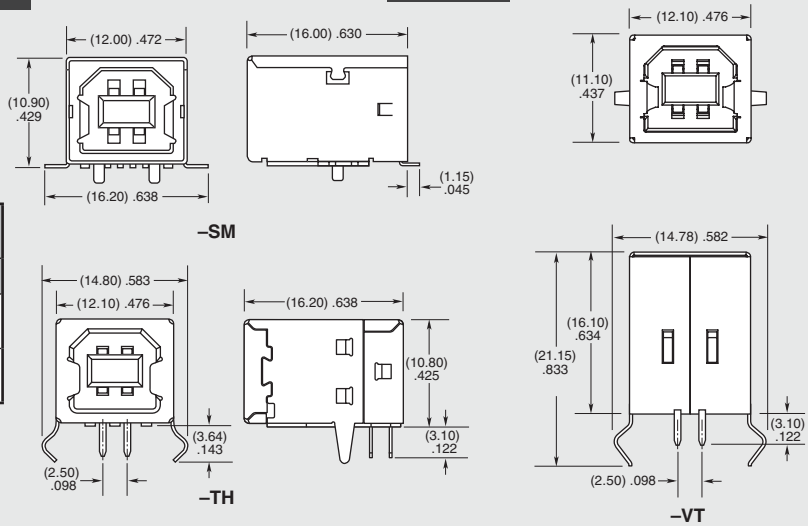


RUGGEDIZED BY SAMTEC

- High retention option

TYPE	B	S	PLATING	COLOR	TERMINATION	OTHER OPTION
USB = Standard Connector **USBR** = Increased Retention Connector (Complies with Class 1, DIV II minimum withdrawal requirement of 15N)			**–F** = Gold Flash on Mating Area, Tin on Tails **–S** = 30 µ" (0.76 µm) Gold on Mating Area, Tin on Tails	**–B** = Black (USB only) **–W** = White (USB only) **–O** = Orange (USBR only)	**–TH** = Through-hole **–SM** = Surface Mount (USB only) **–VT** = Vertical Top Entry	**–TR** = Tape and Reel Packaging (–SM only)

MATING / UNMATING FORCE (100 CYCLES)		
SERIES	MATING	UNMATING
USB	5.3 (23.59 N)	6.1 (27.15 N)
USBR	11.8 (52.51 N)	11.5 (51.18 N)

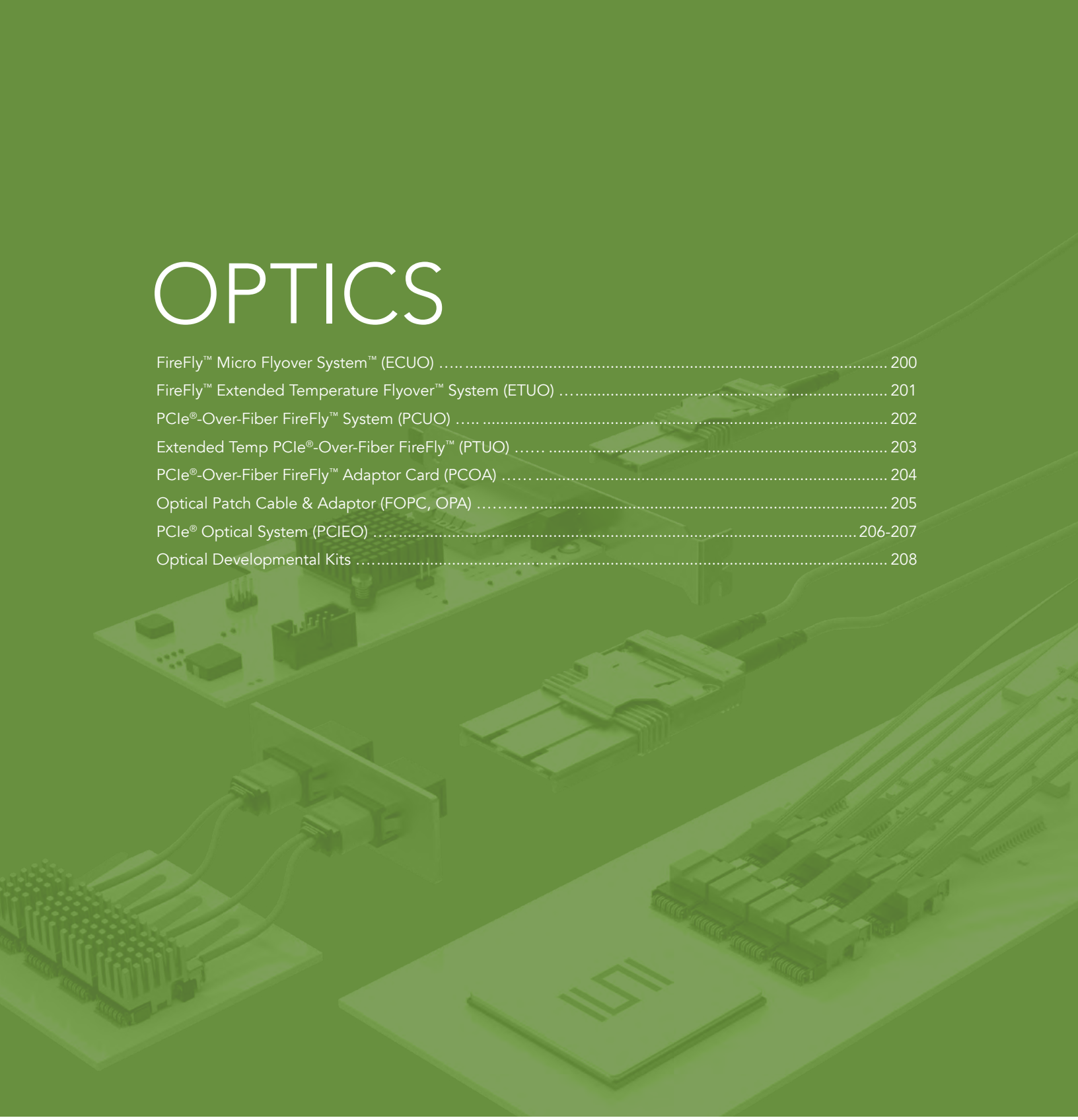


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OPTICS

FireFly™ Micro Flyover System™ (ECUO) 200
FireFly™ Extended Temperature Flyover™ System (ETUO) 201
PCIe®-Over-Fiber FireFly™ System (PCUO) 202
Extended Temp PCIe®-Over-Fiber FireFly™ (PTUO) 203
PCIe®-Over-Fiber FireFly™ Adaptor Card (PCOA) 204
Optical Patch Cable & Adaptor (FOPC, OPA) 205
PCIe® Optical System (PCIEO) 206-207
Optical Developmental Kits 208

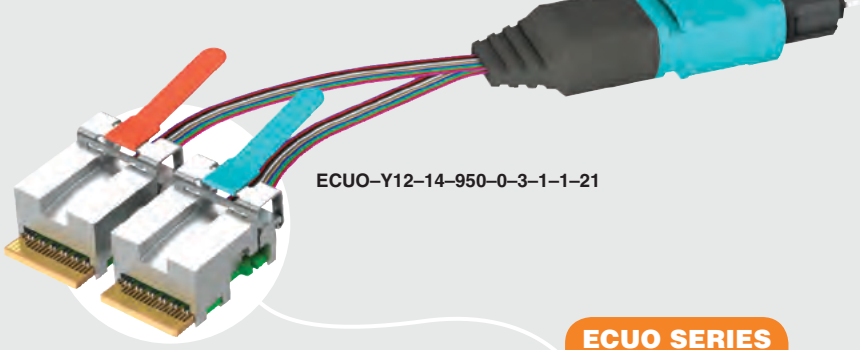


APPLICATIONS

Optics 26-27

samtec

FIREFLY™



ECUO–Y12–14–950–0–3–1–1–21

ECUO SERIES

OPTICAL MICRO FLYOVER™ ASSEMBLY

FEATURES

- Standard Temperature range from 0 °C to +70 °C
- Interchangeable with FireFly™ copper using the same micro connector system
- x4 & x12
- 14 Gbps, 16 Gbps, 25 Gbps and 28 Gbps
- Proven 850 nm VCSEL array
- Cost-effective multi-mode fiber
- Integral heat sink
- Angled fiber exit from the housing to minimize keep-out zone on the board
- Bend Radius: 7.5 mm
- Supports data center and HPC protocols, including: Ethernet, InfiniBand™, Fibre Channel, PCIe®. (See firefly@samtec.com)
- Evaluation & development boards available

SPECIFICATIONS

For complete specifications see www.samtec.com?ECUO

Class 1 LASER PRODUCT
per IEC 60825-1 Ed. 2 (2007)

ELECTRICAL SOLUTIONS

- Performance to 28 Gbps
- Easily upgrade to optical with same connector system

See ECUE Series.

MTP® is a registered trademark of US Conec Ltd.

Patents:
8588562, 8588561
Additional patents pending

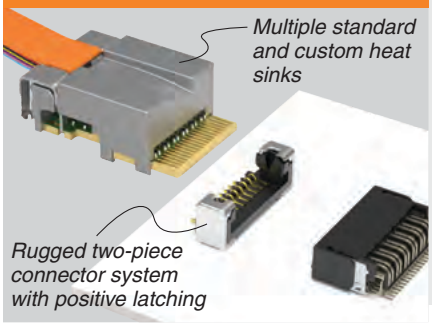
Note:
All FireFly™ designs, specifications and components are preliminary and subject to change without notice.

Mates with:
UEC5, UCC8, OPA

INSERTION TOOL

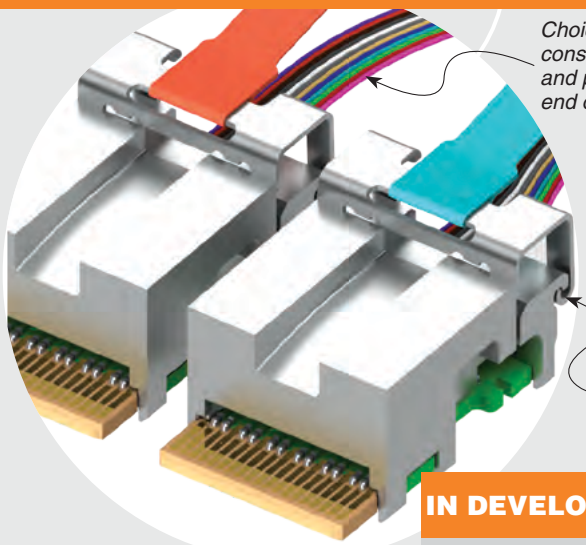
- CAT-IN-ECUO-02

APPLICATION



Multiple standard and custom heat sinks

Rugged two-piece connector system with positive latching



Choice of cable construction and passive end options

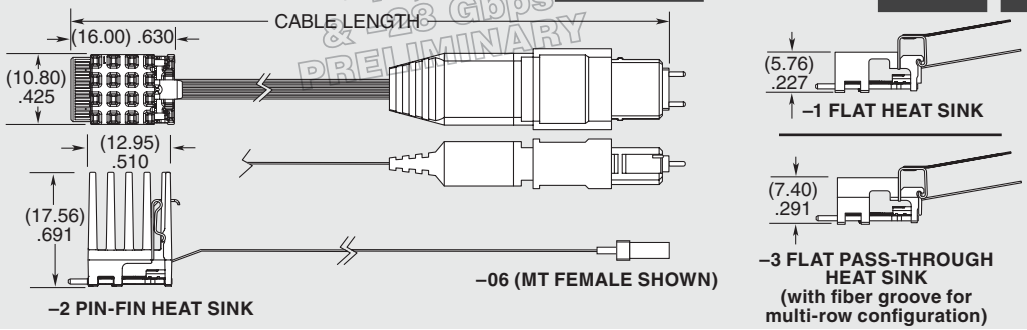
Rugged latching system

IN DEVELOPMENT

- Other fiber types

Contact firefly@samtec.com

ECUO	WIDTH	DATA RATE	CABLE LENGTH	0	HEAT SINK	1	FIBER TYPE	END OPTION
	–T12 = x12 Tx Simplex Optical –R12 = x12 Rx Simplex Optical –Y12 = x12 Duplex Optical (Y Configuration) –B04 = x4 Duplex Optical	–14 = 14 Gbps per lane –16 = 16 Gbps per lane (x12 only) –25 = 25 Gbps per lane (x4 only) –28 = 28 Gbps per lane (x4 only)	–"XXX" = Overall Length in Centimeters (011 cm to 999 cm) (Minimum length will depend on fiber type and End 2 option specified.)		–1 = Flat –2 = Pin-fin (–14 & –16 only) –3 = Flat with 3-Ribbon pass- through –4 = PCIe® Pin-fin (–14 & –16 only) –5 = Pin-fin (–28 only)		–1 = OM3 Low Bend Radius Ribbon –2 = OM3 Low Bend Radius Loose Tube	–Y12 requires –2(X) options* –01 = MTP® 12F key down, male –02 = MTP® 12F key down, female –05 = MT 12F male –06 = MT 12F female –21* = MTP 24F key down, male –22* = MTP® 24F key down, female –25* = MT 24F male –26* = MT 24F female



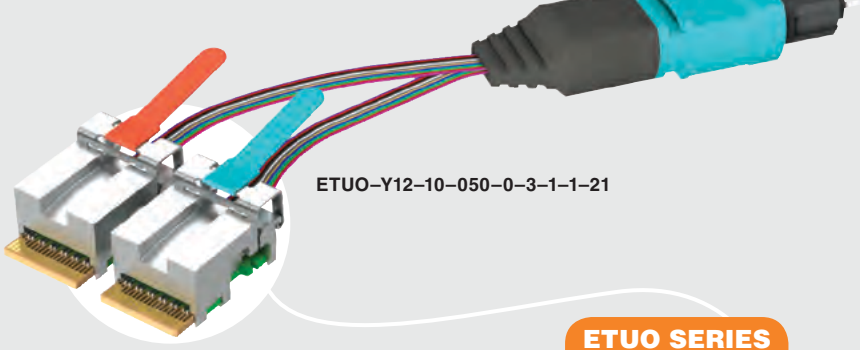
–16, –25, & –28 Gbps PRELIMINARY

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FIREFLY™



ETUO–Y12–10–050–0–3–1–1–21

ETUO SERIES

EXTENDED TEMP OPTICAL MICRO FLYOVER™

FEATURES

- Extended temperature range from -40 °C to +85 °C versus standard 0 °C to +70 °C (ECUO Series)
- High-speed performance to 10.3125 Gbps per channel
- x12 simplex, x12 duplex or x4 duplex optical transceiver system
- Demonstrated error-free transmission during applied external vibrations and shock test, to methods specified in MIL-STD-810G
- Integral heat sink provides optimal cooling for thermal operating conditions
- MT & MTP® standard end options (Other options available: MT38999, MTP®, MXC® ARINC 801 and ARIB)
- Micro rugged board level connector system with positive latching, weld tabs and loading guides for secure connection
- Cost-effective OM3 multi-mode fiber
- An angled fiber exit from the housing to minimize keep-out zone on the board

SPECIFICATIONS

For complete specifications see www.samtec.com?ETUO

Class 1 LASER PRODUCT
per IEC 60825-1 Ed. 2 (2007)

Patents:
8588562, 8588561
Additional patents pending

MTP® & MXC® is a registered trademark of US Conec Ltd.

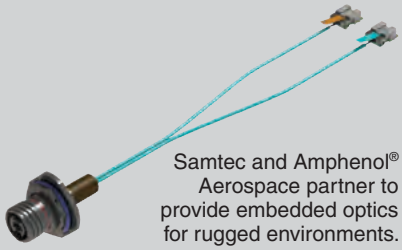
PCI-SIG®, PCI Express® and the PCIe® design marks are registered trademarks and/or service marks of PCI-SIG.

Mates with:
UEC5, UCC8, OPA

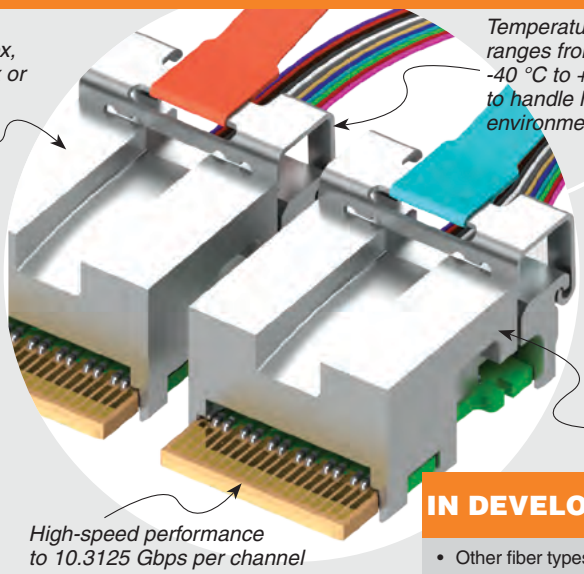
INSERTION TOOL

- CAT-IN-ECUO-02

APPLICATION SPECIFIC OPTION



Samtec and Amphenol® Aerospace partner to provide embedded optics for rugged environments.

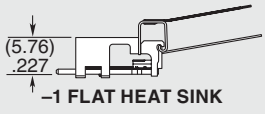


IN DEVELOPMENT

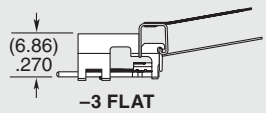
- Other fiber types

Contact firefly@samtec.com

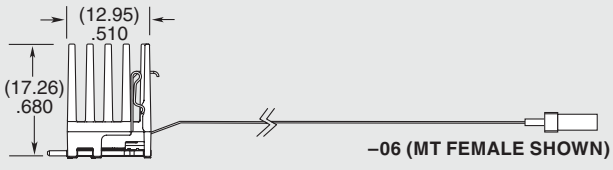
ETUO	– TYPE	– DATA RATE	– CABLE LENGTH	– 0	– HEAT SINK	– 1	– FIBER TYPE	– END OPTION
	–T12 = x12 Tx Simplex Optical –R12 = x12 Rx Simplex Optical –Y12 = x12 Duplex Optical (Y Configuration) –B04 = x4 Duplex Optical	–10 = 10.3125 Gbps	–"XXX" = Overall Length in Centimeters (011 cm to 999 cm) (Minimum length will depend on fiber type and End 2 option specified.)		–1 = Flat –2 = Pin-fin –3 = Flat with 3-Ribbon pass-through –5 = high-performance Pin-fin		–1 = OM3 Low Bend Radius Ribbon –2 = OM3 Low Bend Radius Loose Tube	–Y12 requires –2(X) options* –01 = MTP® 12F key down, male –02 = MTP® 12F key down, female –05 = MT 12F male –06 = MT 12F female –21* = MTP® 24F key down, male –22* = MTP® 24F key down, female –25* = MT 24F male –26* = MT 24F female



–1 FLAT HEAT SINK



–3 FLAT PASS-THROUGH HEAT SINK (with fiber groove for multi-row configuration)



–2 PIN-FIN HEAT SINK

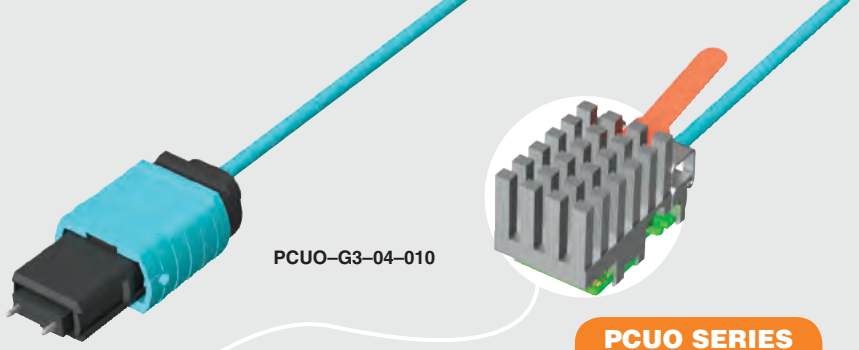
–06 (MT FEMALE SHOWN)

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FIREFLY™



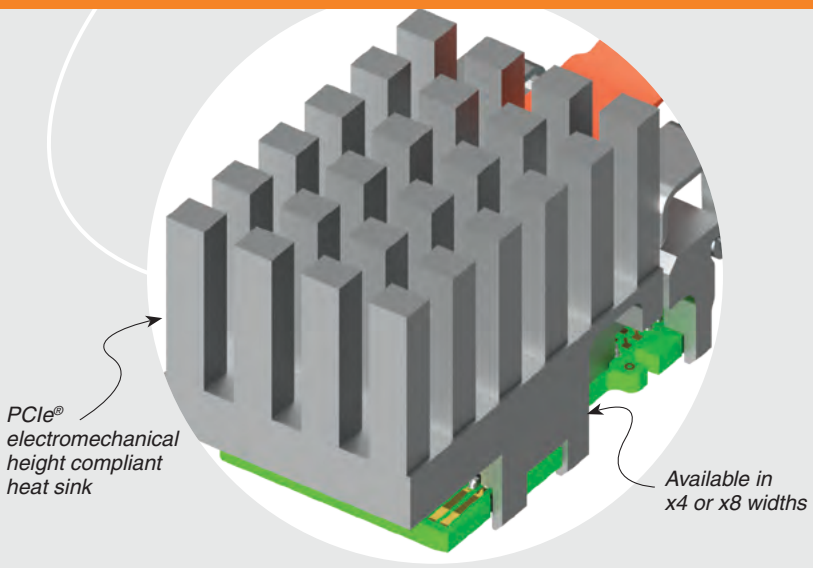
PCUO SERIES

PCIe®–OVER–FIBER OPTICAL FLYOVER™

FEATURES

- PCIe® Gen 3 x4, scalable to x8 and x16 widths
- Duplex auxiliary signals allow both transparent and non-transparent bridging
- High-performance signal quality with BER better than $1E^{-12}$
- Enables links up to 100 m
- Allows nontraditional FPGA/ASIC end points
- Additional heat sink, fiber type and end options available
- Standard temperature range 0 °C to +70 °C; Extended temperature version available (PTUO)
- PCIe® Gen 4 version in development

Mates with:
UEC5, UCC8, OPA



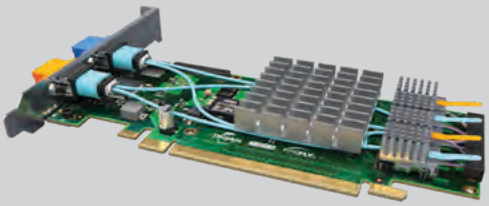
SPECIFICATIONS

For complete specifications see www.samtec.com?PCUO

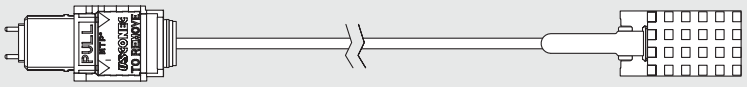
PCUO	– SPEED	– WIDTH	– CABLE LENGTH
	–G3 = Gen 3 Speed	–04 = x4 PCIe® Gen 3 –08 = x8 PCIe® Gen 3	–"XXX" = Overall Length in Centimeters (10 cm Min)

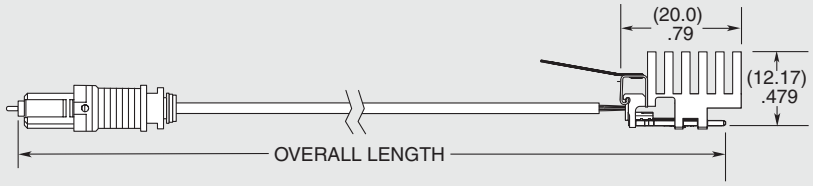
Class 1 LASER PRODUCT
per IEC 60825-1 Ed. 2 (2007)

OTHER SOLUTIONS



PCOA is a compatible PCIe® adaptor card supporting transparent and non-transparent bridge links





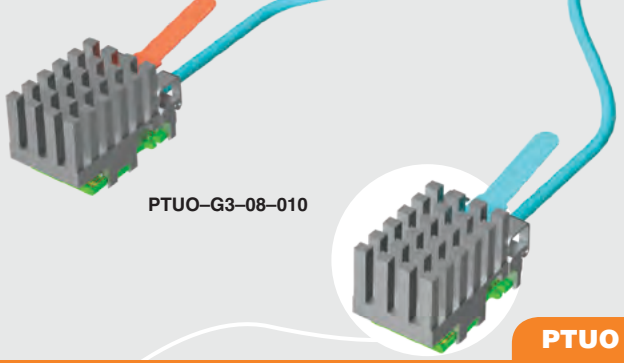
PCUO–G3–04–XXX SHOWN

PCI-SIG®, PCI Express® and the PCIe® design marks are registered trademarks and/or service marks of PCI-SIG.

Note:
Some lengths, styles and options are non-standard, non-returnable.

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FIREFLY™



PTUO–G3–08–010

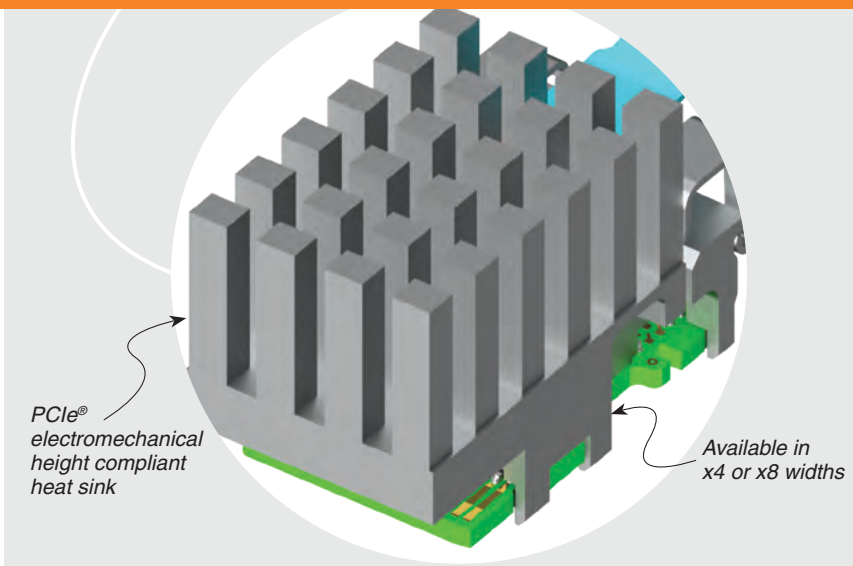
PTUO SERIES

EXTENDED TEMP PCIe®–OVER–FIBER

FEATURES

- Extended temperature range from -40 °C to +85 °C and -5 °C to +85 °C
- PCIe® Gen 3 x4, scalable to x8 and x16 widths
- Duplex auxiliary signals allow both transparent and non-transparent bridging
- High-performance signal quality with BER better than $1E^{-12}$
- Enables links up to 100 m
- Allows nontraditional FPGA/ASIC end points
- Additional heat sink, fiber type and end options available
- PCIe® Gen 4 version in development

Mates with:
UEC5, UCC8, OPA



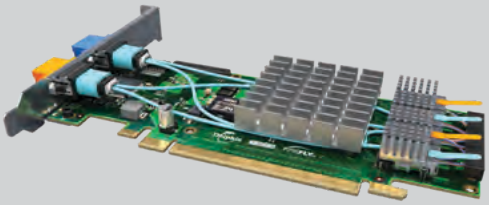
SPECIFICATIONS

For complete specifications see www.samtec.com?PTUO

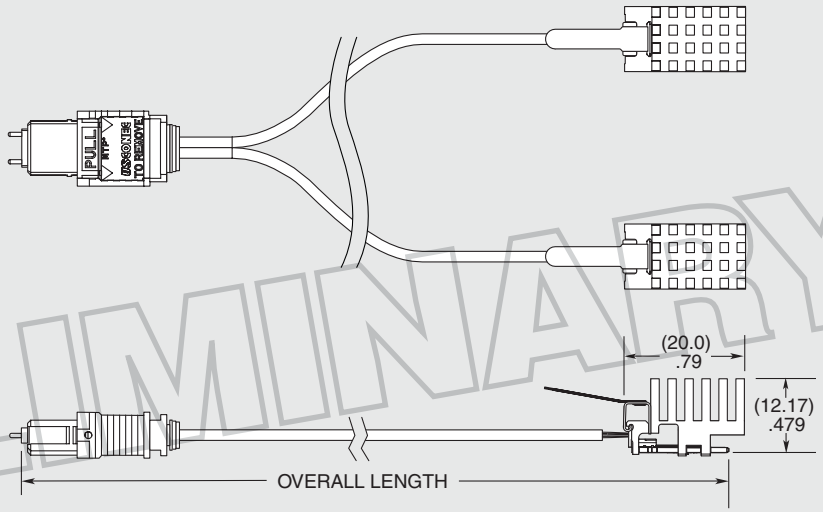
Class 1 LASER PRODUCT
per IEC 60825-1 Ed. 2 (2007)

PTUO	–	SPEED	–	WIDTH	–	CABLE LENGTH
		–G3 = Gen 3 Speed		–04 = x4 PCIe® Gen 3 –08 = x8 PCIe® Gen 3		–"XXX" = Overall Length in Centimeters (10 cm Min)

OTHER SOLUTIONS



PCOA is a compatible PCIe® adaptor card supporting transparent and non-transparent bridge links



PTUO–G3–08–XXX SHOWN

PRELIMINARY

PCI-SIG®, PCI Express® and the PCIe® design marks are registered trademarks and/or service marks of PCI-SIG.

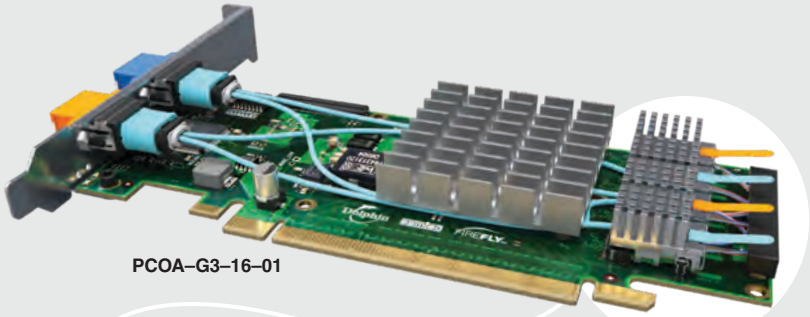
Note:
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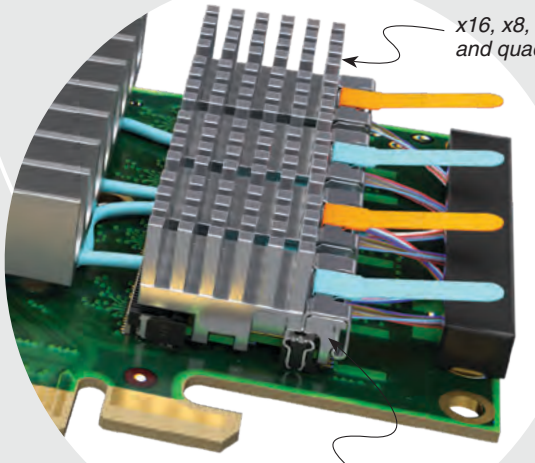
FIREFLY™



PCOA–G3–16–01

PCOA SERIES

PCIe®-OVER-FIBER ADAPTOR CARD



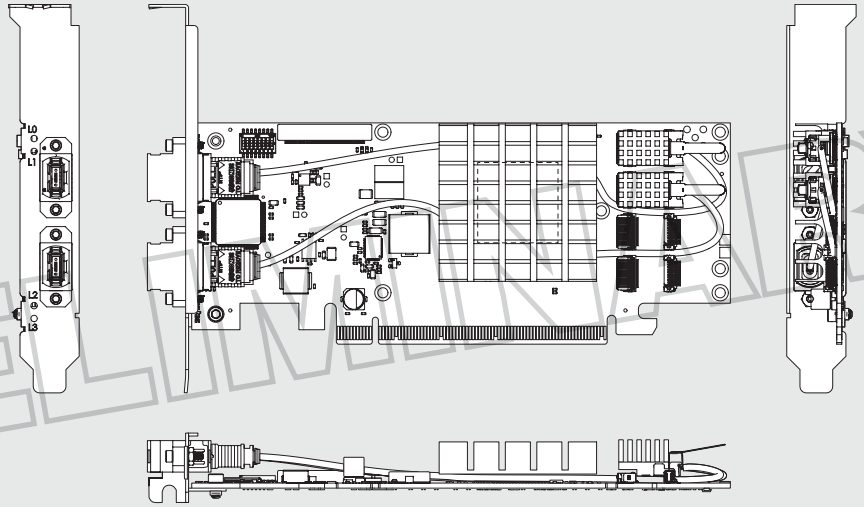
FEATURES

- Uses PCUO FireFly™ optical cable for clear signal transmissions with increased reach and cost optimization
- Supports PCIe® Gen 3
- PCIe® x16 edge card connector
- Scalable configurations for cost optimized performance
- Transparent or non-transparent bridging for system flexibility and multi-processor support
- Reconfigurable host or target operation
- Gen 4 in development
- Ideal for high-performance and applications requiring robust data transmission

SPECIFICATIONS

For complete specifications see www.samtec.com?PCOA

PCOA	SPEED	WIDTH		CONFIGURATION
	–G3 = Gen 3	–S4 = Single x4	–S8 = Single x8	–01 = Transparent Bridge Host (For non-transparent bridging support, contact Samtec)
		–D4 = Dual x4	–D8 = Dual x8	
		–Q4 = Quad x4	–16 = Single x16	



PCOA–G3–D4–01 SHOWN

PRELIMINARY

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FOPC–02–02–003–12–01



OPA–S–1–F

FOPC, OPA SERIES

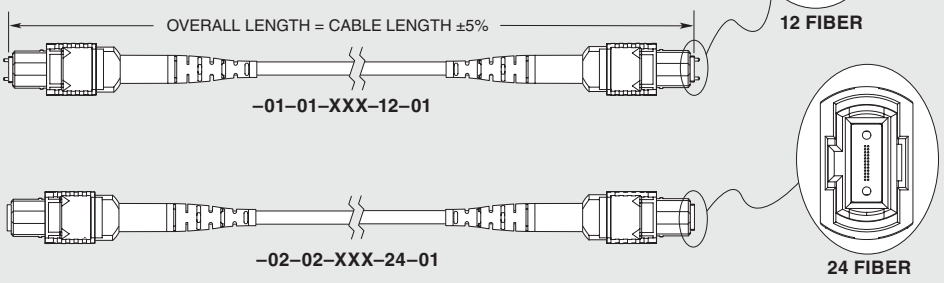
OPTICAL PATCH CABLE AND ADAPTOR

SPECIFICATIONS

For complete specifications see www.samtec.com?FOPC

Compliant Specifications:
TIA-604-5-D (FOCIS 5)
TIA-568-C.3
IEC-61754-7-1

FOPC	END 1	END 2	CABLE LENGTH	FIBERS	CONSTRUCTION
	–01 = MTP Male –02 = MTP Female	–01 = MTP Male –02 = MTP Female	–003 = 3 Meters –010 = 10 Meters –100 = 100 Meters (Other lengths available as custom parts)	–12, –24	–01 = 3 mm Round Jacket



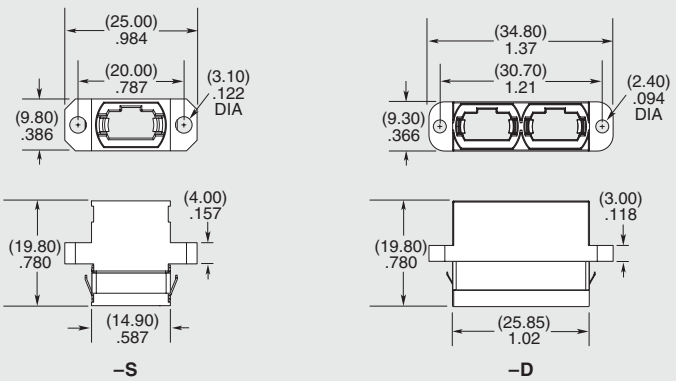
Note: Some lengths, styles and options are non-standard, non-returnable.

SPECIFICATIONS

For complete specifications see www.samtec.com?OPA

Compliant Specifications:
TIA-604-5-D (FOCIS 5)
IEC-61754-7
Recommended Panel Thickness:
(1.75 mm) .069"
(The OPA can be installed with any panel thickness but mounting hardware is needed for any thickness that is not (1.75 mm) .069". Contact the Optics Group at Optics@samtec.com for questions about panel thickness and mounting hardware.)

OPA	PORTS	KEY	FLANGE
	–S = Single –D = Double	–1 = Opposed –2 = Aligned	–F = Full



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ACTIVE OPTICAL CABLE ASSEMBLIES

FEATURES

- Drop in replacement for PCIE® electrical cable

SPECIFICATIONS

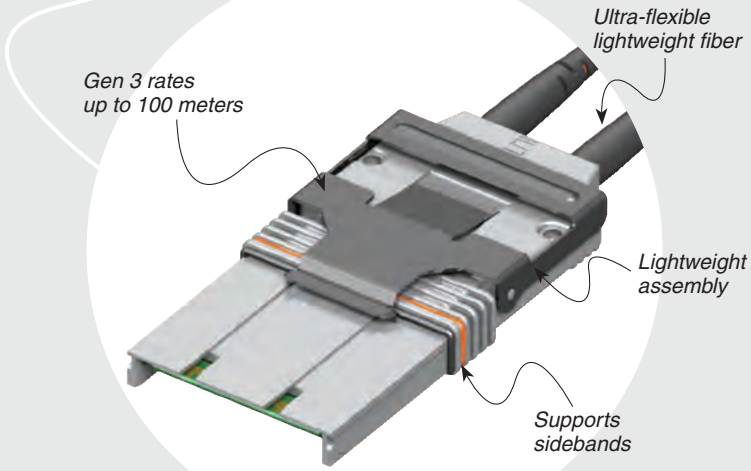
For complete specifications see www.samtec.com?PCIEO

Fiber Type:
1 m to 50 m = OM2
Over 50 m = OM3
All Half AOCs = OM3

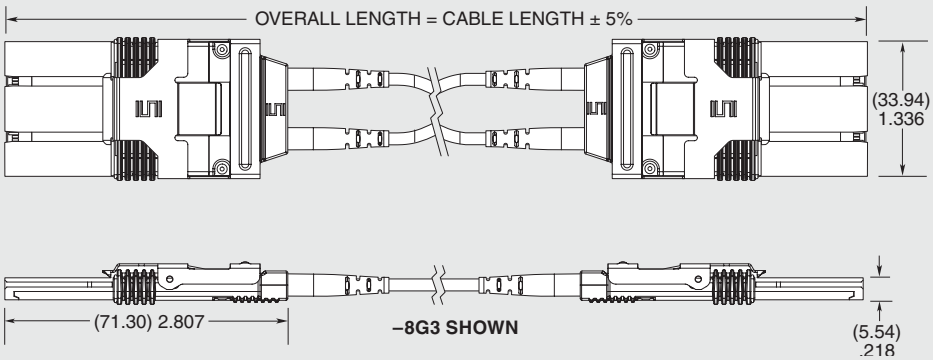
RECOGNITIONS

For complete scope of recognitions, see www.samtec.com/quality

FILE NO. E357212



PCIEO	DATA RATE	CABLE LENGTH	OPTIONS
Full AOC With Host & Target	–4G3 = x4 PCIe®, GEN 3 –8G3 = x8 PCIe®, GEN 3 –H8G3 = x4 PCIe® with, x8 PCIe® form factor, GEN 3 –4AG3 = x4 PCIe® Host to x8 PCIe® Target, GEN 3 –8AG3 = x8 PCIe® Host to x4 PCIe® Target, GEN 3	–000.5 = 500 mm to –100.0 = 100 m Standard lengths	–11 = 100 MHz Clock Frequency (Standard) –12 = 100 MHz Clock Frequency (No Sidebands) –15 = No Clock Output (Standard) –16 = No Clock Output (No Sidebands)



Patents: 7329054, 7824112, 7648287, 7766559, 8098993, additional patents pending

Notes:
Samtec PCIe® over Fiber systems are PCIe® compliant; however as with all PCIe® based systems, there is a risk of interoperability issues with specific systems. Samtec recommends discussing your system with our Optical Group prior to final design. Please contact pcie@samtec.com.

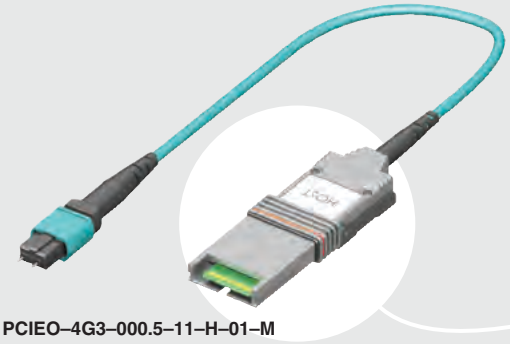
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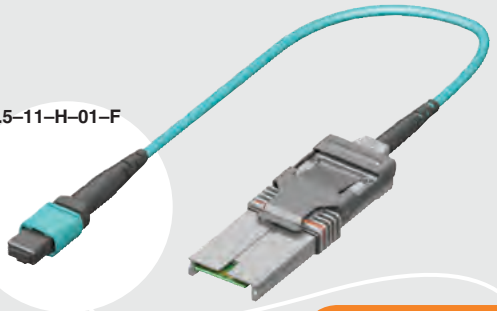
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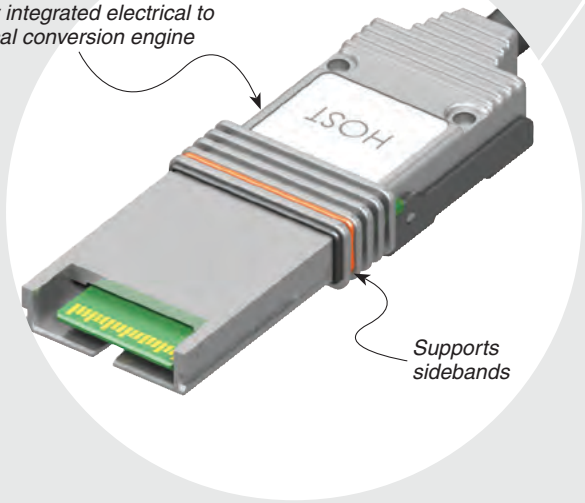


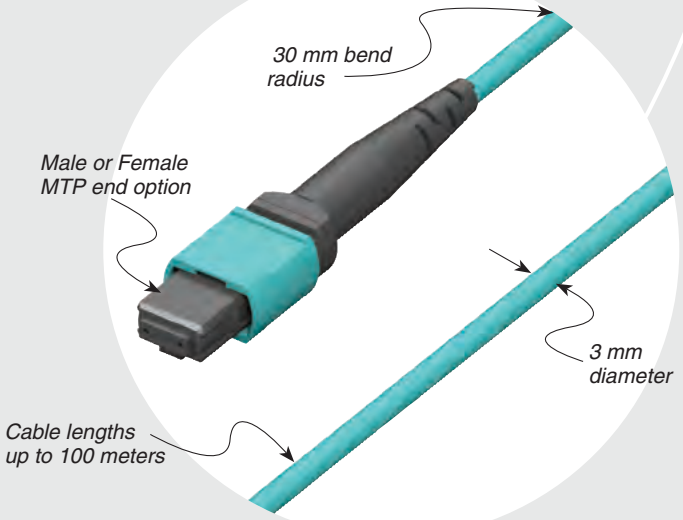
PCIEO–4G3–000.5–11–H–01–M



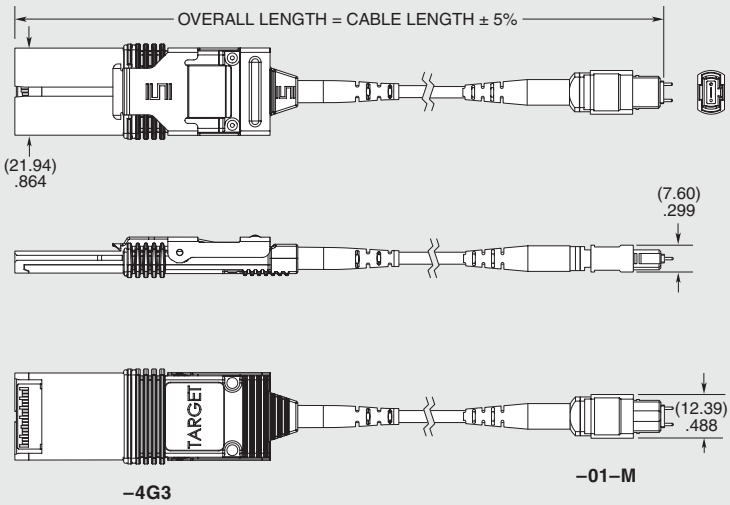
PCIEO–4G3–000.5–11–H–01–F

PCIEO SERIES





PCIEO	DATA RATE	CABLE LENGTH	OPTIONS	TYPE	END OPTION	GENDER
Half AOC Requires MTP End option	–4G3 = x4 PCIe®, GEN 3 –8G3 = x8 PCIe®, GEN 3 –H8G3 = x4 PCIe® with, x8 PCIe® form factor, GEN 3	–000.5 = 500 mm to –100.0 = 100 m Standard lengths	–11 = 100 MHz Clock Frequency (Standard) –12 = 100 MHz Clock Frequency (No Sidebands) –15 = No Clock Output (Standard) –16 = No Clock Output (No Sidebands)	Required Callout –H = Host –T = Target	Required Callout –01 = MTP	Required Callout –M = Male –F = Female



Class 1 LASER PRODUCT
per IEC 60825-1 Ed. 2 (2007)

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OPTICAL DEVELOPMENT KITS

TESTING SOLUTIONS

FireFly™ Test Kit
(FIK-FIREFLY-XX)

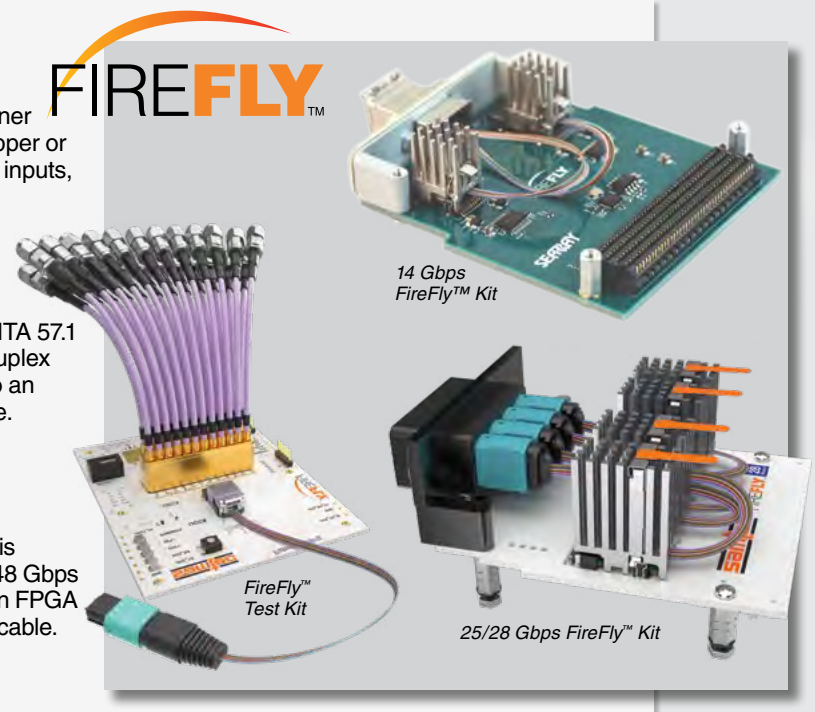
Rated up to 25 Gbps, this kit allows the designer real-time evaluation of an actively running copper or optical FireFly™ system in their lab, with their inputs, via Samtec's Bulls Eye® system.

14 Gbps FireFly™ FMC Development Kit
(REF-193429-01)

Samtec's 14 Gbps FireFly™ FMC Module is VITA 57.1 compliant and provides up to 140 Gbps full-duplex bandwidth over 10 channels from an FPGA to an industry-standard multi-mode fiber optic cable.

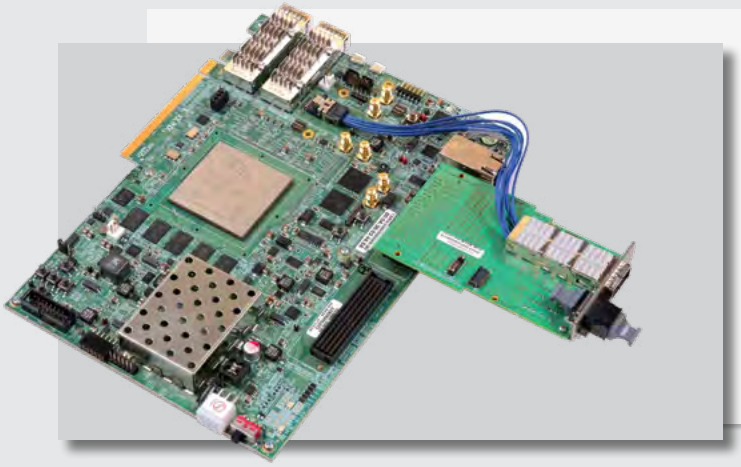
25/28 Gbps FireFly™ FMC+ Development Kit
(REF-200772-XXX-XX-01)

Samtec's 25/28 Gbps FireFly™ FMC+ Module is VITA 57.4 compliant and provides up to 400/448 Gbps full-duplex bandwidth over 16 channels from an FPGA to an industry-standard multi-mode fiber optic cable.



For more information go to
samtec.com/firefly or samtec.com/kits

ACTIVE & PASSIVE OPTICS



FMC+ HSPC Loopback Card
(REF-194194-01)

This loopback mezzanine card was based on an elongated version of the VITA 57.4 single width mezzanine card, designed for use with the Xilinx® UltraScale™+ VCU118 Development Board and is included in the VCU118 Development Kit available from Xilinx®.

For more information go to
samtec.com/kits

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Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.



MICRO RUGGED TIGER EYE™

0.80 mm PITCH SYSTEM

Micro Pitch Connector Sets (SEM, SEMS, SEML, TEM, TEMS) 210-211

.050" (1.27 mm) PITCH SYSTEM

Standard Pitch Connector Sets (SFM, TFM) 212-215

Friction Lock Connector Sets (SFML, TFML) 212-215

Cost-Effective Tiger Eye™ Lite (SFC, TFC) 216-217

Quad Row Strips (FOLC, MOLC) 218-219

Flexible Pin Count Tiger Eye™ Sockets (SFMC) 222

2.00 mm PITCH TERMINALS & SOCKETS

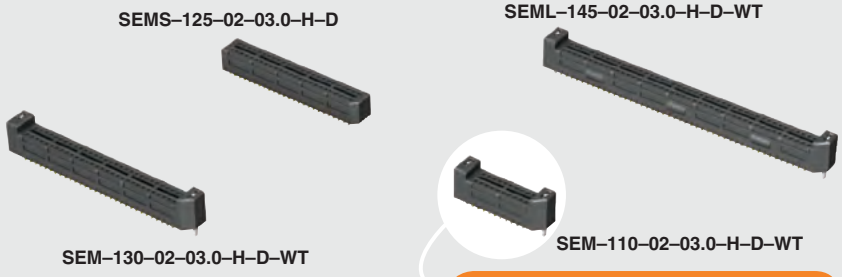
Discrete Wire Terminals & Sockets (T2M, S2M) 220-221

APPLICATIONS

Micro Rugged Tiger Eye™ Systems 34-35

samtec

TIGER™ EYE SYSTEM



(0.80 mm) .0315"

SEM, SEMS, SEML SERIES

MICRO TIGER EYE™ SOCKET

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?SEM, www.samtec.com?SEMS or www.samtec.com?SEML

Insulator Material:
Black Liquid Crystal Polymer
Contact Material:
BeCu
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C
Current Rating (SEM/TEM):
2.6 A per pin
(2 pins powered)
Voltage Rating:
235 VAC/330 VDC
RoHS Compliant:
Yes

PROCESSING

Lead-Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

OTHER SOLUTIONS

- Board Stacking:
  See SFM, TFM Series
- Cable Assemblies:
  See SFSD, TFSD Series

SEM, SEML Mates with:
TEM

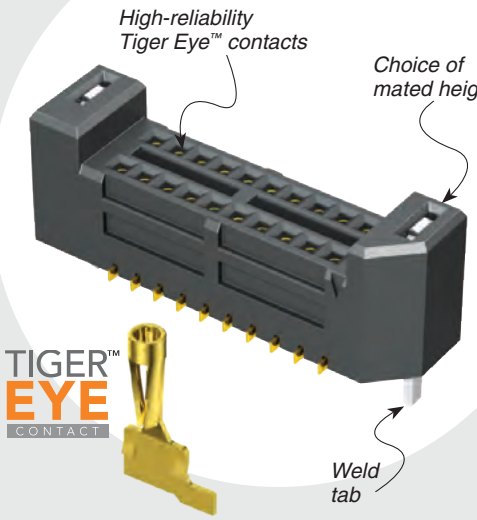
SEMS Mates with:
TEMS

10 YEAR MFG WITH 30 µ" GOLD
EXTENDED LIFE PRODUCT
HIGH MATING CYCLES

POWER/SIGNAL APPLICATION



Compatible with UMPT/UMPS for flexible two-piece power/signal solutions

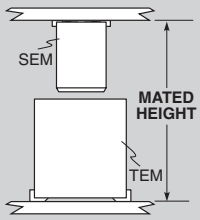


RUGGEDIZED BY SAMTEC

- Passes 10 year MFG
- Locking clip option
- Weld tab option

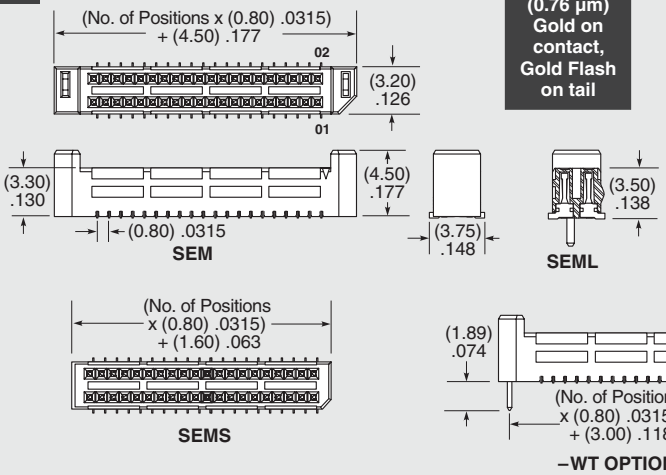
TYPE STRIP	1	NO. PINS PER ROW	02	STACK HEIGHT	PLATING OPTION	D	OPTION	OTHER OPTION
SEM = Tiger Eye™ Strip **SEMS** = Tiger Eye™ Slim Strip **SEML** = Tiger Eye™ Friction Lock		05, 10, 15, 20, 25 30, 35, 40, 45, 50 (SEM/SEML only) (Standard sizes)		**–03.0** = 6 mm, 7 mm or 10 mm Stack Height when mated with TEM/TEMS Series (SEML only available with 6 mm Stack Height)	**–FG** = Gold Flash **–G** = 10 µ" (0.25 µm) Gold on contact, Gold Flash on tail **–H** = 30 µ" (0.76 µm) Gold on contact, Gold Flash on tail		Leave blank for SEMS **–A** = Alignment Pin (Not available with –LC or –WT) **–LC** = Locking Clip (Not available with –A or –WT) (Manual placement required) **–WT** = Weld Tab (Not available with –A or –LC) (Required callout for SEML)	**–K** = (3.50 mm) .138" DIA Polyimide film Pick & Place Pad (Required for SEMS) **–TR** = Tape & Reel (Required for SEMS)

MATED HEIGHT



TEM LEAD STYLE	MATED HEIGHT*
–03.0	6 mm
–04.0	7 mm
–07.0	10 mm

*Processing conditions will affect mated height.



ALSO AVAILABLE (MOQ Required)

- Other sizes
- Other platings

Note:
Some sizes, styles and options are non-standard, non-returnable.

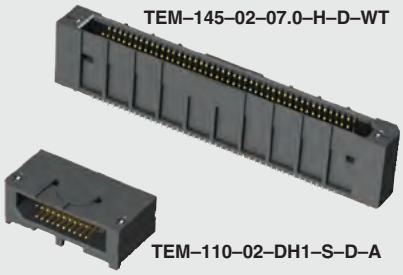
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TIGER™ EYE SYSTEM





(0.80 mm) .0315"

TEM, TEMS, TEM-DH SERIES

MICRO TIGER EYE™ HEADER

TEM, TEM-DH Mates with:
SEM, SEML

TEMS Mates with:
SEMS

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?TEM or www.samtec.com?TEMS

Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Current Rating:
2.9 A per pin
(2 pins powered)
Voltage Rating:
235 VAC/330 VDC
Operating Temp Range:
-55 °C to +125 °C
RoHS Compliant:
Yes

PROCESSING

Lead-Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

OTHER SOLUTIONS

- Latching option:
  See TEM-L1 in Discrete Wire Cable section.
- Board Stacking:
  See SFM, TFM Series
- Cable Assemblies:
  See SFSD, TFSD, SESDT Series

ALSO AVAILABLE (MOQ Required)

- Other sizes
- Other platings

Note:
Some sizes, styles and options are non-standard, non-returnable.

TYPE STRIP – **1** – **NO. OF POSITIONS** – **02** – **STACK HEIGHT** – **PLATING OPTION** – **D** – **OPTION** – **OTHER OPTION**

TEM
= Tiger Eye™ Strip

TEMS
= Tiger Eye™ Slim Strip

05, 10, 15, 20, 25
(Per Row)

30, 35, 40, 45, 50
(Per Row)
(TEM only)
(Standard sizes)

–03.0
= 6 mm Stack Height

–04.0
= 7 mm Stack Height

–07.0
= 10 mm Stack Height

STACK HEIGHT	A	MATED HEIGHT* (WHEN MATED WITH SEM/SEMS)
–03.0	(5.610) .2209	6 mm
–04.0	(6.610) .2602	7 mm
–07.0	(9.610) .3783	10 mm

*Processing conditions will affect mated height.

–FG
= Gold Flash

–G
= 10 µ" (0.25 µm) Gold on contact, Gold Flash on tail

–H
= 30 µ" (0.76 µm) Gold on contact, Gold Flash on tail

Leave blank for TEMS

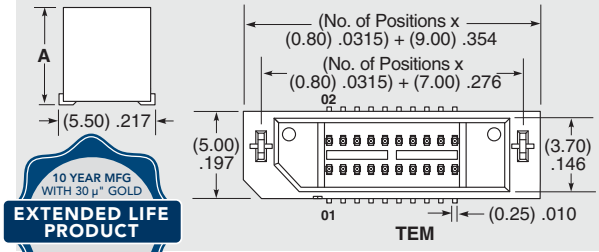
–A
= Alignment Pin
(Not available with –LC or –WT)

–LC
= Locking Clip
(Not available with –A or –WT)
(Manual placement required)

–WT
= Weld Tab
(Not available with –A or –LC)

–K
= (5.50 mm) .217" DIA Polyimide film Pick & Place Pad (Required for TEMS)

–TR
= Tape & Reel (Required for TEMS)



10 YEAR MFG WITH 30 µ" GOLD
EXTENDED LIFE PRODUCT
HIGH MATING CYCLES

POWER/SIGNAL APPLICATION



Compatible with UMPT/UMPS for flexible two-piece power/signal solutions

TEM – **1** – **NO. OF POSITIONS** – **02** – **DH1** – **PLATING OPTION** – **D** – **OPTION**

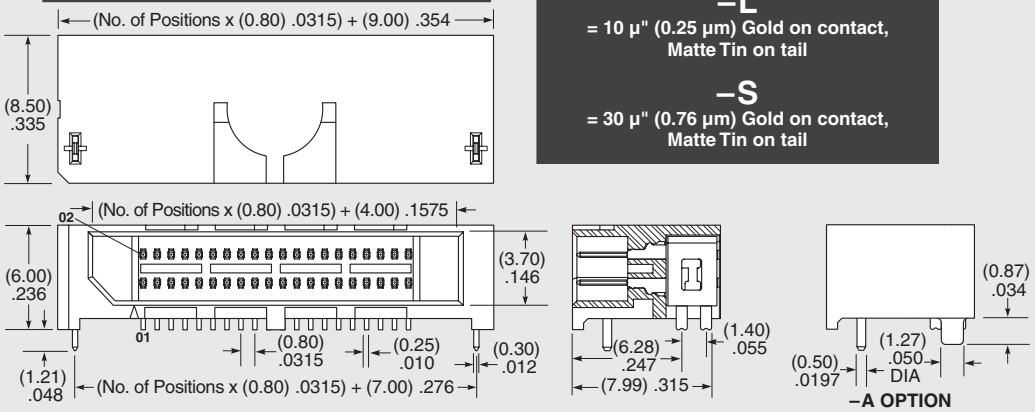
10, 15, 20, 25, 30, 35, 40, 45, 50
(Per Row)
(Standard sizes)

–F
= Gold Flash on contact, Matte Tin on tail

–L
= 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

–S
= 30 µ" (0.76 µm) Gold on contact, Matte Tin on tail

–A
= Alignment Pin

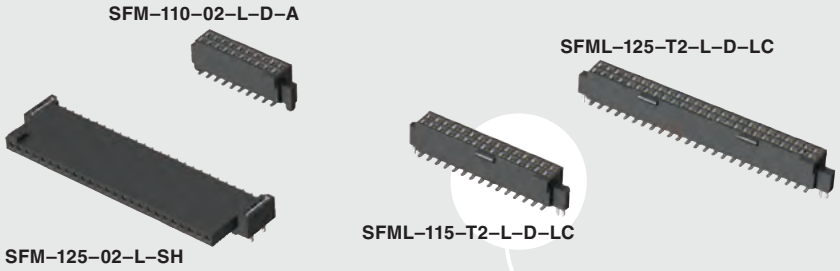


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TIGER™ EYE SYSTEM



(1.27 mm) .050"

SMT & THROUGH-HOLE TIGER EYE™ SOCKET

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?SFM or www.samtec.com?SFML

Insulator Material:
Black Liquid Crystal Polymer
Plating:
Au or Sn over 50 µ" (1.27 µm) Ni
Current Rating (SFM/TFM):
3.2 A per pin
(2 pins powered)
Voltage Rating:
250 VAC mated with TFM
Operating Temp Range:
-55 °C to +125 °C
Insertion Depth:
(3.05 mm) .120" to
(4.06 mm) .160"
Wiping Distance:
(0.38 mm) .015"
Normal Force:
Standard= 132 g (1.29 N) avg.;
LIF= 90 g (0.88 N) avg.
Max Cycles:
10,000 with 30 µ" (0.76 µm) Au
(Call Samtec for E.L.P.™ plating option)
RoHS Compliant:
Yes

PROCESSING

Lead-Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (05-25)
(0.15 mm) .006" max (30-50)*
*(.004" stencil solution may be available; contact IPG@samtec.com)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

Note: Some sizes, styles and options are non-standard, non-returnable.

SFM Board Mates:
TFM

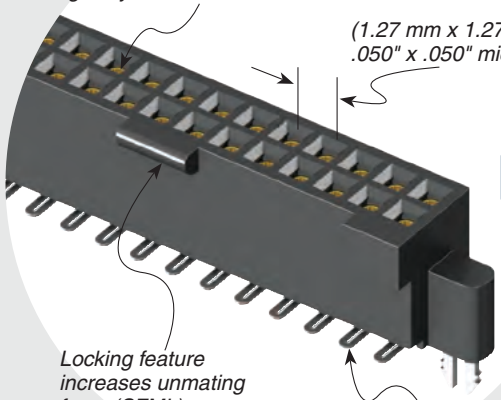
SFM Cable Mates:
TFSD, TFSS

SFML Board Mates:
TFML

TIGER™ EYE CONTACT



10 YEAR MFG WITH 30 µ" GOLD
EXTENDED LIFE PRODUCT
HIGH MATING CYCLES



RUGGEDIZED BY SAMTEC

- Passes 10 Year MFG
- Locking option
- Locking clip option
- Screw Down option

TYPE STRIP	1	NO. PINS PER ROW	LEAD STYLE

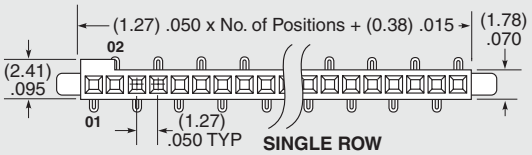
SFM
= Standard

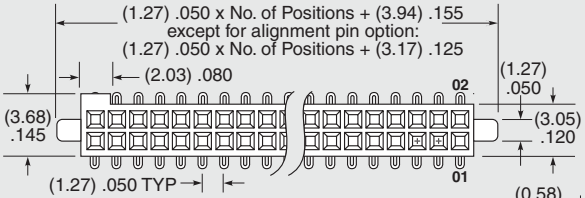
SFML
= Locking

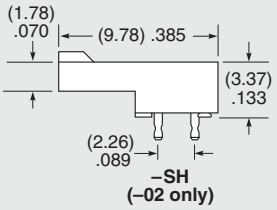
03, 04, 06, 08
(SFM only)

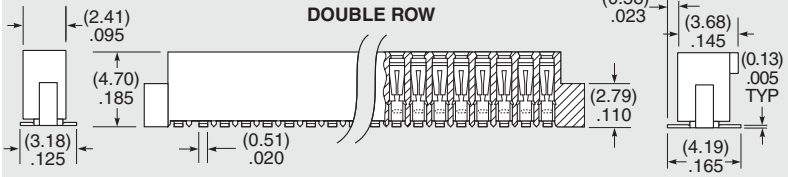
05, 07, 10, 15, 20, 25, 30, 35, 40, 45, 50
(Standard sizes)

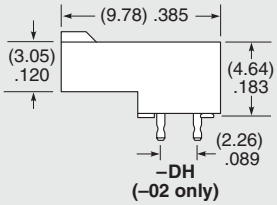
(Surface Mount)	(Through-hole)
–02 = Tiger Eye™ Contact (BeCu)	**–01, –03** = Tiger Eye™ Contact (BeCu)
–L2 = Low Insertion Force Tiger Eye™ Contact (BeCu)	**–L1, –L3** = Low Insertion Force Tiger Eye™ Contact (BeCu)
–T2 = Tiger Eye™ LITE Contact (Phosphor Bronze)	**–T1** = Tiger Eye™ LITE Contact (Phosphor Bronze)

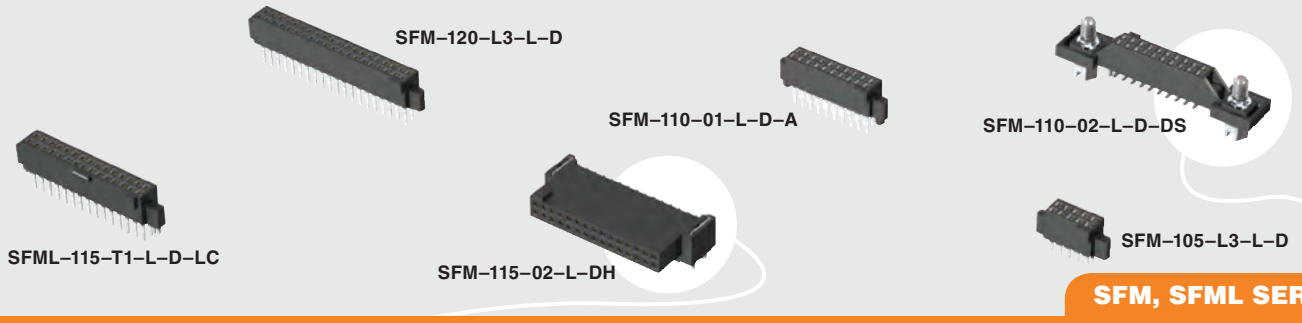




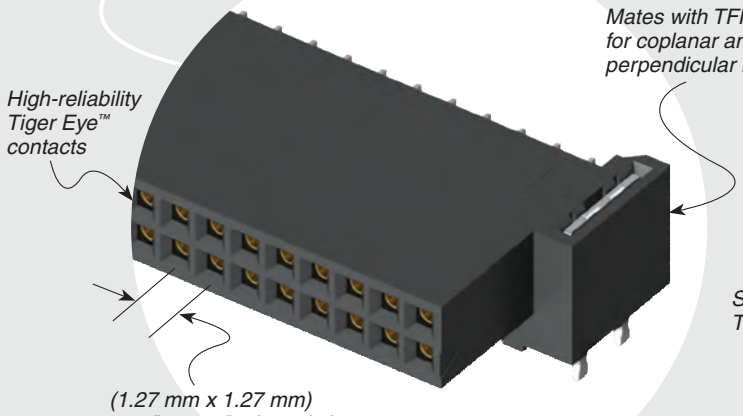


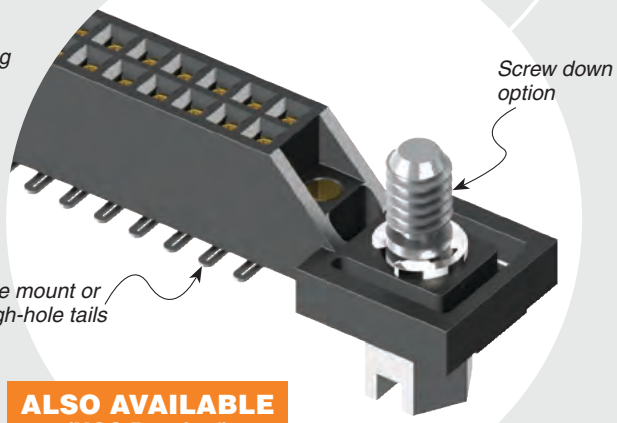






SFM, SFML SERIES





OTHER SOLUTIONS

- Lower cost plating options. See SFC Series.

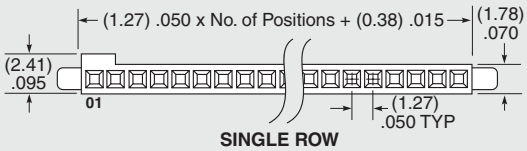
ALSO AVAILABLE (MOQ Required)

- Solder nail option
- Other sizes
- Other platings

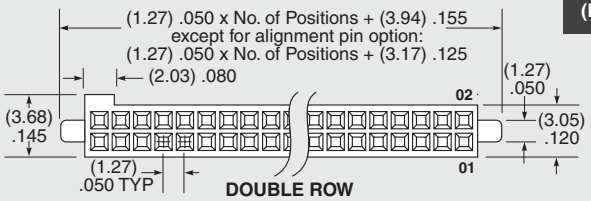
PLATING OPTION

–L
= 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail
(Call Samtec for E.L.P.™ plating option)

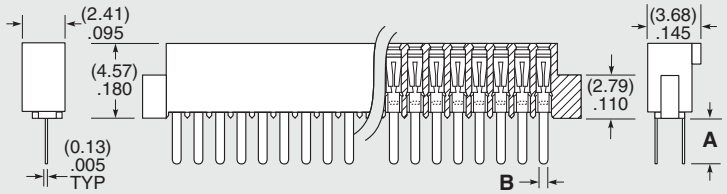
LEAD STYLE	A	B
–01, –L1, –T1	(3.05) .120	(0.51) .020
–03, –L3	(1.91) .075	(0.41) .016

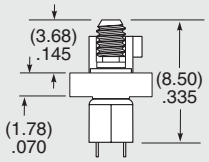


SINGLE ROW

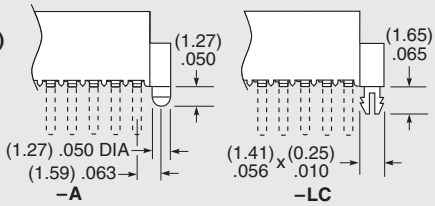


DOUBLE ROW





–DS
(–D, –01 –02 & –03)



–A
–LC

ROW OPTION

–S
= Single Row
(SFM only)

–D
= Double Row

–SH
= Single Horizontal
(05 thru 30 positions only)
(SFM only)
(Lead style –02 only)

–DH
= Double Horizontal
(05 thru 30 positions only)
(SFM only)
(Lead style –02 only)

OPTION

Specify only –A, –LC or –DS
(Not available with –DH, –SH)

–A
= Alignment Pin
(Available with all lead styles)

–LC
= Locking Clip
(Available with all lead styles)
(Manual placement required)

–DS
= Dual Screw Down for
(1.60 mm) .062" PCB
(05 thru 40 positions only)
(Lead styles –01, –02 & –03 only)
(Requires –D row option)
(Not available with SFML)
(Mates with TFM-DS option)
(Not available with –A, –LC, –K, –P, –TR)

Specify only
–K or –P
(Lead styles –02, –L2, –T2 only)

–K
= Polyimide film Pick & Place Pad
(Not available with –DH, –SH)

–P
= Plastic Pick & Place Pad
(Not available with –DH, –SH)

Specify –TR last
(Lead styles –02, –L2, –T2 only)

–TR
= Tape & Reel
(Required callout for –DH, –SH)

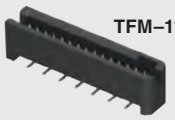
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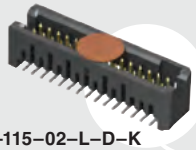
TIGER™ EYE SYSTEM

(1.27 mm) .050"


TFM–115–02–L–S


TFM–110–02–L–D–LC


TFM–110–01–L–D–RE1–WT


TFML–115–02–L–D–K

SMT & THROUGH-HOLE HEADER

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?TFM or www.samtec.com?TFML

Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Plating:
Au or Sn over 50 µ" (1.27 µm) Ni
Current Rating (TFM/SFM):
3.2 A per pin
(2 pins powered)
Voltage Rating:
250 VAC mated with SFM
Operating Temp Range:
-55 °C to +125 °C
RoHS Compliant:
Yes

PROCESSING

Lead-Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (05-25)
(0.15 mm) .006" max (30-50)*
*(.004" stencil solution may be available; contact IPG@samtec.com)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

TFM Board Mates:
SFM, SFMC

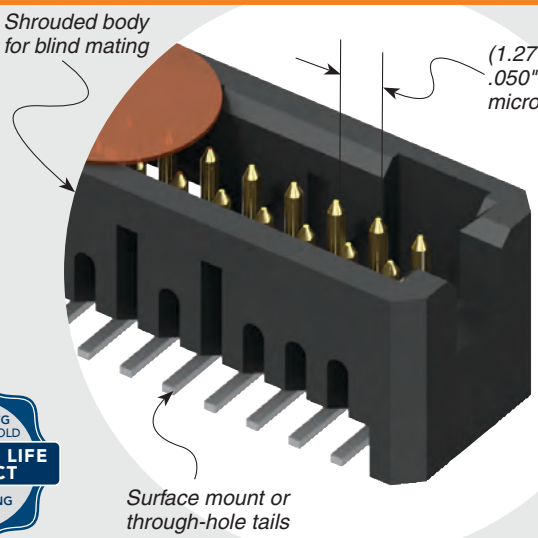
TFM Cable Mates:
SFSD

TFML Board Mates:
SFML

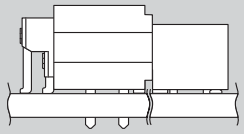
TFM-DH Board Mates:
SFM (-DH), SFMC

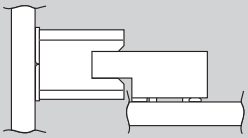
TFM-DH Cable Mates:
SFSDX (-S, -D, -SR, -DR)

10 YEAR MFG WITH 30 µ" GOLD
EXTENDED LIFE PRODUCT
HIGH MATING CYCLES



APPLICATIONS


TFM-DH to SFM-DH SHOWN


TFM to SFM-SH SHOWN

TYPE STRIP	1	NO. PINS PER ROW	LEAD STYLE	PLATING OPTION
TFM = Standard **TFML** = Locking (–01 & –02 lead style only)		03, 04, 06, 08 (TFM –01 & –02 only) 05, 07, 10, 15, 20, 25, 30, 35, 40, 45, 50 (Standard sizes)	Specify LEAD STYLE from chart	**–L** = 15 µ" (0.38 µm) Gold on post, Matte Tin on tail (Call Samtec for E.L.P.™ plating option)

MATED HEIGHTS

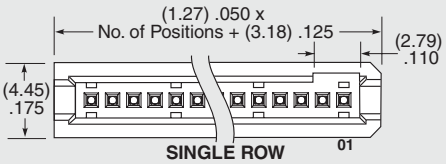
LEAD STYLE TFM	LEAD STYLE SFM	MATED HEIGHT*
– 02	–02	(6.35) .250
– 12		(8.13) .320
– 22		(9.91) .390
– 32		(11.81) .465
LEAD STYLE TFM	**LEAD STYLE SFM**	**MATED HEIGHT***
–01	–01	(5.97) .235
–03		(5.97) .235
–11		(7.75) .305
–13		(7.75) .305
–21		(9.53) .375
–23		(9.53) .375
–31		(11.43) .450

*Processing conditions will affect mated height.

Note:
Some sizes, styles and options are non-standard, non-returnable.

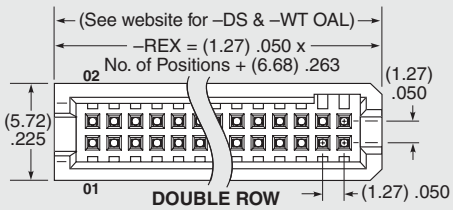
OTHER SOLUTIONS

- Lower cost plating options. See TFC Series.



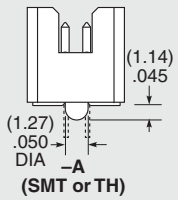
LEAD STYLE (T/H)	B	C
–01	(5.59) .220	(1.97) .078
–03*	(5.59) .220	(2.77) .109
–11*	(7.37) .290	(1.97) .078
–13*	(7.37) .290	(2.77) .109
–21*	(9.14) .360	(1.97) .078
–23*	(9.14) .360	(2.77) .109
–31*	(11.05) .435	(1.97) .078

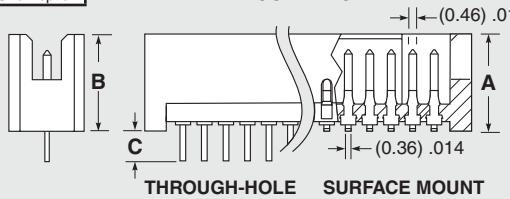
* Not Available with 07 or -S row option

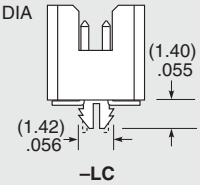


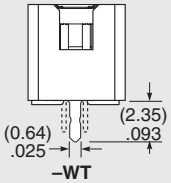
LEAD STYLE (SMT)	A
–02	(5.72) .225
–12*	(7.49) .295
–22*	(9.27) .365
–32*	(11.18) .440

* N/A with 07, -DH or -S row option



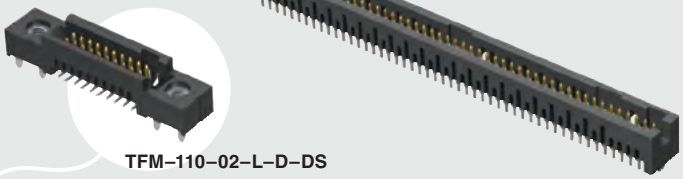


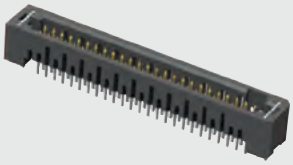


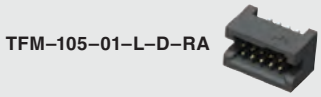


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TFML–150–01–L–D–LC

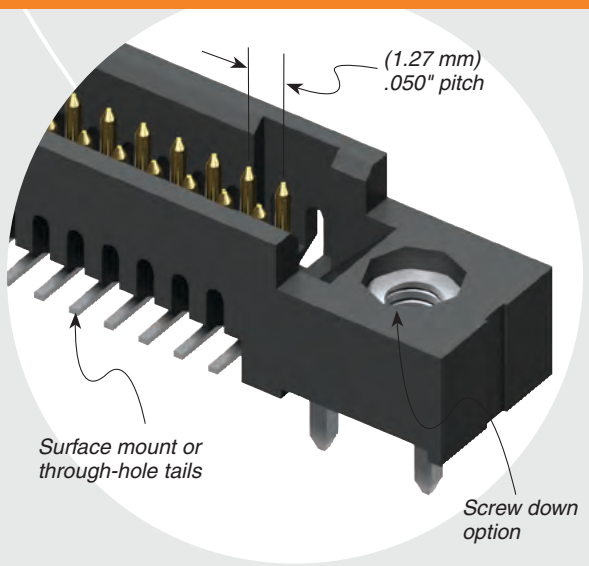

TFM–125–01–L–D–WT

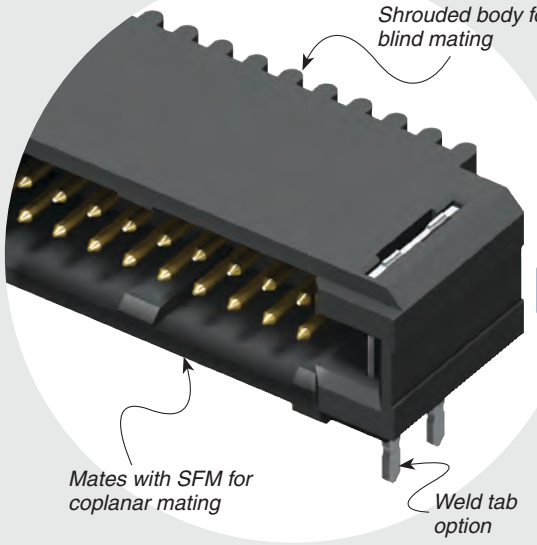

TFM–105–01–L–D–RA


TFM–110–02–L–DH

TFM–110–02–L–D–DS

TFM, TFML SERIES





RUGGEDIZED BY SAMTEC

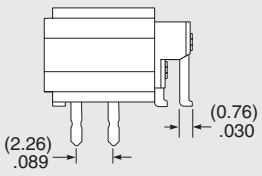
- Passes 10 Year MFG
- Locking option
- Locking clip option
- Weld tab option
- Screw down option

ROW OPTION

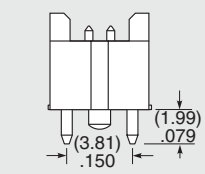
–S
= Single Row
(TFM only)

–D
= Double Row

–DH*
= Double Horizontal
(TFM lead style –02 only)
(05 thru 50 positions only)
(–TR option only
available)



–DH*



–DS
(–D, –01 & –02 ONLY)

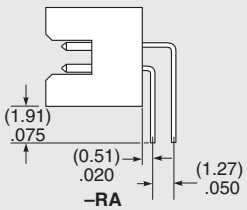
OPTION

Specify only –RA, –RE1 or –RE2

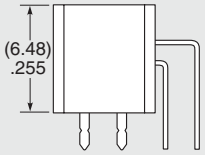
–RA
= Right-angle
(Lead style –01 only)

–RE1
= Right-angle Elevated for (1.58 mm) .062" PCB
(Requires TFM lead style –01, –D row and –WT)

–RE2
= Right-angle Elevated for (2.36 mm) .093" PCB
(Requires TFM lead style –01, –D row and –WT)



–RA



–RE1 & –RE2

Specify only –A, –LC, –DS or –WT
Not available with –RA, –RE1 and –RE2
unless otherwise noted.

–A
= Alignment Pin

–LC
= Locking Clip
(Manual Placement required)

–DS
= Dual Screw Down for
(1.60 mm) .062" PCB
(05, 07, 10, 15, 20, 25, 30,
35, 40 positions only)
(TFM lead styles –01 and –02 only)
(Requires –D row option)
(Mates with SFM–DS option and
SFSD/SFSDT –SS and –DS option only)
(Not available with –A, –LC,
–WT, –K, –P, –TR)

–WT
= Weld Tab
(TFM lead styles –01 and –02 only)
(Required callout for –RE1 & –RE2)
(Mates to SFSS/SFSD –SR and
–DR option only)
(05, 07, 10, 15, 20, 25, 30, 35,
40, 45, 50 positions only)

SMT lead styles only
Specify only –K or –P

–K
= Polyimide Film Pick & Place Pad

–P
= Plastic Pick & Place Pad
(5 positions minimum)
(Not available with
5 position with –WT)

Specify –TR last

–TR
= Tape & Reel
(Not available with –DS)

*** Notes:**
Weld tab is standard on –DH option.
No need to specify –WT.

ALSO AVAILABLE (MOQ Required)

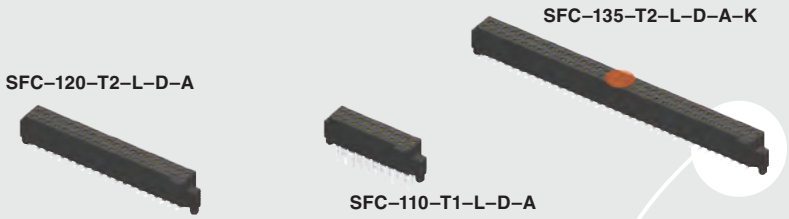
- Solder nail option
- Other sizes
- Other platings

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TIGER™ EYE SYSTEM



(1.27 mm) .050"

SFC SERIES

COST-EFFECTIVE RELIABLE SOCKET

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?SFC

Insulator Material:
Black Liquid Crystal Polymer
Contact Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Current Rating:
3.1 A per pin
(2 pins powered)
Voltage Rating:
350 VAC mated with TFC
Operating Temp Range:
-55 °C to +125 °C
Insertion Depth:
(3.05 mm) .120" to
(4.06 mm) .160"
Max Cycles:
10,000 with 30 µ" (0.76 µm) Au
RoHS Compliant:
Yes

PROCESSING

Lead-Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (04-25)
(0.15 mm) .006" max (30-50)*
*(.004" stencil solution may be available; contact IPG@samtec.com)

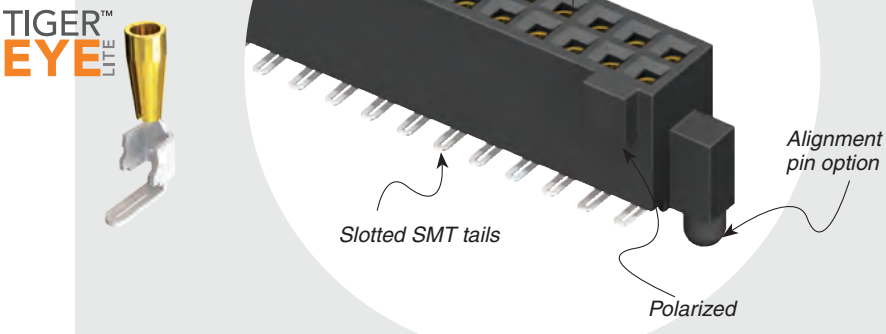
RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

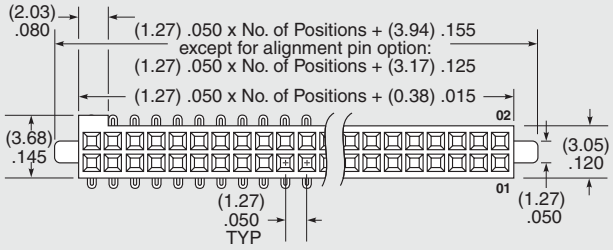
FILE NO. E111594

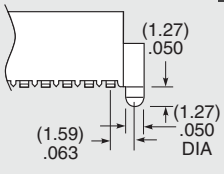
Board Mates:
TFC

Cable Mates:
TFSD, TFSDT

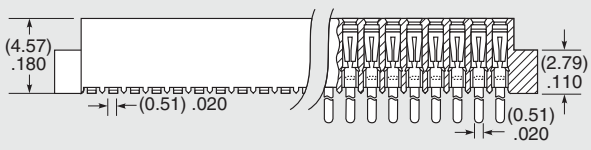


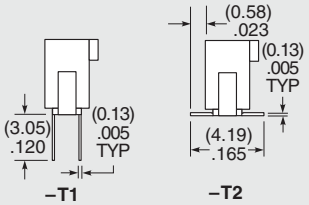
SFC	–	1	NO. PINS PER ROW	–	LEAD STYLE	–	PLATING OPTION	–	D	–	OPTION
			04, 05, 10, 15, 20, 25, 30, 35, 40, 45, 50 (Standard sizes)		–T1 = Through-hole Tiger Eye™ LITE –T2 = Surface Mount Tiger Eye™ LITE		–F = Gold flash on contact, Matte Tin on tail –L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail				–A = Alignment Pin –K = (4.00 mm) .157" DIA Polyimide film Pick & Place Pad –TR = Tape & Reel (–T2 only)





–A OPTION





–T1 –T2

ALSO AVAILABLE (MOQ Required)

- Other sizes

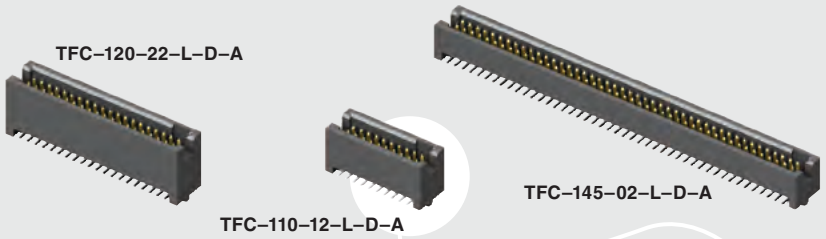
Note:
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TIGER™ EYE SYSTEM



(1.27 mm) .050"

TFC SERIES

COST-EFFECTIVE RELIABLE HEADER

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?TFC

Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Current Rating:
3.1 A per pin
(2 pins powered)
Voltage Rating:
350 VAC mated with SFC
Operating Temp Range:
-55 °C to +125 °C
RoHS Compliant:
Yes

PROCESSING

Lead-Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (03-25)
(0.15 mm) .006" max (30-50)*
*(.004" stencil solution may be available; contact IPG@samtec.com)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

ALSO AVAILABLE
(MOQ Required)

- Other sizes

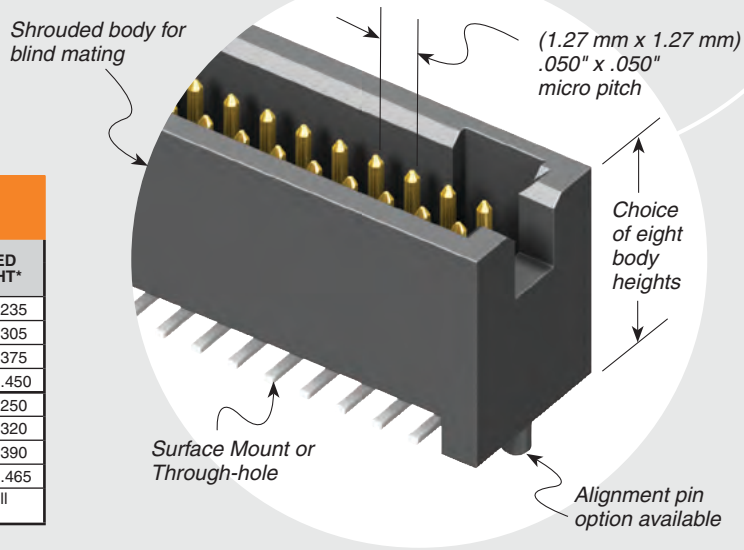
Board Mates:
SFC

Cable Mates:
SFSD, SFSDT

MATED HEIGHTS

LEAD STYLE		MATED HEIGHT*
TFC	SFC	
– 01	–T1	(5.97) .235
– 11		(7.75) .305
– 21		(9.53) .375
– 31		(11.43) .450
– 02	–T2	(6.35) .250
– 12		(8.13) .320
– 22		(9.91) .390
– 32		(11.81) .465

*Processing conditions will affect mated height.



TFC	–	1	NO. PINS PER ROW	–	LEAD STYLE	–	PLATING OPTION	–	D	–	OPTION

03, 04, 06, 08
(Lead Style –01 & –02 only)

05, 07, 10, 15, 20, 25, 30, 35, 40, 45, 50
(Standard sizes)

–X1
= Through-hole

–X2
= Surface Mount

–F
= Gold flash on post, Matte Tin on tail

–L
= 15 µ" (0.38 µm) Gold on post, Matte Tin on tail

–RA
= Right-angle (–01 only)

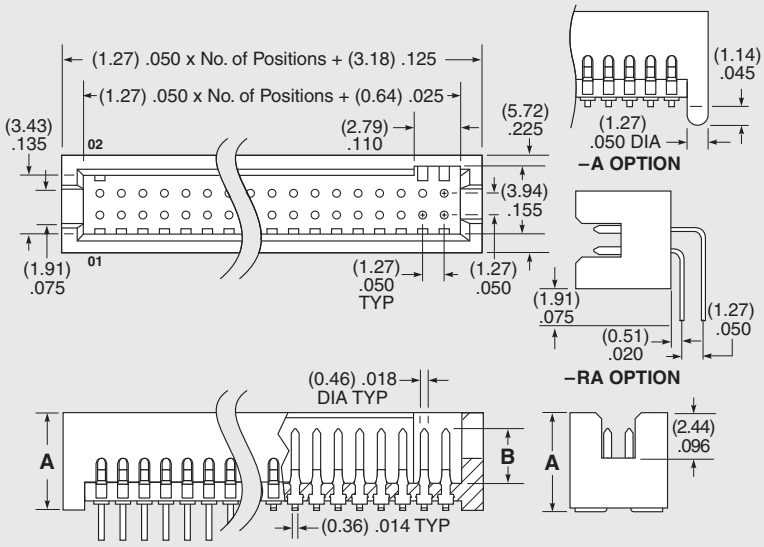
–A
= Alignment Pin

–LC
= Locking Clip (Manual Placement required) (not available with –RA)

–K
= (6.75 mm) .266" DIA Polyimide film Pick & Place Pad

–P
= Plastic Pick & Place Pad (5 positions min.)

–TR
= Tape & Reel (–X2 only)



TH LEAD STYLE	A	B
–01	(5.59) .220	(3.38) .133
–11	(7.37) .290	(3.30) .130
–21	(9.14) .360	
–31	(11.05) .435	

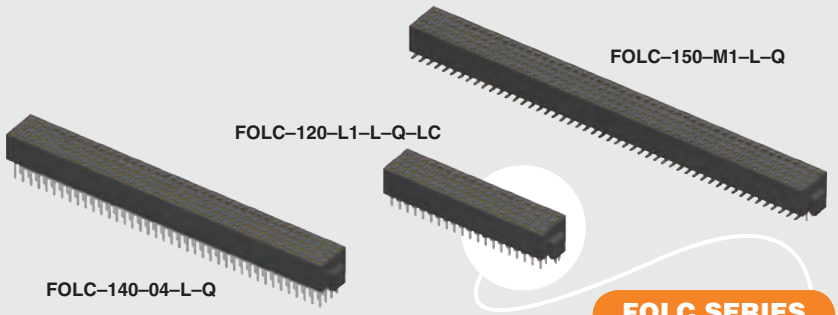
SMT LEAD STYLE	A	B
–02	(5.72) .225	(3.38) .133
–12	(7.49) .295	(3.30) .130
–22	(9.27) .365	
–32	(11.18) .440	

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(1.27 mm) .050"

FOLC SERIES

QUAD ROW TIGER EYE™ SOCKETS

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?FOLC

Insulator Material:
Black Liquid Crystal Polymer
Contact Material:
BeCu
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Current Rating:
2.6 A per pin
(4 pins powered)
Voltage Rating:
165 VAC/230 VDC
Operating Temp Range:
-55 °C to +125 °C
Insertion Depth:
(3.30 mm) .130" to
(4.06 mm) .160"
Normal Force:
Standard= 70 grams
(0.69 N) avg.
LIF= 40 grams (0.39 N) avg.
Max Cycles:
100
RoHS Compliant:
Yes

PROCESSING

Lead-Free Solderable:
Yes
SMT Lead Coplanarity:
(0.15 mm) .006" max*
*(.004" stencil solution may be available; contact IPG@samtec.com)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

OTHER SOLUTIONS

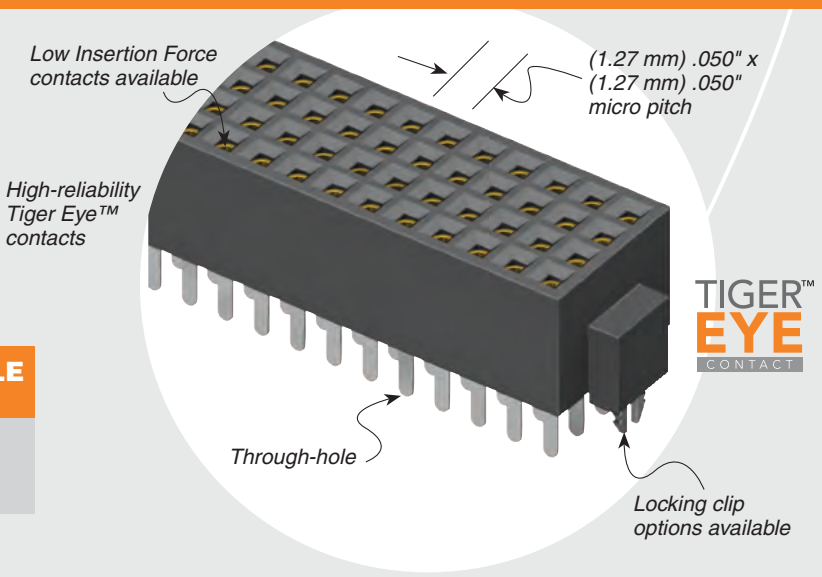
- Surface mount design with Tiger Buy™ contacts (see TOLC/SOLC Series)

Note:
Some sizes, styles and options are non-standard, non-returnable.

Mates with:
MOLC

ALSO AVAILABLE
(MOQ Required)

- Other sizes
- Alignment pins
- Other platings



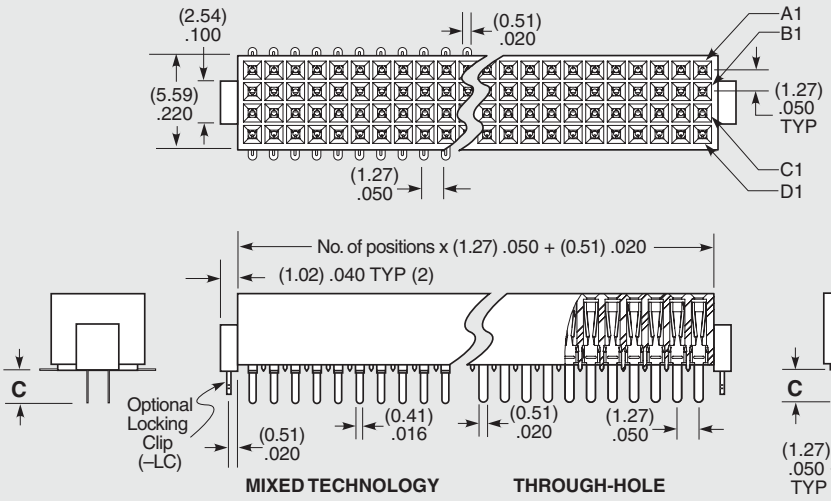
FOLC	–	1	NO. PINS PER ROW	–	LEAD STYLE	–	PLATING OPTION	Q	–	OPTION

NO. PINS PER ROW: 20, 25, 30, 35, 40, 45, 50 (Standard sizes)

LEAD STYLE:
–01 & –04 = Through-hole
–M1 & –M2 = Mixed Technology
–L1 & –L4 = Low Insertion Force Through-hole

PLATING OPTION: –L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

OPTION: –LC = Locking Clip (Manual placement required)

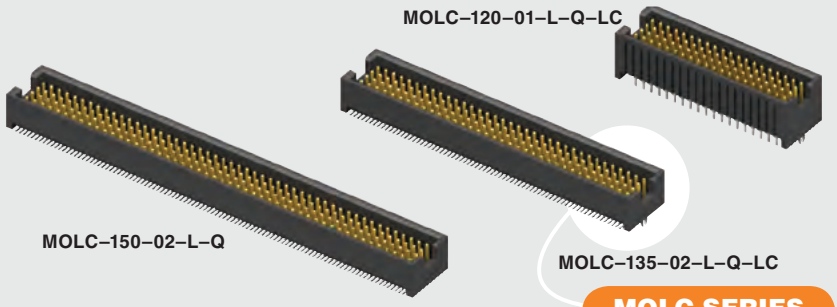


LEAD STYLE	C
–01, –M1	(1.91) .075
–04, –M2	(3.04) .120

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(1.27 mm) .050"

MOLC SERIES

QUAD ROW TERMINAL STRIP

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?MOLC

Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Current Rating:
3.8 A per pin
(4 pins powered)
Voltage Rating:
165 VAC/230 VDC
Operating Temp Range:
-55 °C to +125 °C
RoHS Compliant:
Yes

Mates with:
FOLC

PROCESSING

Lead-Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (20-25)
(0.15 mm) .006" max (30-50)*
*(.004" stencil solution may be available; contact IPG@samtec.com)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

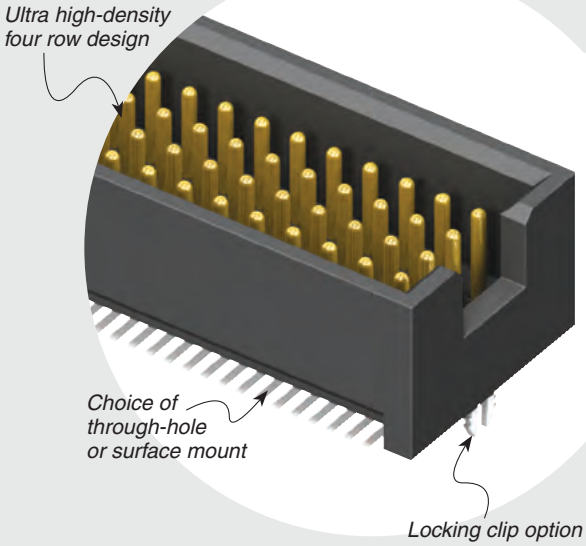
OTHER SOLUTIONS

- Surface mount design with Tiger Buy™ contacts (see TOLC/SOLC Series)

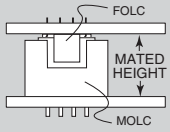
ALSO AVAILABLE (MOQ Required)

- Other sizes
- Alignment pins
- Other platings

Note:
Some sizes, styles and options are non-standard, non-returnable.



APPLICATIONS



LEAD STYLE		MATED HEIGHT*
MOLC	FOLC	
–01	–01	(5.97) .235
–11		(7.75) .305
–31		(11.43) .450

*Processing conditions will affect mated height.

MOLC	–	1	NO. PINS PER ROW	–	LEAD STYLE	–	PLATING OPTION	–	Q	–	OPTION

20, 25, 30, 35, 40, 45, 50
(Standard sizes)

–'X'1
= Through-hole
(Specify from chart)

–02
= Surface Mount

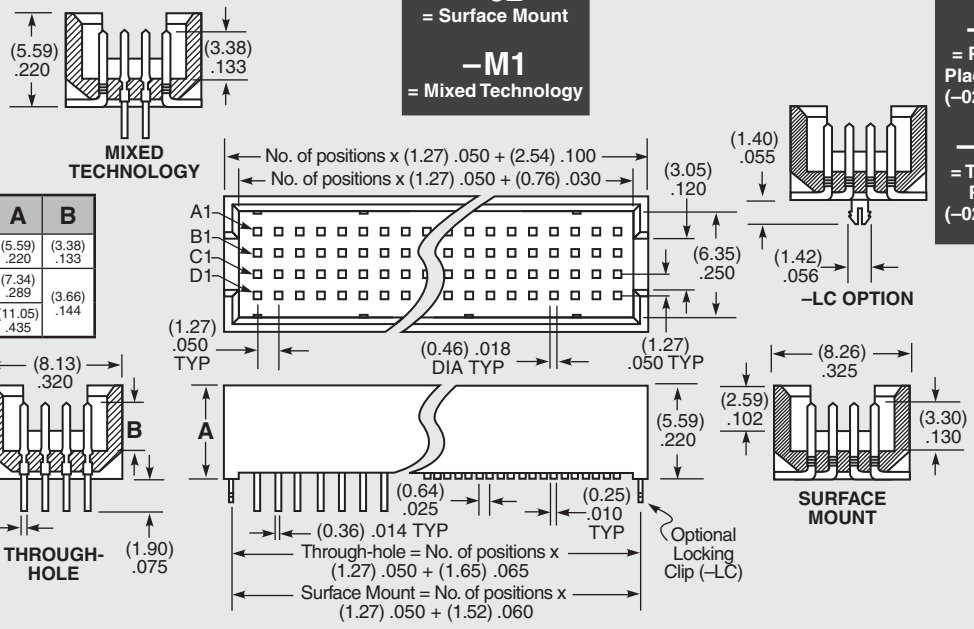
–M1
= Mixed Technology

–L
= 10 µ" (0.25 µm) Gold on post, Matte Tin on tail

–LC
= Locking Clip (Manual placement required)

–P
= Pick & Place Pad (–02 only)

–TR
= Tape & Reel (–02 only)



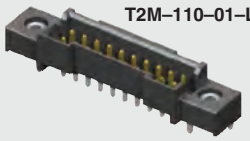
LEAD STYLE	A	B
–01	(5.59) .220	(3.38) .133
–11	(7.34) .289	(3.66) .144
–31	(11.05) .435	

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TIGER™ EYE SYSTEM









(2.00 mm) .0787"

T2M SERIES

HIGH-RELIABILITY CABLE HEADER

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?T2M

Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Plating:
Sn or Au over
50 µ" (1.27 µm) Ni
Current Rating (T2M/S2SD):
3.8 A per pin
(2 pins powered)
Voltage Rating:
250 VAC/350 VDC
mated with S2SD
Operating Temp Range:
-55 °C to +105 °C with Tin;
-55 °C to +125 °C with Gold
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

OTHER SOLUTIONS



See S2SD in the discrete wire section

ALSO AVAILABLE (MOQ Required)

- Other platings

Note:
Some lengths, styles and options are non-standard, non-returnable.

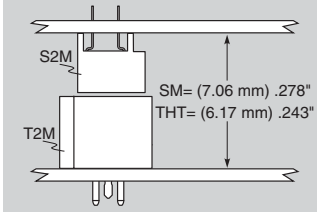
Board Mates:
S2M

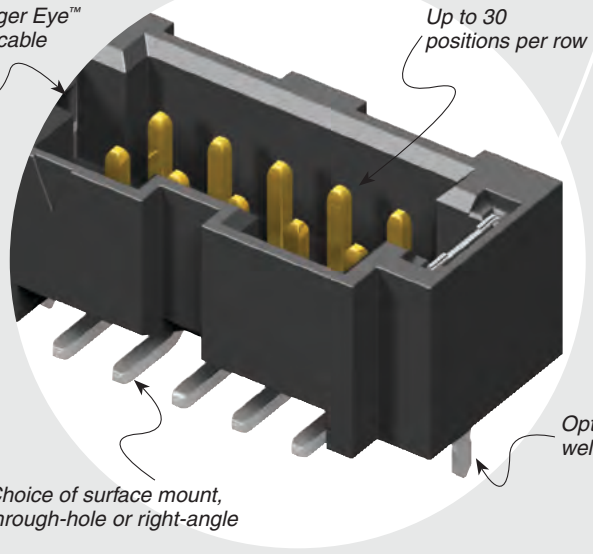
Cable Mates:
S2SD, S2SDT

RUGGEDIZED BY SAMTEC

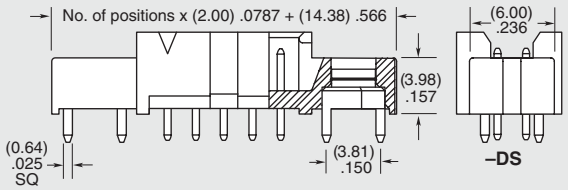
- Weld tabs

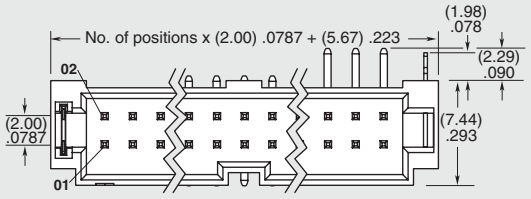
MATED HEIGHT

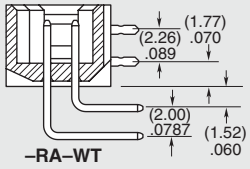


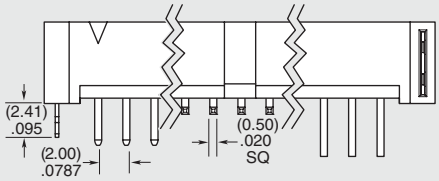


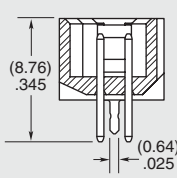
T2M	1	NO. OF POSITIONS	01	PLATING OPTION	D	OPTION	OTHER OPTION
		05, 07, 10, 15, 20, 25, 30 (Per Row)		–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail		–TH = Through-hole –RA = Right-angle –SM = Surface Mount	–WT = Weld Tab (S2SD & S2SDT, –SR/–DR required mate) –DS = Screw Down (N/A with –RA) (mates with –S2M–DS, S2SD/S2SDT –SS/–DS option) –K = (7.50 mm) .295" DIA Polyimide film Pick & Place Pad (–SM only) –TR = Tape & Reel (–SM only)

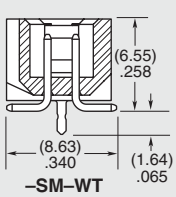












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TIGER™ EYE SYSTEM

(2.00 mm) .0787"

S2M SERIES

HIGH-RELIABILITY CABLE SOCKET


S2M–105–02–F–D


S2M–110–01–L–D


S2M–105–01–L–D–DS

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?S2M

Insulator Material:
Black Liquid Crystal Polymer
Contact Material:
BeCu
Plating:
Sn or Au over
50 µ" (1.27 µm) Ni
Current Rating (S2M/T2SD):
2.6 A per pin
(2 pins powered)
Operating Temp Range:
-55 °C to +125 °C
Insertion Depth:
(3.05 mm) .120" to
(3.25 mm) .128"
Max Cycles:
100 with 10 µ" (0.25 µm) Au
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

OTHER SOLUTIONS



See www.samtec.com?T2SD

ALSO AVAILABLE
(MOQ Required)

- Other platings

Note:
Some lengths, styles and options are non-standard, non-returnable.

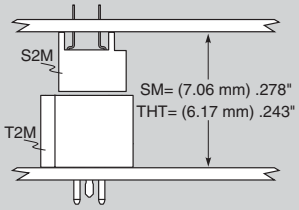
Board Mates:
T2M

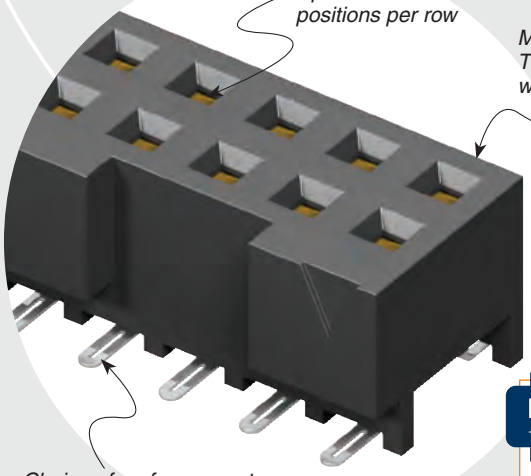
Cable Mates:
T2SD

TIGER™ EYE CONTACT



MATED HEIGHT

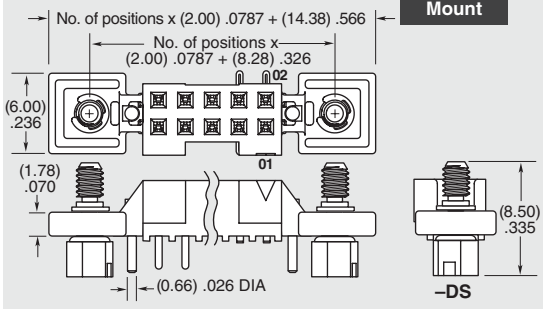


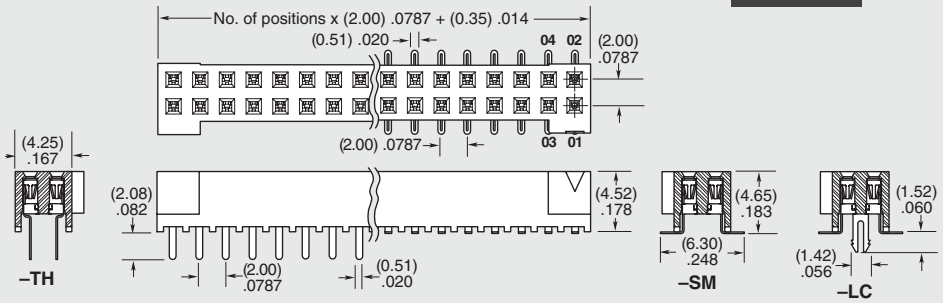


RUGGEDIZED BY SAMTEC

- Locking clip

S2M	1	NO. OF POSITIONS	LEAD STYLE	PLATING OPTION	D	OPTION	OTHER OPTION
		05, 07, 10, 15, 20, 25, 30 (Per Row)	–01 = Through-hole –02 = Surface Mount	–F = Gold flash on contact, Matte Tin on tail –L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail		–K = (5.50 mm) .217" DIA Polyimide film Pick & Place Pad (–SM only) –LC = Locking Clip (Manual placement required) (–SM only) –DS = Screw Down (N/A with–LC) (mates with –T2M–DS)	–TR = Tape & Reel Packaging



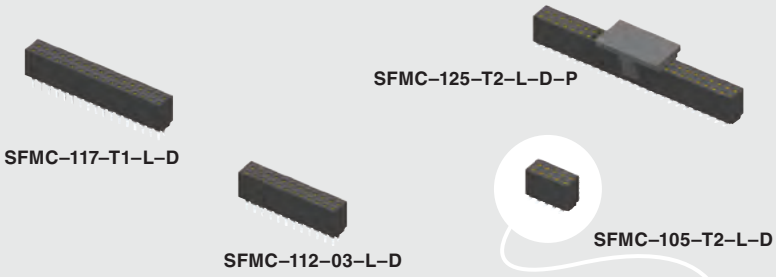


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TIGER™ EYE SYSTEM



(1.27 mm) .050"

SFMC SERIES

FLEXIBLE PIN COUNT TIGER EYE™ SOCKETS

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?SFMC

Insulator Material:
Black Liquid Crystal Polymer
Contact Material:
Tiger Eye™ = BeCu
Tiger Eye™ LITE= Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Current Rating:
2.9 A per pin
(2 pins powered)
Voltage Rating:
220 VAC/310 VDC
Operating Temp Range:
-55 °C to +125 °C
Insertion Depth:
(3.05 mm) .120" to
(4.06 mm) .160"
Normal Force:
Standard= 132 g (1.29 N) avg.
LIF= 90 g (0.88 N) avg.
Max Cycles:
10,000 with 30 µ" (0.76 µm) Au
RoHS Compliant:
Yes

PROCESSING

Lead-Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (02-26)
(0.15 mm) .006" max (27-50)*
*(.004" stencil solution may be available; contact IPG@samtec.com)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

ALSO AVAILABLE (MOQ Required)

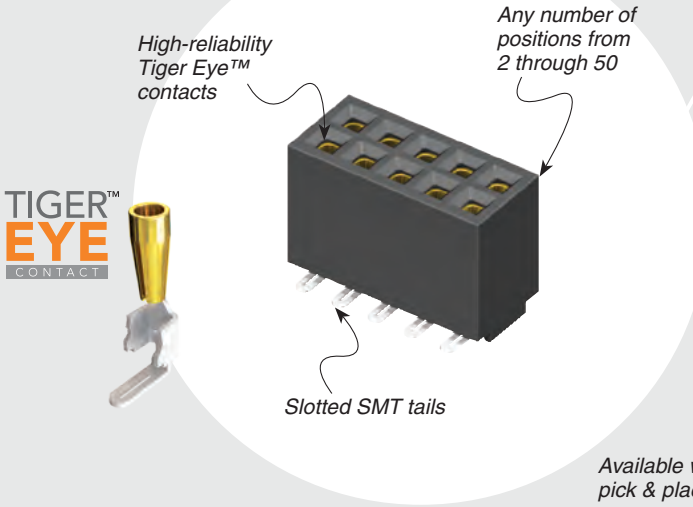
- Other platings

Note:
Some sizes, styles and options are non-standard, non-returnable.

Board Mates:
TFM

Cable Mates:
FMTP, FFMD*

***Note:** Standard FFMD callout will not mate with FLE, SFMC. Must use gold plated callouts. (See drawing on web.)



SFMC	–	1	NO. PINS PER ROW	–	LEAD STYLE	–	PLATING OPTION	–	D	–	OPTION

02 thru 50

–01, –03
= Through-hole

–L1, –L3
= Low Insertion Force Through-hole

–02
= Surface Mount

–L2
= Low Insertion Force Surface Mount

–T1
= Through-hole Tiger Eye™ LITE

–T2
= Surface Mount Tiger Eye™ LITE

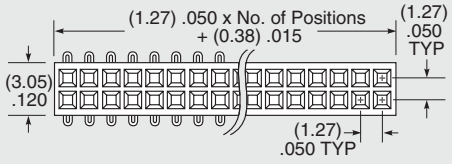
–L
= 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

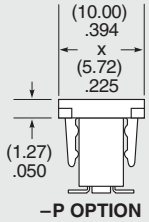
–K
= (4.00 mm) .157 DIA Polyimide film Pick & Place Pad (4 positions minimum)

–P
= Plastic Pick & Place Pad (5 positions minimum)

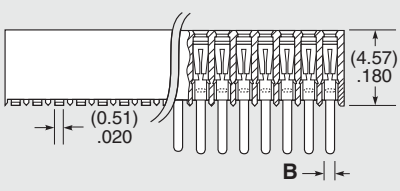
–TR
= Tape & Reel

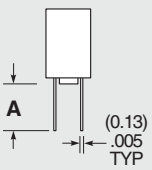
LEAD STYLE	A	B
–01, –L1, –T1	(3.05) .120	(0.51) .020
–03, –L3	(1.91) .075	(0.41) .016

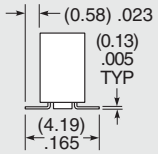




–P OPTION







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DISCRETE WIRE

Components and Tooling 224-225
0.80 pitch Tiger Eye™ Socket Cable Assembly (SESDT) 226
1 mm Pitch Socket Cable System (S1SS, S1SD, S1SST, S1SDT, T1M) 227-229
1 mm Pitch Terminal Cable Assembly (T1SS(T), T1SD(T), T1PS(T), T1PD(T)) 230-231
.050" Pitch Tiger Eye™ Socket Cable Assembly (SFSS, SFSD, SFSST, SFSDT) 232-233
2.00 mm Pitch Tiger Eye™ Shielded Cable System (SS2SD, ST2M) 234-235
2.00 mm Pitch Tiger Eye™ Socket Cable Assembly (S2SD, S2SDT) 236
Mini Mate® Cable System (IPL1, MMSS, MMSD, MMSST, MMSDT) 237-238
Power Mate® Cable Assembly (PMSS, PMSD, PMSST, PMSDT) 239
PowerStrip™/30 Cable Assembly (MPSS, MPCC) 240-241
PowerStrip™/40 Cable Assembly (PESS) 242

APPLICATIONS

Rugged Tiger Eye™ Discrete Wire Systems 34-35
Micro & Power Discrete Wire Systems and Components 36-37

DISCRETE WIRE COMPONENTS & TOOLING

0.80 mm Tiger Eye™ Components



ISDE
Double Row Body



CC396
Crimp
Contact

Tooling:
Hand Tool: CAT-HT-396-3232-12 (32 AWG)
Bench Mount Clamp: CAT-HT-MNT-02
Mini Applicator:
CAT-MC-396-3232-XX-03 (32 AWG)

Cable Assembly:
SESDT
Board Mate:
TEM-L1

TIGER™ EYE SYSTEM

1.00 mm Micro Socket Components



ISD1
Double Row Body



ISS1
Single Row Body



CC09
Crimp
Contact

Tooling:
Hand Tool: CAT-HT-309-2830-12 (28-30 AWG)
Bench Mount Clamp: CAT-HT-MNT-02
Mini Applicator: CAT-MC-309-2830-XX-01 (28-30 AWG)

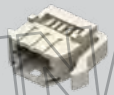
Cable Assembly:
S1SS/S1SST, S1SD/S1SDT
Board Mate:
T1M

1.00 mm Micro Terminal Components

PRELIMINARY



T1SS/T1SD
Single or Double Row Body



T1PS/T1PD
Panel Mount Body



T1M137-X
Crimp Contact

Tooling:
Hand Tool: CAT-HT-309-2830-12 (28-30 AWG)
Bench Mount Clamp: CAT-HT-MNT-02
Mini Applicator: CAT-MC-309-2830-XX-01 (28-30 AWG)

Cable Assembly:
T1SS/T1SST, T1PS/T1PST, T1SD/T1SDT, T1PD/T1PDT
Cable Mate:
S1SS/S1SST, S1SD/S1SDT

1.27 mm Tiger Eye™ Components



ISDF
Single or Double Row Body



CC03
Crimp
Contact

Tooling:
Hand Tool: CAT-HT-203-2830-12 (28-30 AWG)
Bench Mount Clamp: CAT-HT-MNT-02
Extraction Tool: CAT-EX-169-01
Mini Applicator:
CAT-MC-203-2830-XX-01 (28-30 AWG)

Cable Assembly:
SFSS/SFSST, SFSD/SFSDT
Board Mate:
TFM, TFC

TIGER™ EYE SYSTEM

2.00 mm Tiger Eye™ Components



ISD2
Double Row Body



CC81
Crimp
Contact

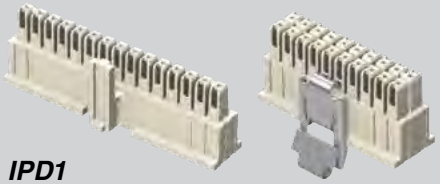
Tooling:
Hand Tool: CAT-HT-281-2430-13 (24-30 AWG)
Extraction Tool: CAT-EX-169-01
Mini Applicator:
CAT-MC-281-2426-XX-01 (24-26 AWG)
CAT-MC-281-2830-XX-01 (28-30 AWG)

Cable Assembly:
S2SD/S2SDT
Board Mate:
T2M

TIGER™ EYE SYSTEM

Components and tooling are offered for all discrete wire assemblies.
For specific information about the components, visit www.samtec.com?XXXX (i.e. www.samtec.com?isde).
For more information on tooling, visit www.samtec.com/tooling.

2.54 mm Mini Mate® Components



IPD1
Single or Double Row Body



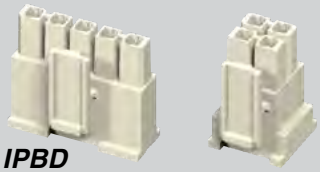
CC79
Crimp Contact

Tooling:
Hand Tool: CAT-HT-179-2030-13 (20-30 AWG)
Extraction Tool: CAT-EX-179-01
Mini Applicator: CAT-MC-179-2024-XX-01 (20-24 AWG)
CAT-MC-179-2630-XX-01 (26-30 AWG)

Cable Assembly:
MMSS/MMSST, MMSD/MMSDT
Board Mate:
IPL1

miniMATE®

4.19 mm Power Mate® Components



IPBD
Single or Double Row Body



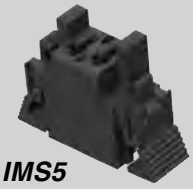
CC69
Crimp Contact

Tooling:
Hand Tool: CAT-HT-169-1620-13 (16-20 AWG)
CAT-HT-169-2024-13 (20-24 AWG)
Extraction Tool: CAT-EX-169-01
Mini Applicator: CAT-MC-169-1620-XX-02 (16-20 AWG)
CAT-MC-169-2024-XX-01 (20-24 AWG)

Cable Assembly:
PMSS/PMSST, PMSD/PMSDT
Board Mate:
IPBT

POWERMATE®

5.00 mm PowerStrip®/30 Components



IMS5
Body with Latch



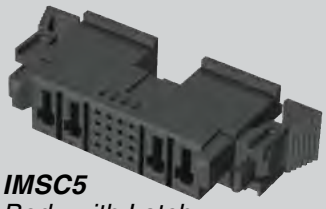
CC46
Crimp Contact

Tooling:
Hand Tool: CAT-HT-246-1416-14 (14-16 AWG)
Extraction Tool: CAT-EX-MPSS-01
Mini Applicator: CAT-MC-246-1416-XX-02 (14-16 AWG)

Cable Assembly:
MPSS
Board Mate:
MPT

POWER STRIP™ 30

5.00 mm PowerStrip®/30 Components



IMSC5
Body with Latch



CC46
Power Contact



CC81
Signal Contact

Tooling:
Hand Tool: CAT-HT-281-2430-13 (Signal: 24-30 AWG)
CAT-HT-246-1416-14 (Power: 14-16 AWG)
Extraction Tool: CAT-EX-169-01 (Signal)
CAT-EX-MPSS-01 (Power)
Mini Applicator: CAT-MC-246-1416-XX-02 (Power: 14-16 AWG)
CAT-MC-281-2426-XX-01 (Signal: 24-26 AWG)
CAT-MC-281-2830-XX-01 (Signal: 28-30 AWG)

Cable Assembly:
MPCC
Board Mate:
MPTC

POWER STRIP™ 30

6.35 mm PowerStrip®/40 Components



IPS6
Body with Latch



CC10
Crimp Contact

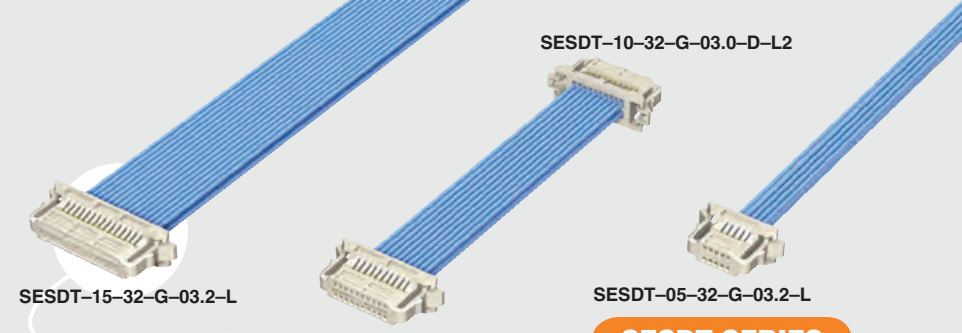
Tooling:
Hand Tool: CAT-HT-310-1012-14 (10-12 AWG)
Mini Applicator: CAT-MC-310-1012-XX-02 (10-12 AWG)

Cable Assembly:
PESS
Board Mate:
PET

POWER STRIP™ 40

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TIGER™ EYE SYSTEM



(0.80 mm) .0315"

SESDT SERIES

DISCRETE WIRE CABLE ASSEMBLY

SPECIFICATIONS

For complete specifications see www.samtec.com?SESDT

Insulator Material:
Natural Nylon
Contact Material:
BeCu
Plating:
Au over 50 µ" (1.27 µm) Ni
Wire:
Tinned Copper
Wire Insulation:
FEP
Operating Temp Range:
-55 °C to +125 °C
Current Rating:
1.9 A per pin
(2 pins powered)
Voltage Rating:
200 VAC/280 VDC
RoHS Compliant:
Yes

Mates with:
TEM-L1

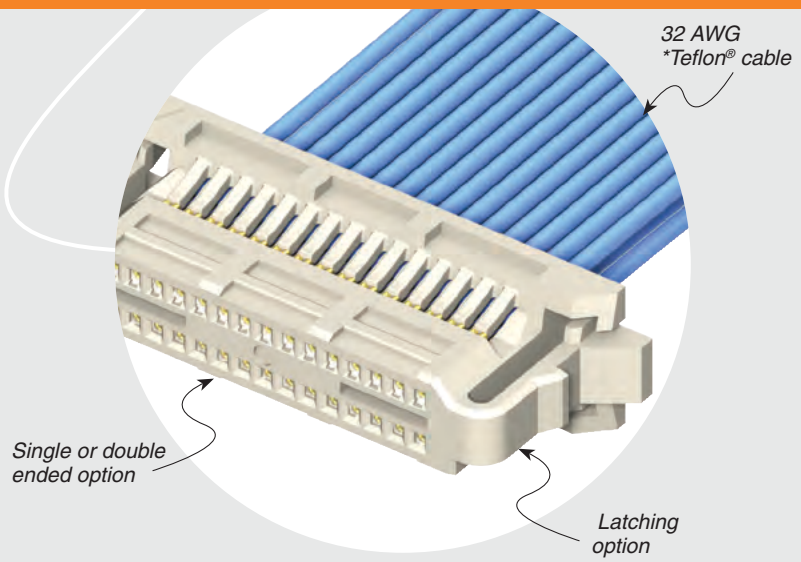
RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

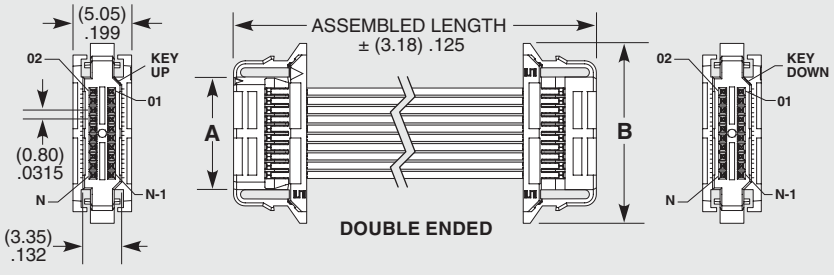
FILE NO. E111594

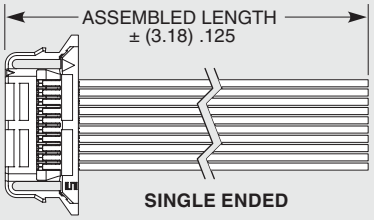
COMPONENTS

- For body, see www.samtec.com?ISDE
- For contacts, see www.samtec.com?CC396



TYPE STRIP	POSITIONS PER ROW	32	PLATING OPTION	ASSEMBLED LENGTH	OPTION
SESDT = Double Row *Teflon® Cable (32 AWG)	–05, –10, –15, –20		–G = 10 µ" (0.25 µm) Gold on contact area, 3 µ" (0.08 µm) Gold on tail	–"XX.X" = Assembled Length in Inches (76.2 mm) 03.0" min.	Double Ended Assemblies –L1 = Pin 1 to Pin 1; –L2 = Pin 1 to Pin 2; –L3 = Pin 1 to Pin N-1; –L4 = Pin 1 to Pin N Single Ended Assembly –L = Latching





POSITIONS PER ROW	N	N-1	A	B
–05	10	09	(5.70) .224	(11.50) .453
–10	20	19	(9.70) .382	(15.50) .610
–15	30	29	(13.70) .539	(19.50) .768
–20	40	39	(27.70) .697	(23.50) .925

Notes:
Patent Pending

*DuPont™ Teflon® is a registered trademark of the E.I. du Pont de Nemours and Company or its affiliates.

Teflon® cable is intended for crimp only. Contact Samtec for solderable cable applications.

Some lengths, styles and options are non-standard, non-returnable.

Due to technical progress, all designs, specifications and components are subject to change without notice.

All parts within this catalog are built to Samtec's specifications.
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T1M–07–F–SV–L



T1M–10–GF–DV



T1M–05–F–SH–L



T1M–10–GF–DH

(1.00 mm) .0394"

T1M SERIES

DISCRETE WIRE COMPONENTS

Mates with:
S1SS(T), S1SD(T)

SPECIFICATIONS

For complete specifications see www.samtec.com?T1M

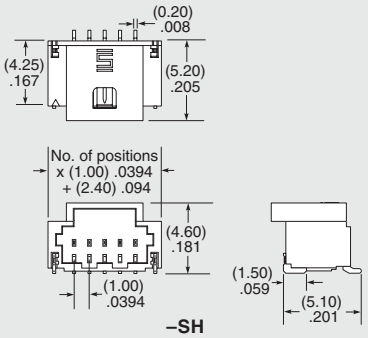
Insulator Material:
Natural LCP
Terminal Material:
Phosphor Bronze
Weld Tab:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Operating Temp Range (S1SX(T)/T1M):
-10 °C to +85 °C (PVC)
-40 °C to +125 °C (Teflon® cable with -GF plated contact)
Current Rating (S1SX (28 AWG)/T1M):
3.3 A per pin (1 pin powered)
Voltage Rating:
250 VAC/353 VDC
RoHS Compliant:
Yes

RECOGNITIONS

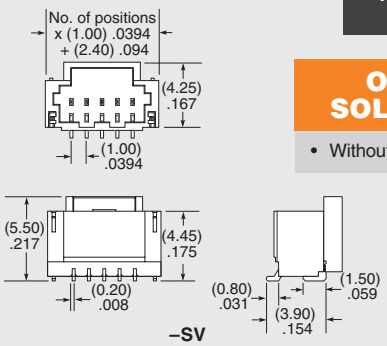
For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

T1M	NO. OF POSITIONS	PLATING OPTION	ROW OPTION	LATCH	OPTION
	–02, –03, –05, –07, –10, –15, –20	–F = 3 µ" (0.07 µm) Gold on contact, Matte Tin on tail –T = Tin	–SH = Single Row Horizontal –SV = Single Row Vertical	(Required in callout) –L = Positive Latch	–K = (4.00 mm) .157" DIA Polyimide Film Pick & Place Pad (–SH only) –P = Pick & Place Pad (–SV only)



–SH

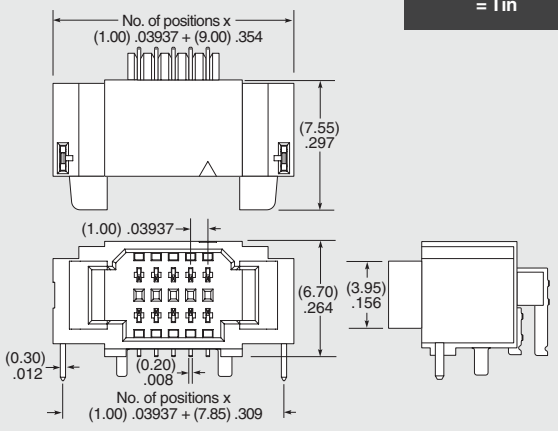


–SV

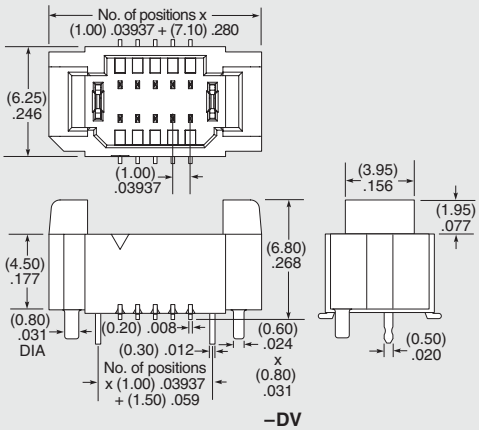
OTHER SOLUTIONS

- Without latch

T1M	NO. OF POSITIONS	PLATING OPTION	ROW OPTION	OPTION
	–02, –03, –04, –05, –10 (Per Row)	–GF = 3 µ" (0.07 µm) Gold contact and tail –T = Tin	–DH = Double Row Horizontal –DV = Double Row Vertical	–K = (4.00 mm) .157" DIA Polyimide Film Pick & Place Pad (–DV only)



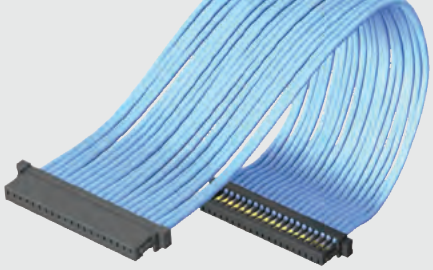
–DH



–DV

Note:
Some lengths, styles and options are non-standard, non-returnable.

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S1SST–20–28–GF–03.00–D–NUS



S1SS–10–28–GF–03.00–L1

(1.00 mm) .03937"

S1SS, S1SST SERIES

MICRO CABLE ASSEMBLY

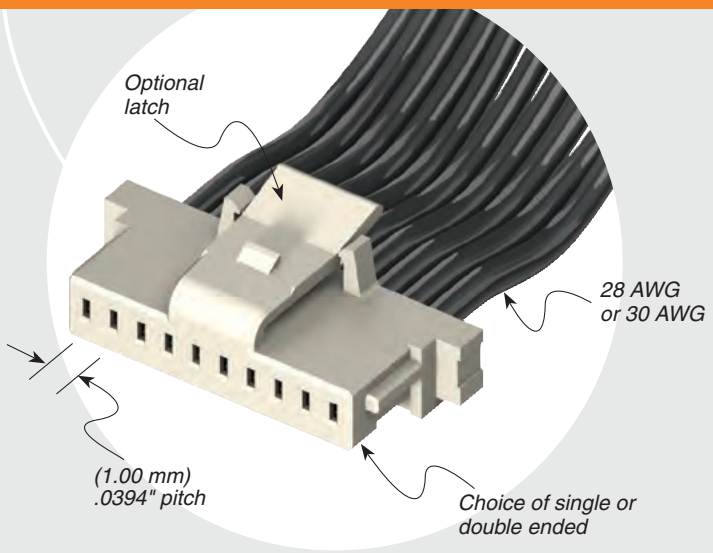
SPECIFICATIONS

For complete specifications see www.samtec.com?S1SS or www.samtec.com?S1SST

Insulator Material:
Nylon, White (with latch)
Black, LCP (without latch)
Contact Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Operating Temp Range (S1SS(T)/T1M):
-10 °C to +85 °C (PVC)
-40 °C to +125 °C (Teflon® cable with -GF plated contact)
Current Rating (28 AWG):
3.3 A per pin
(1 pin powered)
Voltage Rating:
250 VAC/353 VDC
Wire: 28 or 30 AWG
RoHS Compliant: Yes

*DuPont™ Teflon® is a registered trademark of the E.I. du Pont de Nemours and Company or its affiliates.

Mates with:
T1M



ALSO AVAILABLE
(MOQ Required)

- Other sizes

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

COMPONENTS

- For body, see www.samtec.com?ISS1
- For contacts, see www.samtec.com?CC09R www.samtec.com?CC09M

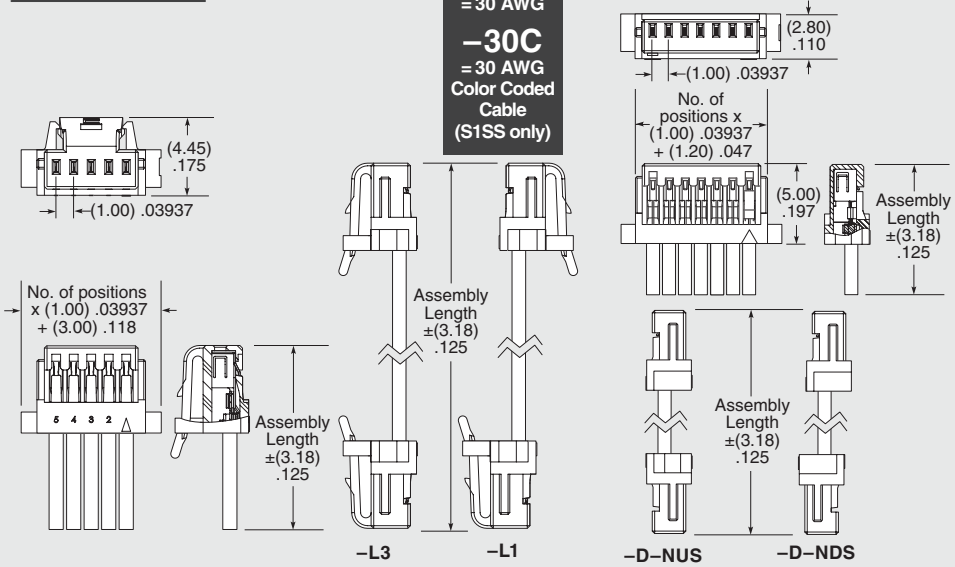
APPLICATION

S1SS CABLE COLOR CODING	
PIN	COLOR
1	BROWN
2	RED
3	ORANGE
4	YELLOW
5	GREEN
6	BLUE
7	VIOLET
8	GRAY
9	WHITE
10	BLACK
ETC	REPEAT

Notes:
Teflon® cable is intended for crimp only. Contact Samtec for solderable cable applications.

Some lengths, styles and options are non-standard, non-returnable.

TYPE	NO. OF POSITIONS	WIRE GAUGE	PLATING OPTION	ASSEMBLED LENGTH	OPTION
S1SS = Single Row PVC Cable **S1SST** = Single Row *Teflon® Cable (28 AWG only)	–02, –03, –05, –07, –10 –15, –20 (Standard sizes)	–28 = 28 AWG –28C = 28 AWG Color Coded Cable (S1SS only) –30 = 30 AWG –30C = 30 AWG Color Coded Cable (S1SS only)	–GF = 3 µ" (0.07 µm) Gold on contact and tail –T = Tin	–"XX.XX" = Assembled Length in Inches (45.72 mm) 01.80" min.	(Required Callout) –L = Single Ended With Latch –L1 = Double Ended Latch down, straight (Pin 1 to Pin 1) –L3 = Double Ended Latch up, straight (Pin 1 to Pin N) –S = Single Ended No Latch –D–NUS = Double Ended No Latch, "N" up, straight –D–NDS = Double Ended No Latch, "N" down, straight



Due to technical progress, all designs, specifications and components are subject to change without notice.

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Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.

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S1SDT–05–28–GF–03.00–L1



S1SD–10–28–GF–03.00–L1

(1.00 mm) .03937"

S1SD, S1SDT SERIES

MICRO CABLE ASSEMBLY

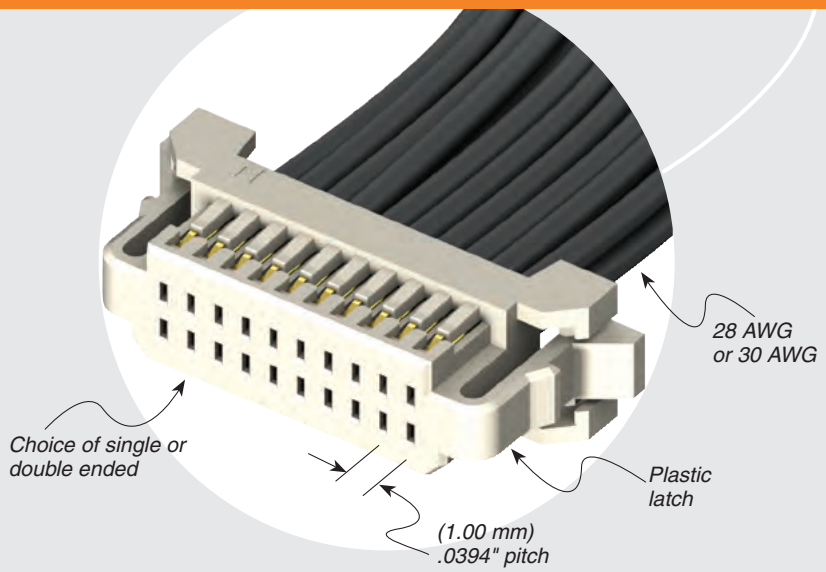
SPECIFICATIONS

For complete specifications see www.samtec.com?S1SD or www.samtec.com?S1SDT

Insulator Material:
Natural Nylon
Contact Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Operating Temp Range (S1SD(T)/T1M):
-10 °C to +85 °C (PVC)
-40 °C to +125 °C (Teflon® cable with -GF plated contact)
Current Rating (28 AWG):
3.3 A per pin
(2 pins powered)
Voltage Rating:
250 VAC/353 VDC
Wire:
28 or 30 AWG
RoHS Compliant:
Yes

*DuPont™ Teflon® is a registered trademark of the E.I. du Pont de Nemours and Company or its affiliates.

Mates with:
T1M



RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

COMPONENTS

- For body, see www.samtec.com?ISD1
- For contacts, see www.samtec.com?CC09R www.samtec.com?CC09M

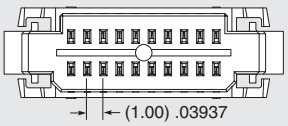
ALSO AVAILABLE (MOQ Required)

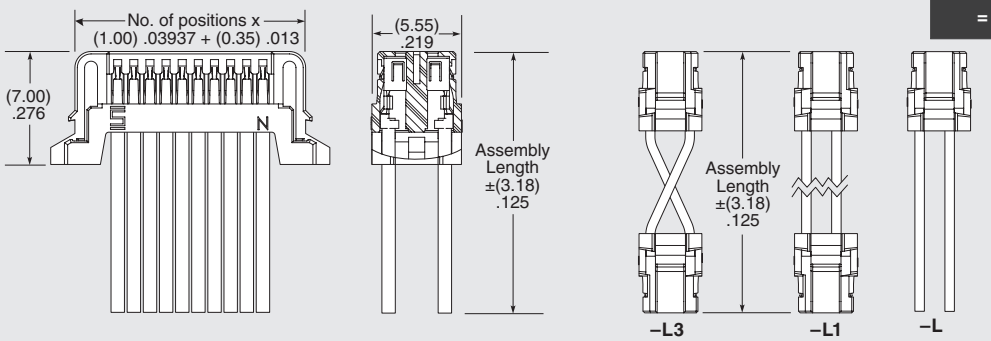
- Other sizes
- Color coded cable (*Teflon® not available)

Notes:
Teflon® cable is intended for crimp only. Contact Samtec for solderable cable applications.

Some lengths, styles and options are non-standard, non-returnable.

TYPE STRIP	POSITIONS PER ROW	WIRE GAUGE	PLATING OPTION	ASSEMBLED LENGTH	WIRING OPTION
S1SD = Double Row PVC Cable **S1SDT** = Double Row *Teflon® Cable	–02, -03 –04, –05, –10, –20 (Standard sizes)	–28 = 28 AWG –30 = 30 AWG	–GF = 3 µ" (0.07 µm) Gold on contact and tail –T = Tin	–"XX.XX" = Assembled Length in Inches (45.72 mm) 01.80" min.	Double Ended Assemblies –L1 = Pin 1 to Pin 1 –L2 = Pin 1 to Pin 2 –L3 = Pin 1 to Pin N –L4 = Pin 1 to Pin N-1 Single Ended Assembly –L = Latching





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(1.00 mm) .03937"

T1SS, T1PS, T1SST, T1PST SERIES

MICRO SINGLE ROW CABLE TERMINAL

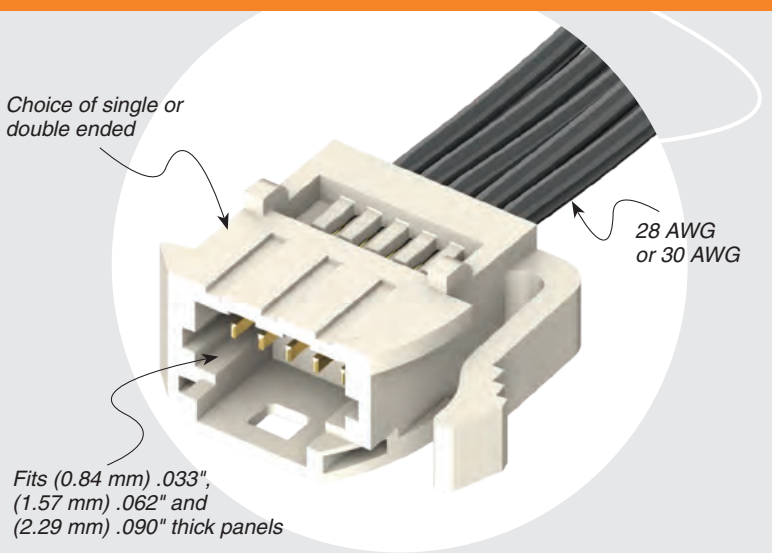
SPECIFICATIONS

Mates with:
S1SS, S1SST

For complete specifications see www.samtec.com?T1SS, www.samtec.com?T1PS, www.samtec.com?T1SST or www.samtec.com?T1PST

Insulator Material:
Nylon, White
Contact Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-10 °C to +80 °C (PVC)
-40 °C to +125 °C (Teflon®)
Wire:
28 or 30 AWG
RoHS Compliant:
Yes

*DuPont™ Teflon® is a registered trademark of the E.I. du Pont de Nemours and Company or its affiliates.



APPLICATION

–28C, –30C CABLE COLOR CODING	
PIN	COLOR
1	BROWN
2	RED
3	ORANGE
4	YELLOW
5	GREEN
6	BLUE
7	VIOLET
8	GRAY
9	WHITE
10	BLACK
ETC	REPEAT

Note:
Some lengths, styles and options are non-standard, non-returnable.

TYPE
- **T1SS** = Single Row Non-Panel Mount PVC Cable
- **T1PS** = Single Row Panel Mount PVC Cable
- **T1SST** = Single Row Non-Panel Mount *Teflon® Cable
- **T1PST** = Single Row Panel Mount *Teflon® Cable

NO OF POSITIONS
(–02 postions not available with T1PS or T1PST)
–02 thru –10 (Per Row)

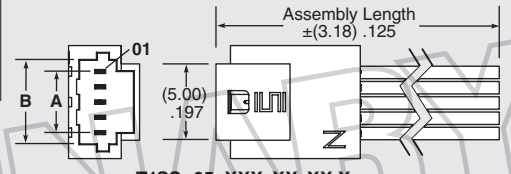
WIRE GAUGE
- **–28** = 28 AWG
- **–28C** = 28 AWG Color Coded Cable (Not available on T1SST or T1PST)
- **–30** = 30 AWG
- **–30C** = 30 AWG Color Coded Cable (Not available on T1SST or T1PST)

PLATING OPTION
- **–GF** = 3 µ" (0.07 µm) Gold on contact and tail
- **–T** = Tin

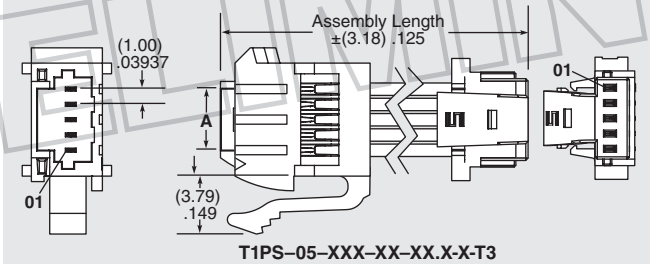
ASSEMBLED LENGTH
–"XX.X" = Assembled Length in Inches (45.7 mm) 01.8" min.

PANEL OPTION
(Leave blank for non-panel mount)
–A = Fits .033" (0.84 mm), .062" (1.57 mm) and .090" (2.29 mm) Thick Panels

PINOUT
(Leave blank for single ended assembly)
- **–D1** = Double Ended down (Not available with T1PS or T1PST)
- **–D3** = Double Ended up (Not available with T1PS or T1PST)
- **–T1** = Transfer to socket down
- **–T3** = Transfer to socket up



T1SS–05–XXX–XX–XX.X



T1PS–05–XXX–XX–XX.X-X-T3

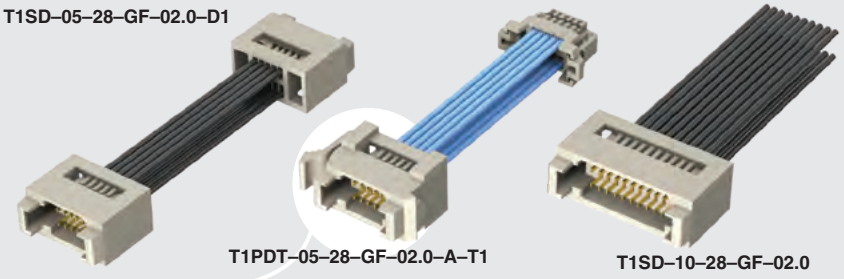
NO. OF POSITIONS	A	B
–02	1.00 (.0394)	2.48 (.098)
–03	2.00 (.0787)	3.48 (.137)
–04	3.00 (.1181)	4.48 (.176)
–05	4.00 (.1575)	5.48 (.216)
–06	5.00 (.1969)	6.48 (.255)
–07	6.00 (.2362)	7.48 (.294)
–08	7.00 (.2756)	8.48 (.334)
–09	8.00 (.3150)	9.48 (.373)
–10	9.00 (.3543)	10.48 (.413)

PRELIMINARY

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(1.00 mm) .03937"

T1SD, T1PD, T1SDT, T1PDT SERIES

MICRO DOUBLE ROW CABLE TERMINAL

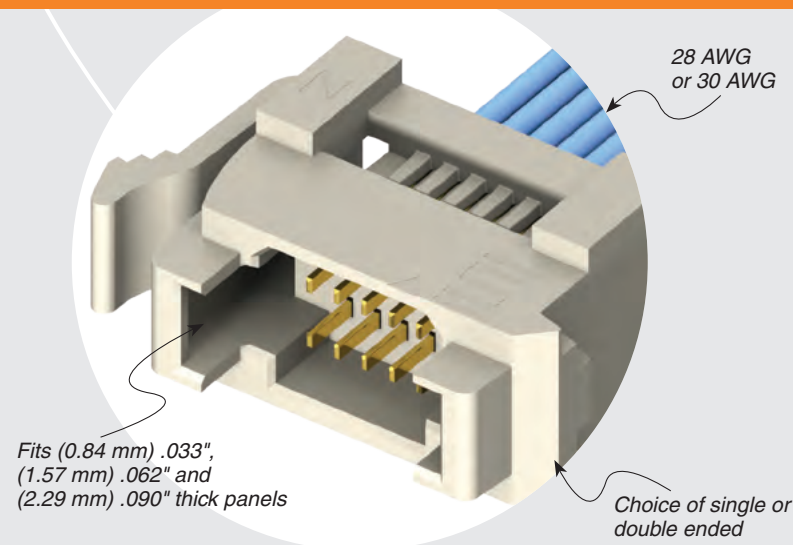
SPECIFICATIONS

Mates with:
S1SD, S1SDT

For complete specifications see www.samtec.com?T1SD, www.samtec.com?T1PD, www.samtec.com?T1SDT or www.samtec.com?T1PDT

Insulator Material:
Nylon, White
Contact Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-10 °C to +80 °C (PVC)
-40 °C to +125 °C (Teflon®)
Wire:
28 or 30 AWG
RoHS Compliant:
Yes

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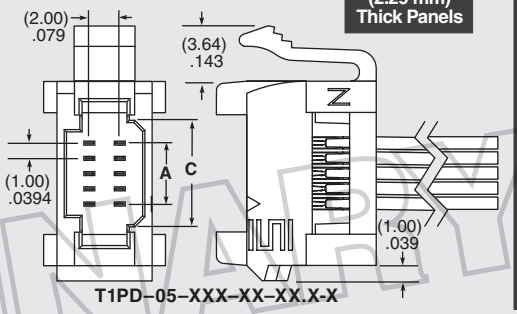


APPLICATION

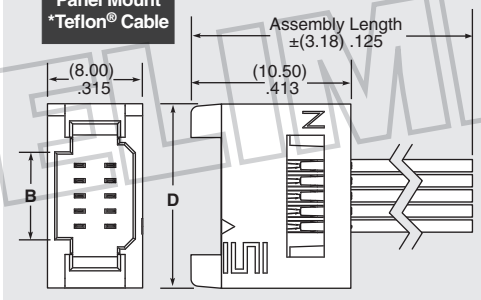
–28C, –30C CABLE COLOR CODING	
PIN	COLOR
1	BROWN
2	RED
3	ORANGE
4	YELLOW
5	GREEN
6	BLUE
7	VIOLET
8	GRAY
9	WHITE
10	BLACK
ETC	REPEAT

Note:
Some lengths, styles and options are non-standard, non-returnable.

TYPE	NO OF POSITIONS	WIRE GAUGE	PLATING OPTION	ASSEMBLED LENGTH	PANEL OPTION	PINOUT
T1SD = Double Row Non-Panel Mount PVC Cable **T1PD** = Double Row Panel Mount PVC Cable **T1SDT** = Double Row Non-Panel Mount *Teflon® Cable **T1PDT** = Double Row Panel Mount *Teflon® Cable	**–02 thru –10** (Per Row)	**–28** = 28 AWG **–28C** = 28 AWG Color Coded Cable (Not available on T1SDT or T1PDT) **–30** = 30 AWG **–30C** = 30 AWG Color Coded Cable (Not available on T1SDT or T1PDT)	**–GF** = 3 µ" (0.07 µm) Gold on contact and tail **–T** = Tin	**–"XX.X"** = Assembled Length in Inches (45.7 mm) 01.8" min.	(Leave blank for non-panel mount) **–A** = Fits .033" (0.84 mm), .062" (1.57 mm) and .090" (2.29 mm) Thick Panels	(Leave blank for single ended assembly) **–D1** = Double Ended down (Not available with T1PD or T1PDT) **–D3** = Double Ended up (Not available with T1PD or T1PDT) **–T1** = Transfer to socket down **–T3** = Transfer to socket up



T1PD–05–XXX–XX–XX.X–X



T1SD–05–XXX–XX–XX.X

NO. OF POSITIONS	A	B	C	D
–02	1.00 (.0394)	2.48 (.098)	3.70 (.146)	9.10 (.358)
–03	2.00 (.0787)	3.48 (.137)	4.70 (.185)	10.10 (.398)
–04	3.00 (.1181)	4.48 (.176)	5.70 (.224)	11.10 (.437)
–05	4.00 (.1575)	5.48 (.216)	6.70 (.264)	12.10 (.476)
–06	5.00 (.1969)	6.48 (.255)	7.70 (.303)	13.10 (.516)
–07	6.00 (.2362)	7.48 (.294)	8.70 (.343)	14.10 (.555)
–08	7.00 (.2756)	8.48 (.334)	9.70 (.382)	15.10 (.594)
–09	8.00 (.3150)	9.48 (.373)	10.70 (.421)	16.10 (.634)
–10	9.00 (.3543)	10.48 (.413)	11.70 (.461)	17.10 (.673)

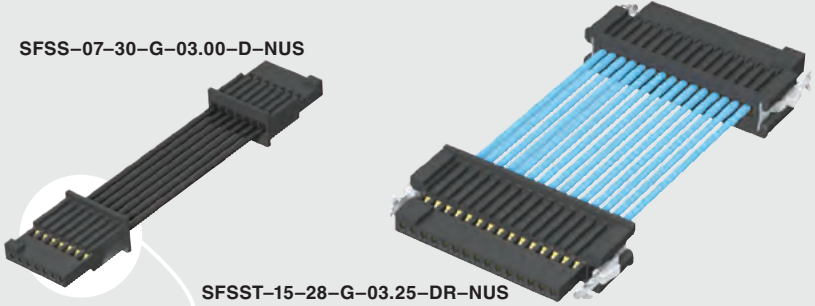
PRELIMINARY

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TIGER™ EYE DISCRETE



(1.27 mm) .050"

SFSS, SFSST SERIES

TIGER EYE™ DISCRETE CABLE ASSEMBLY

SPECIFICATIONS

For complete specifications see www.samtec.com?SFSS or www.samtec.com?SFSST

Insulator Material:
Black LCP
Contact Material:
BeCu
Plating:
Au over 50 µ" (1.27 µm) Ni
Operating Temp Range:
-10 °C to +80 °C (PVC)
-40 °C to +125 °C (*Teflon®)
Current Rating:
2.9 A per pin (2 pins powered)
Voltage Rating:
275 VAC (PVC)
235 VAC (*Teflon®)
Wire: 28 or 30 AWG
RoHS Compliant:
Yes

*DuPont™ Teflon® is a registered trademark of the E.I. du Pont de Nemours and Company or its affiliates.

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

COMPONENTS

- For body, see www.samtec.com?ISDF
- For contacts, see www.samtec.com?CC03R www.samtec.com?CC03M

APPLICATION

–28C CABLE COLOR CODING	
PIN	COLOR
1	BROWN
2	RED
3	ORANGE
4	YELLOW
5	GREEN
6	VIOLET
7	GRAY
8	WHITE
9	BLACK
10	BLUE
ETC	REPEAT

Notes:
For wiring option and pin position location information, refer to drawings on web.

Some lengths, styles and options are non-standard, non-returnable.

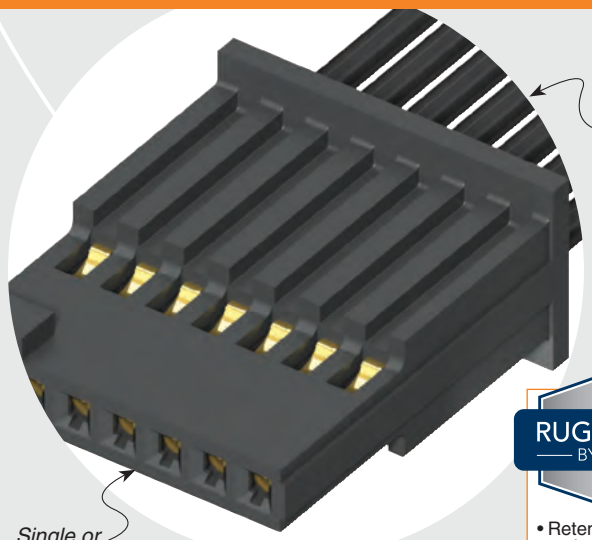
Mates with:
TFM, TFC
(–SR & –DR requires –WT option)

–SR/–DR APPLICATIONS

When Mated to TFM-WT

Terminal/Housing Retention	
Min	(22.25 N) 5.0 lb
Max	(26.52 N) 5.96 lb
Avg	(24.34 N) 5.47 lb

Wire/Crimp Retention	
Min	(20.47 N) 4.6 lb
Max	(36.49 N) 8.2 lb
Avg	(29.95 N) 6.73 lb

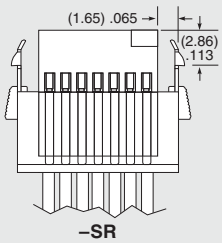


RUGGEDIZED BY SAMTEC

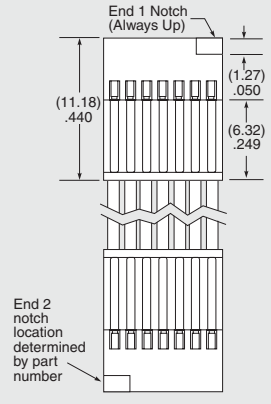
- Retention latch option

TYPE STRIP	POSITIONS PER ROW	WIRE GAUGE	PLATING OPTION	ASSEMBLED LENGTH	END OPTION	END 2 OPTION
SFSS = Single Row PVC Cable **SFSST** = Single Row *Teflon® Cable	–03, –04, –05, –07, –10, –15, –20, –25, –40, –50 (Standard sizes)	–28 = 28 AWG –28C = Color Coded Cable (SFSS only) –30 = 30 AWG	–G = 10 µ" (0.25 µm) Gold on contact, Gold Flash on balance	–"XX.XX" = Assembled Length in Inches (76.20 mm) 03.00" min. for –S end option (82.60 mm) 03.25" min. for –D end option	–S = Single Ended –D = Double Ended –SR = Single Ended Retention Latch (TFM -WT option required for mating) –DR = Double Ended Retention Latch (TFM -WT option required for mating)	Requires –D or –DR (End 1 Notch Up) –NUS = Notch up, straight (Pin 1 to Pin N) –NDS = Notch down, straight (Pin 1 to Pin 1)

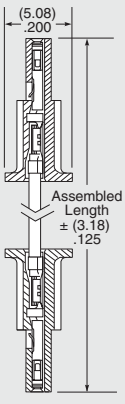
Note:
Teflon® cable is intended for crimp only. Contact Samtec for solderable cable applicators.



–SR



–D–NUS



SFSS or SFSST

ALSO AVAILABLE (MOQ Required)

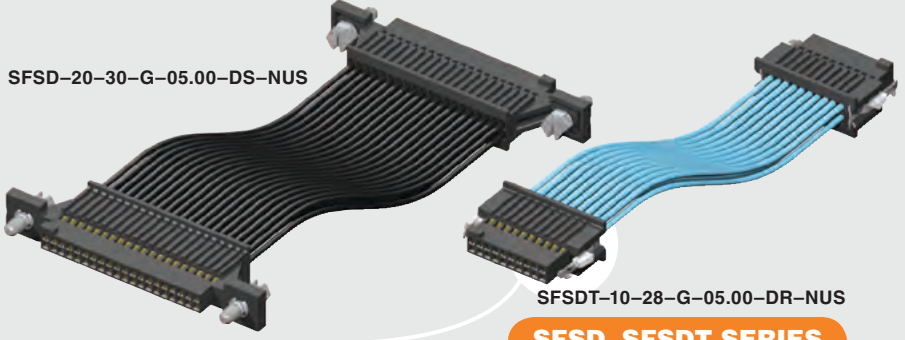
- Other sizes
- Locking feature for mating to the TFML Series
- Color coded cable (*Teflon® N/A)
- Other plating options

Due to technical progress, all designs, specifications and components are subject to change without notice.

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TIGER™ EYE DISCRETE



(1.27 mm) .050"

SFSD, SFSDT SERIES

TIGER EYE™ DISCRETE CABLE ASSEMBLY

SPECIFICATIONS

For complete specifications see www.samtec.com?SFSD or www.samtec.com?SFSDT

Insulator Material:
Black LCP
Contact Material:
BeCu
Plating:
Au over 50 µ" (1.27 µm) Ni
Current Rating (SFSD/TFC):
2.9 A per pin
(2 pins powered)
Operating Temp Range:
-10 °C to +80 °C (PVC)
-40 °C to +125 °C (*Teflon®)
Voltage Rating:
275 VAC (PVC)
235 VAC (*Teflon®)
Wire: 28 or 30 AWG
RoHS Compliant:
Yes

*DuPont™ Teflon® is a registered trademark of the E.I. du Pont de Nemours and Company or its affiliates.

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

COMPONENTS

- For body, see www.samtec.com?ISDF
- For contacts, see www.samtec.com?CC03R www.samtec.com?CC03M

APPLICATION

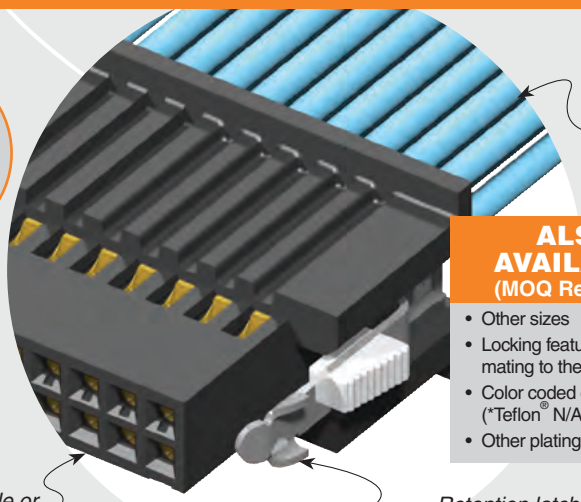
–28C CABLE COLOR CODING	
PIN	COLOR
1	BROWN
2	RED
3	ORANGE
4	YELLOW
5	GREEN
6	VIOLET
7	GRAY
8	WHITE
9	BLACK
10	BLUE
ETC	REPEAT

Notes:
For wiring option and pin position location information, refer to drawings on web.

Some lengths, styles and options are non-standard, non-returnable.

Mates with:
TFM, TFC
(–SR & –DR requires –WT option)





–SR/–DR APPLICATIONS

When Mated to TFM-WT

Terminal/Housing Retention	
Min	(22.25 N) 5.0 lb
Max	(26.52 N) 5.96 lb
Avg	(24.34 N) 5.47 lb

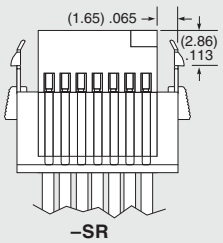
Wire/Crimp Retention	
Min	(20.47 N) 4.6 lb
Max	(36.49 N) 8.2 lb
Avg	(29.95 N) 6.73 lb

ALSO AVAILABLE (MOQ Required)

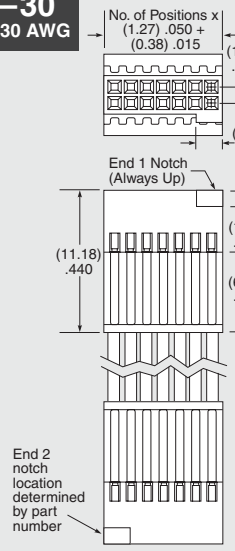
- Other sizes
- Locking feature for mating to the TFML Series
- Color coded cable (*Teflon® N/A)
- Other plating options

TYPE STRIP	POSITIONS PER ROW	WIRE GAUGE	PLATING OPTION	ASSEMBLED LENGTH	END OPTION	END 2 OPTION
SFSD = Double Row PVC Cable **SFSDT** = Double Row *Teflon® Cable	–03, –04, –05, –07, –10, –15, –20, –25, –40, –50 (Standard sizes)	–28 = 28 AWG –28C = Color Coded Cable (SFSD only) –30 = 30 AWG	–G = 10 µ" (0.25 µm) Gold on contact, Gold Flash on balance	–"XX.XX" = Assembled Length in Inches (76.20 mm) 03.00" min. for –S end option (82.60 mm) 03.25" min. for –D end option	–S = Single Ended –D = Double Ended For –(X) specify "S" for single ended and "D" for double ended. –(X)R = Retention Latch (TFM -WT option required for mating) –(X)S = Screw Down (Not available in -03, -04 & -50 positions) (Mates with TFM-DS option)	Requires –D, –DS, –DR (End 1 Notch Up) –NUS = Notch up, straight (Pin 1 to Pin N-1) –NDS = Notch down, straight (Pin 1 to Pin 2) –NUX = Notch up, crossed (Pin 1 to Pin N) –NDX = Notch down, crossed (Pin 1 to Pin 1)

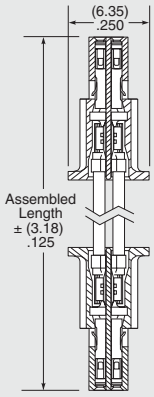
Note:
Teflon® cable is intended for crimp only. Contact Samtec for solderable cable applicators.



–SR



–D–NUS



SFSD or SFSDT

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TIGER™ EYE DISCRETE



(2.00 mm) .0787"

SS2SD SERIES

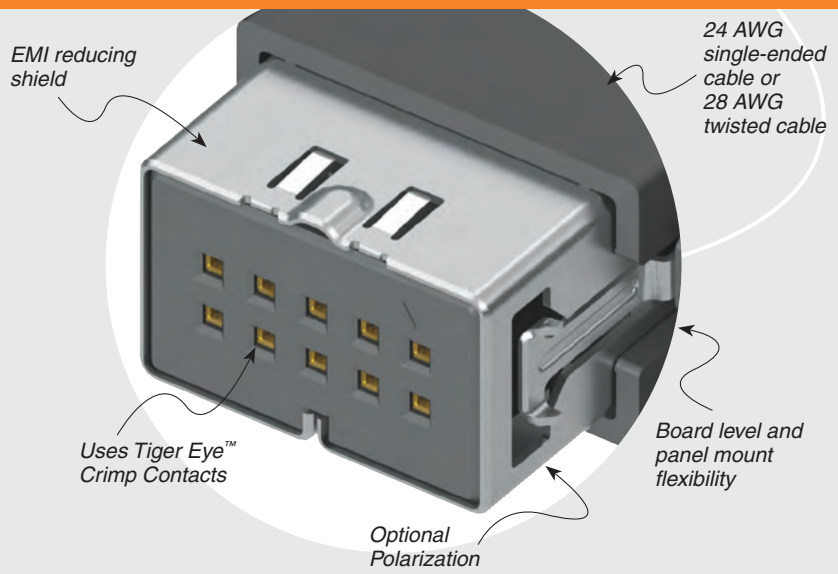
DISCRETE SHIELDED CABLE ASSEMBLY

SPECIFICATIONS

For complete specifications see www.samtec.com?SS2SD

Body& Housing Material:
PA66-RG301
Contact Material:
Phosphor Bronze
Cable Material:
Tinned Copper/PVC
Plating:
Sn or Au over
50 µ" (1.27 µm) Ni
Current Rating:
Testing Now!
Voltage Rating:
Testing Now!
Operating Temp Range:
Testing Now!
EMI Reduction:
Testing Now!

Mates with:
ST2M



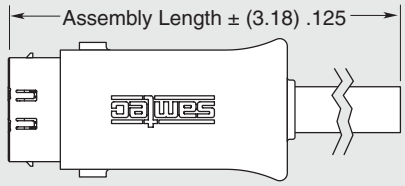
ALSO AVAILABLE (MOQ Required)

- Other polarization end options
- Other sizes available

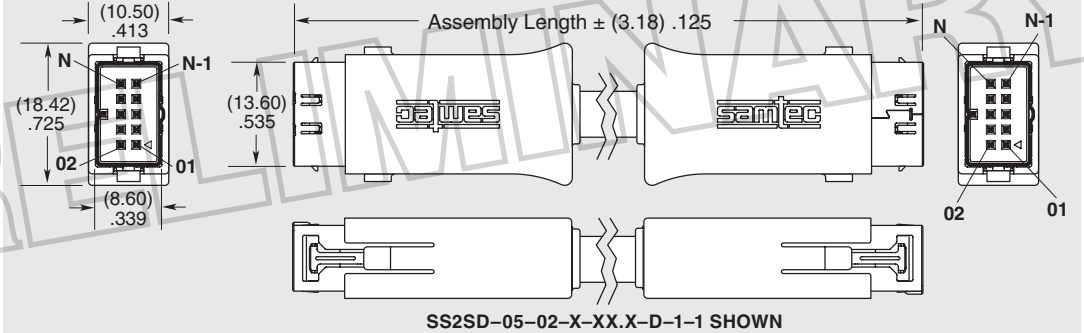
OTHER SOLUTIONS

- Components available on request

SS2SD	NO. OF POSITIONS	LEAD STYLE	PLATING OPTION	ASSEMBLED LENGTH	END OPTION	END 1 POL.	WIRE OPTION
	05 (Per Row)	–01 = 24 AWG single-ended cable –02 = 28 AWG twisted cable	–L = 10 µ" (0.25 µm) Gold in contact area, Tin on tail –S = 30 µ" (0.76 µm) Gold in contact area, Tin on tail	–"XX.X" = Assembled Length in Inches –S = (69.9 mm) 02.8" min. –D = (80.3 mm) 03.2" min.	–S = Single End –D = Double End	–1 = Polarization option (Other polarization options available)	(Leave blank for –S end option) –1 = Pin 1 to Pin1 –2 = Pin 1 to Pin 2 –3 = Pin 1 to Pin N-1 –4 = Pin 1 to Pin N



SS2SD–05–01–X–XX.X–S–1 SHOWN



SS2SD–05–02–X–XX.X–D–1–1 SHOWN

Note:
Some lengths, styles and options are non-standard, non-returnable.

PRELIMINARY

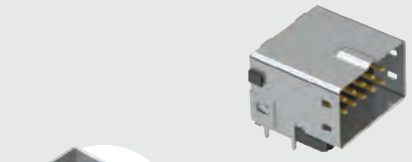
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TIGER™ EYE DISCRETE

(2.00 mm) .0787"



ST2M–105–L–D–RA–1



ST2M–105–L–D–SM–2



ST2M–105–S–D–TH–1

ST2M SERIES

TERMINAL SHIELDED ASSEMBLY

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?ST2M

Insulator Material:
Vectra E130i
Terminal Material:
Phosphor Bronze
Shield Material:
Phosphor Bronze
Plating:
Sn or Au over
50 µ" (1.27 µm) Ni
Current Rating:
Testing Now!
Voltage Rating:
Testing Now!
Operating Temp Range:
Testing Now!
EMI Reduction:
Testing Now!

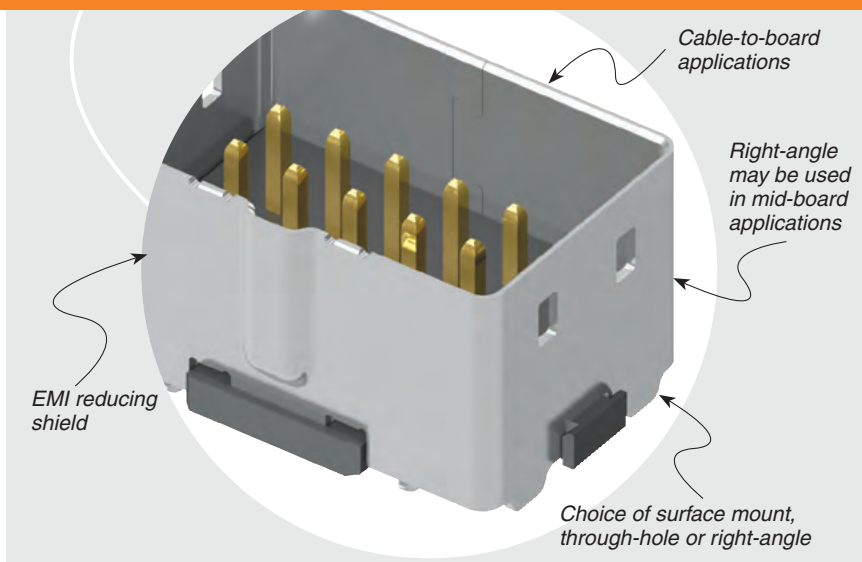
Mates With:
SS2SD

PROCESSING

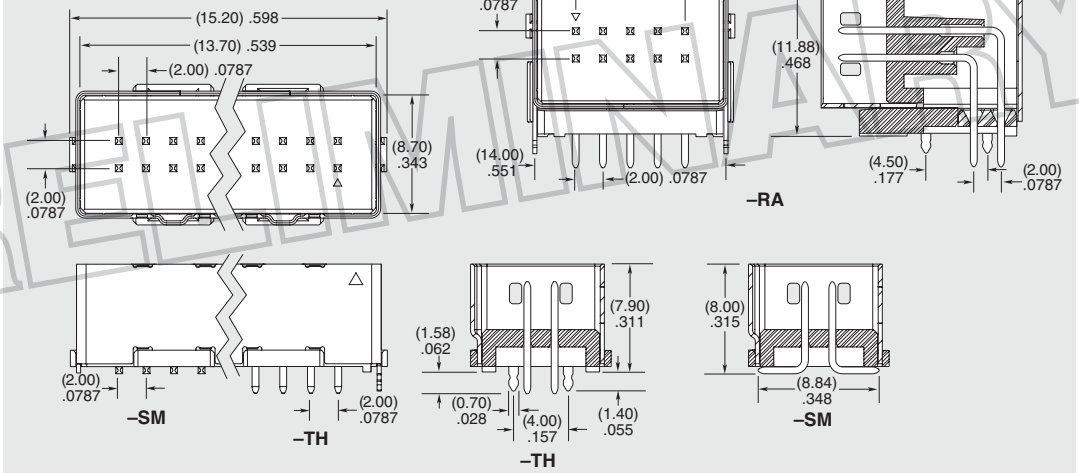
Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max

ALSO AVAILABLE
(MOQ Required)

- Other polarization options available
- Other sizes available



ST2M	1	NO. OF POSITIONS	PLATING OPTION	D	LEAD STYLE	SHIELD OPTION	POL. OPTION	OPTION
		05 (Per Row)	–L = 10 µ" (0.25 µm) Gold in contact area, Tin on tail –S = 30 µ" (0.76 µm) Gold in contact area, Tin on tail		–SM = Surface mount –TH = Through-hole –RA = Right-angle	–1 = Through-hole –2 = Surface mount (-SM only)	–1 = Polarization option (Other polarization options available)	–P = Pick & Place Pad



PRELIMINARY

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TIGER™ EYE DISCRETE

(2.00 mm) .0787"



S2SD, S2SDT SERIES

TIGER EYE™ CABLE ASSEMBLY

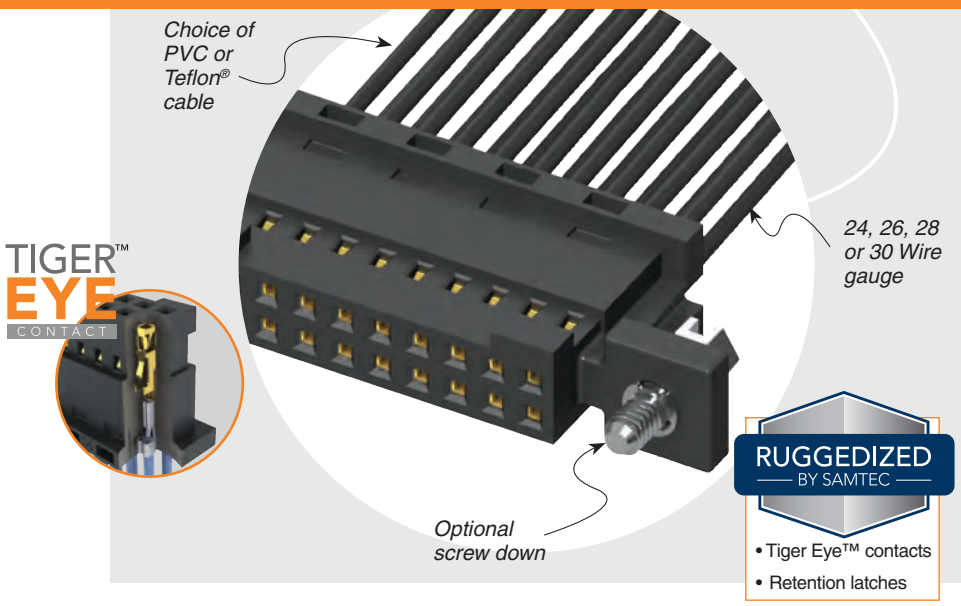
SPECIFICATIONS

For complete specifications see www.samtec.com?S2SD or www.samtec.com?S2SDT

Insulator Material:
Black LCP
Contact Material:
BeCu
Plating:
Au over 50 µ" (1.27 µm) Ni
Wire:
24, 26, 28 or 30 AWG
Operating Temp Range:
-10 °C to +105 °C (PVC)
-40 °C to +125 °C (*Teflon®)
Current Rating (S2SD-24/T2M):
3.8 A per pin
(2 pins powered)
Voltage Rating:
250 VAC
RoHS Compliant:
Yes

*DuPont™ Teflon® is a registered trademark of the E.I. du Pont de Nemours and Company or its affiliates.

Mates with:
T2M



RUGGEDIZED BY SAMTEC
- Tiger Eye™ contacts
- Retention latches

COMPONENTS

- For body, see www.samtec.com?ISD2
- For contacts, see www.samtec.com?CC81L www.samtec.com?CC81R

ALSO AVAILABLE (MOQ Required)

- Other sizes

APPLICATION

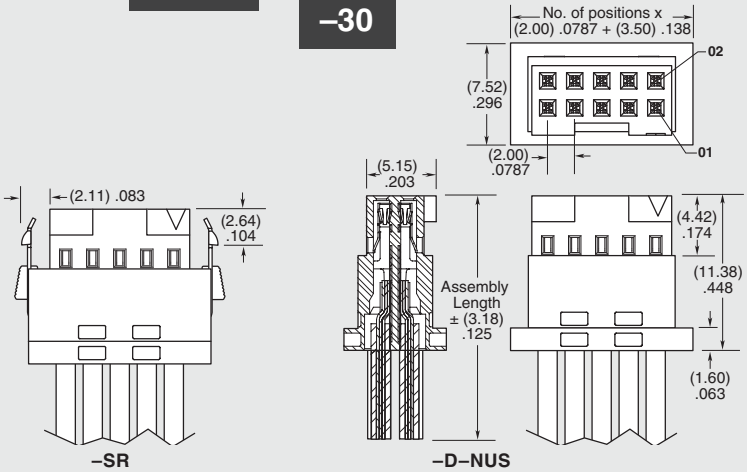
–24C CABLE COLOR CODING	
PIN	COLOR
1	BROWN
2	RED
3	ORANGE
4	YELLOW
5	GREEN
6	VIOLET
7	GRAY
8	WHITE
9	BLACK
10	BLUE
ETC	REPEAT

Notes:
For wiring option information refer to drawing on web.

Teflon® cable is intended for crimp only. Contact Samtec for solderable cable applications.

Some lengths, styles and options are non-standard, non-returnable.

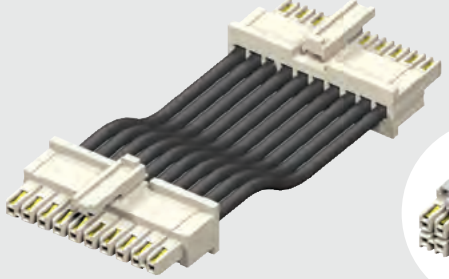
TYPE	PINS PER ROW	WIRE GAUGE	PLATING OPTION	ASSEMBLED LENGTH	END OPTION	END 2 OPTION
S2SD = Double Row PVC Cable **S2SDT** = Double Row *Teflon® Cable (24, 28, 30 Gauge only)	–05, –07, –10, –15, –20, –25, –30 (Standard sizes)	–24 –24C = Color Coded Cable (S2SD only) –26 –28 –30	–L = 10 µ" (0.25 µm) Gold on contact	–"XX.XX" = Wire Length in Inches (69.85 mm) 02.75" min.	–S = Single End –D = Double End Specify "S" for single ended and "D" for double ended. –(X)R = Retention Latch (-SR mates with T2M-WT) –(X)S = Screw Down (10 positions minimum) (mates with T2M-DS)	(Only available with –D, –DR & –DS) –NUS = Notch up, straight (Pin 1 to Pin N-1) –NDS = Notch down, straight (Pin 1 to Pin 2) –NUX = Notch up, crossed (Pin 1 to Pin N) –NDX = Notch down, crossed (Pin 1 to Pin 1)



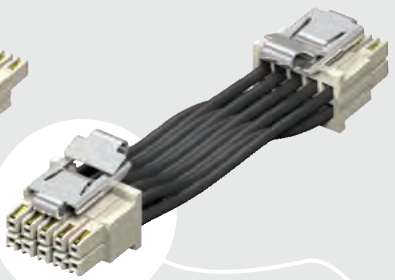
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miniMATE®



MMSS–10–20–L–03.25–D–K–LUS



MMSD–05–20–L–04.25–D–K–MUX

(2.54 mm) .100"

MMSD, MMSDT, MMSS, MMSST SERIES

MINI MATE® CABLE ASSEMBLY

SPECIFICATIONS

For complete specifications see www.samtec.com?MMSD, www.samtec.com?MMSDT, www.samtec.com?MMSS or www.samtec.com?MMSST

Insulator Material:
Nylon 66
Contact Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-10 °C to +105 °C (PVC)
for 20, 22, 24, 26 AWG
-10 °C to +80 °C (PVC)
for 28, 30 AWG
-40 °C to +125 °C (*Teflon®)
Voltage Rating:
300 VAC
Wire:
20 to 30 AWG
RoHS Compliant:
Yes

Board Mates:
IPL1
(Does not mate with IPT1)

Cable Mates:
MMTD(T), MMTS(T)

MMSD/IPL1	
WIRE GAUGE	CURRENT RATING (PER PIN)
20	4.8 A
22	4.3 A
24	3.9 A
26	3.5 A
28	2.6 A
30	2.1 A
2 PINS POWERED	

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

COMPONENTS

- For body, see www.samtec.com?IPD1
- For contacts, see www.samtec.com?CC79L www.samtec.com?CC79R

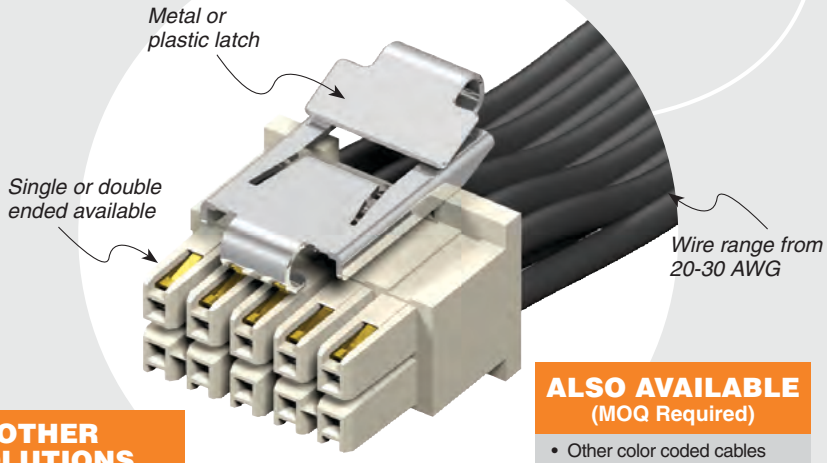
APPLICATION

–20C, –24C, –28C CABLE COLOR CODING	
PIN	COLOR
1	BROWN
2	RED
3	ORANGE
4	YELLOW
5	GREEN
6	BLUE
7	VIOLET
8	GRAY
9	WHITE
10	BLACK
ETC	REPEAT

Notes:
Teflon® cable is intended for crimp only. Contact Samtec for solderable cable applications.

For wiring option information refer to drawing on web.

Some lengths, styles and options are non-standard, non-returnable.



OTHER SOLUTIONS

- Plug Polarization

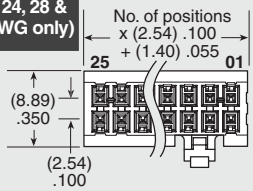
For specification, see www.samtec.com?PK-79.

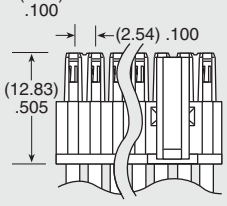
ALSO AVAILABLE (MOQ Required)

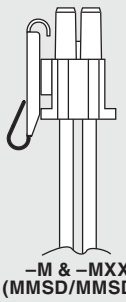
- Other color coded cables (*Teflon® N/A)
- Other sizes/pin counts
- Other Gold platings
- Guide post

TYPE	PINS PER ROW	WIRE GAUGE	PLATING OPTION	ASSEMBLY LENGTH	END OPTION	K	LATCH OPTION
MMSD = Double Row PVC Cable **MMSDT** = Double Row *Teflon® Cable (20, 24, 28 & 30 AWG only) **MMSS** = Single Row PVC Cable **MMSST** = Single Row *Teflon® Cable (20, 24, 28 & 30 AWG only)	–02, –03, –04, –05, –06, –08, –10, –12, –15, –16, –20, –25 (Standard sizes)	–20 –20C = Color Coded Cable –22 –24 –24C = Color Coded Cable –26 –28 –28C = Color Coded Cable –30	–L = 10 µ" (0.25 µm) Gold on contact, Tin on tail	–"XX.XX" = Assembly Length in Inches (82.55 mm) 03.25" min.	–S = Single End –D = Double End (Latch Required)	–K = Keyed Polarization	(Metal latches for more rugged environments; –02, –05 & –10 positions only) –M = Single Ended, Metal Latches (Leave blank for plastic) Double Ended (–D) Crossed requires MMSD/MMSDT –LUS = Plastic Latch up, straight –LDS = Plastic Latch down, straight –LUX = Plastic Latch up, crossed –LDX = Plastic Latch down, crossed –MUS = Metal Latch up, straight –MDS = Metal Latch down, straight –MUX = Metal Latch up, crossed –MDX = Metal Latch down, crossed

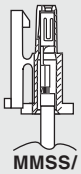
*DuPont™ Teflon® is a registered trademark of the E.I. du Pont de Nemours and Company or its affiliates.



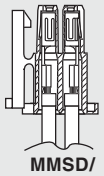




–M & –MXX (MMSD/MMSDT)

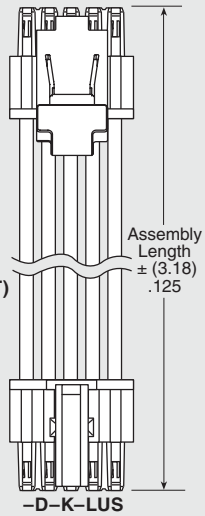


MMSS/ MMSST



MMSD/ MMSDT

–D–K–MUS



–D–K–LUS

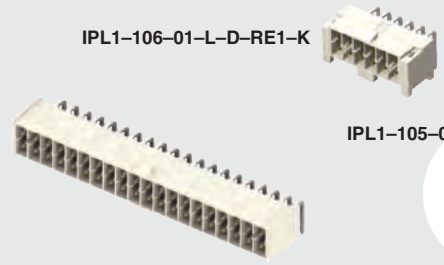
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miniMATE®

(2.54 mm) .100"



IPL1 SERIES

DISCRETE WIRE HEADER

SPECIFICATIONS

For complete specifications www.samtec.com?IPL1

Insulator Material:
Natural LCP
Terminal Material:
Phosphor Bronze
Plating:
Sn or Au over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C
Voltage Rating:
675 VAC/954 VDC
RoHS Compliant:
Yes

PROCESSING

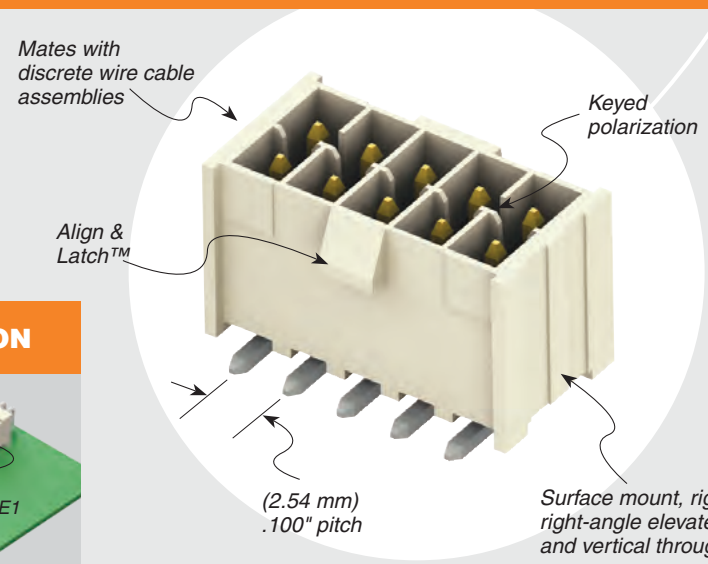
Lead–Free Solderable:
Yes
–S & –D (–02 Lead Style)
SMT Lead Coplanarity:
(0.10 mm) .004" max (02-05)
(0.13 mm) .005" max (06-10)*
(0.15 mm) .006" max (11-25)*
*(.004" stencil solution may be available; contact IPG@samtec.com)
–SH SMT Lead Coplanarity:
(0.15 mm) .006" max (02-25)*
*(.004" stencil solution may be available; contact IPG@samtec.com)

RECOGNITIONS

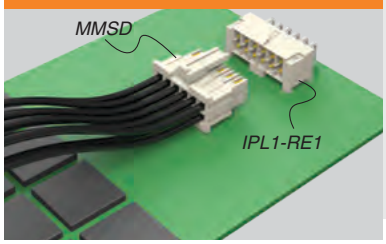
For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

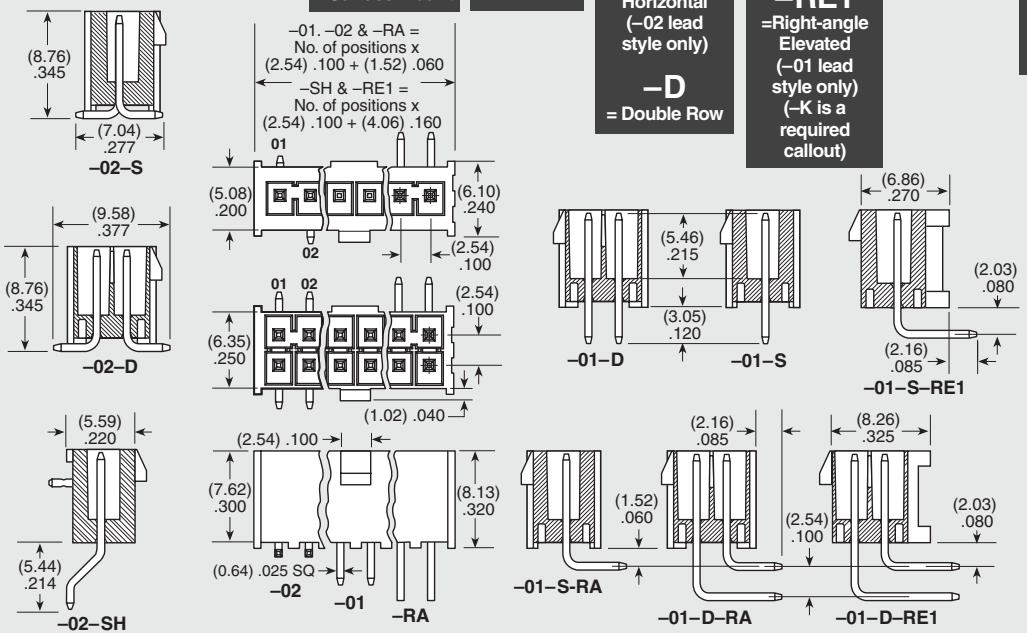
Mates with:
MMSD, MMSS, MMSDT, MMSST



–RE1 APPLICATION



IPL1	–	1	NO. PINS PER ROW	–	LEAD STYLE	–	PLATING OPTION	–	ROW OPTION	–	TAIL OPTION	–	K	–	OPTION
			02, 03, 04, 05, 06, 08, 10, 12, 15, 16, 20, 25 (Standard sizes)		–01 = Through-hole –02 = Surface Mount		–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail		–S = Single Row –SH = Single Row Horizontal (–02 lead style only) –D = Double Row		–RA =Right-angle (–01 lead style only) –RE1 =Right-angle Elevated (–01 lead style only) (–K is a required callout)		–K =Keyed Polarization		–TR = Tape & Reel (–02 lead style only) Comes with Polyimide Pick & Place Pad



ALSO AVAILABLE (MOQ Required)

- Other sizes
- With or without plug polarization
- Guide post holes
- Other platings
- Weld tab

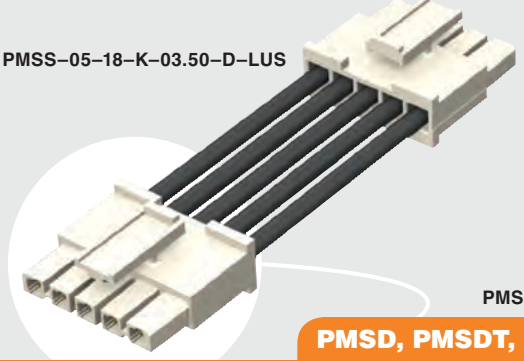
Note:
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POWERMATE®





(4.19 mm) .165"

PMSD, PMSDT, PMSS, PMSST SERIES

POWER MATE® CABLE ASSEMBLY

SPECIFICATIONS

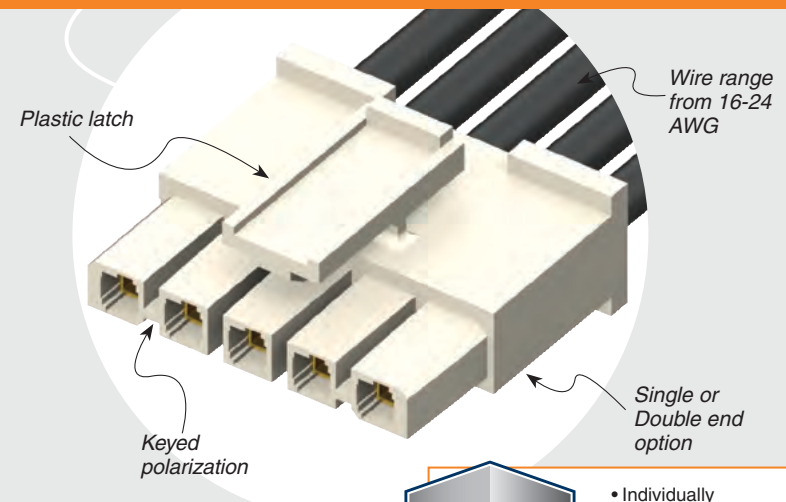
Mates with:
IPBT

For complete specifications see www.samtec.com?PMSD, www.samtec.com?PMSDT, www.samtec.com?PMSS or www.samtec.com?PMSST

Insulator Material:
Valox 457
Contact Material:
Phosphor Bronze
Plating:
Sn over 50 µ"
(1.27 µm) Ni
Operating Temp Range:
-10 °C to +105 °C (PVC)
-40 °C to +105 °C (*Teflon®)
Voltage Rating:
22 & 24 AWG =
300 VAC/424 VDC (PVC)
16,18 & 20 AWG =
424 VAC/600 VDC (PVC)
24 AWG =
300 VAC/424 VDC (*Teflon®)
Wire:
16 to 24 AWG
RoHS Compliant:
Yes

*DuPont™ Teflon® is a registered trademark of the E.I. du Pont de Nemours and Company or its affiliates.

PMSD/IPBT	
WIRE GAUGE	CURRENT RATING (PER PIN)
16 AWG	10.3 A
18 AWG	8.8 A
22 AWG	5.7 A
24 AWG	5.2 A
2 PINS POWERED	



RUGGEDIZED BY SAMTEC

- Individually shrouded contacts
- Plastic latches

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

COMPONENTS

- For body, see www.samtec.com?IPBD
- For contacts, see www.samtec.com?CC69L www.samtec.com?CC69R

ALSO AVAILABLE (MOQ Required)

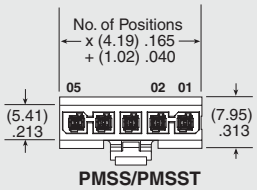
- Color coded cables (*Teflon® N/A)
- Other sizes/pin counts
- 20 AWG/300 Volts

Notes:
For wiring option information refer to drawing on web.

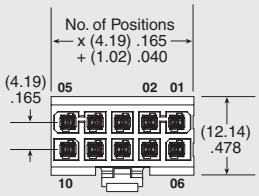
Teflon® cable is intended for crimp only. Contact Samtec for solderable cable applications.

Some lengths, styles and options are non-standard, non-returnable.

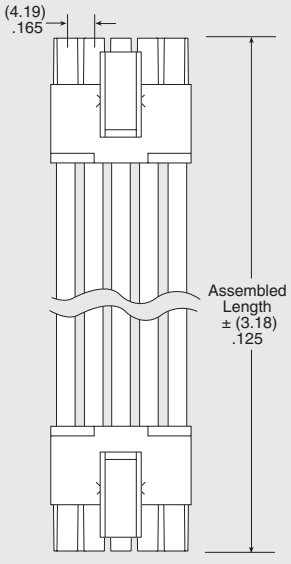
TYPE	PINS PER ROW	WIRE GAUGE	K	ASSEMBLED LENGTH	END OPTION	LATCH OPTION
PMSD = Double Row PVC Cable **PMSDT** = Double Row *Teflon® Cable (24 AWG only) **PMSS** = Single Row PVC Cable **PMSST** = Single Row *Teflon® Cable (24 AWG only)	–02, –03, –04, –05, –08, –10, –15* (Standard sizes) *Only available for double row	–16 –18 –206 (20 AWG/ 600 volts) –22 –24	–K = Keyed Polarization	–"XX.XX" = Wire Length in Inches (88.90 mm) 03.50" min.	–S = Single End –D = Double End (Latch required)	–LUS = Plastic Latch up, straight –LDS = Plastic Latch down, straight –LUX* = Plastic Latch up, crossed –LDX* = Plastic Latch down, crossed *(PMSD/PMSDT only)



PMSS/PMST



PMSD/PMSDT

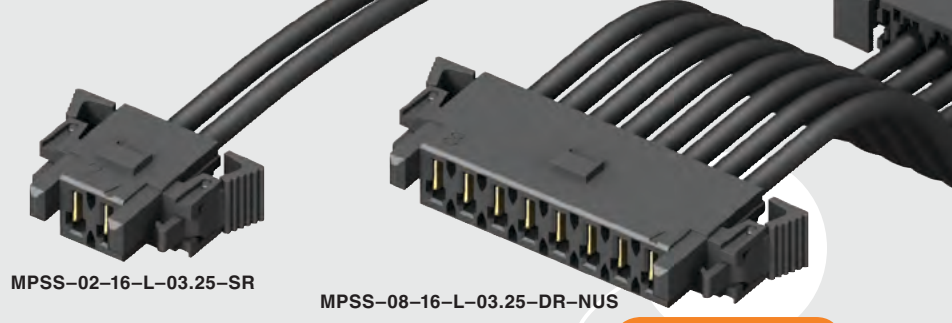


–D–LUS

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POWER™ STRIP 30



MPSS–02–16–L–03.25–SR

MPSS–08–16–L–03.25–DR–NUS

(5.00 mm) .1969"

MPSS SERIES

POWERSTRIP™/30 CABLE ASSEMBLY

SPECIFICATIONS

Mates with:
MPT

For complete specifications see www.samtec.com?MPSS

Insulator Material:
Nylon 6/6
Contact Material:
Copper Alloy
Plating:
Au or Sn over 50 µ" (1.27µm) Ni
Latch:
Nylon 6/6
Operating Temp Range:
-30 °C to +105 °C
Voltage Rating:
600 VAC/848 VDC
Wire:
14 or 16 AWG
RoHS Compliant:
Yes

MPSS/MPT-V	
WIRE GAUGE	CURRENT RATING (PER PIN)
14 AWG	19.7 A
16 AWG	15.9 A
1 PIN POWERED	

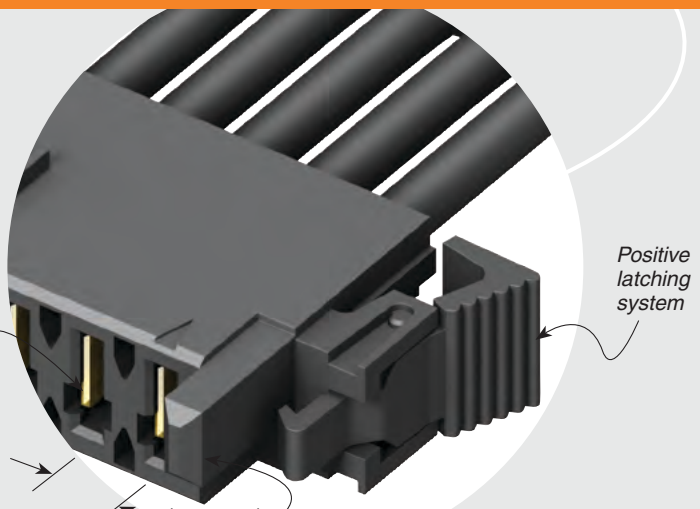
RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

COMPONENTS

- For body, see www.samtec.com?IMS5
- For contacts, see www.samtec.com?CC46L www.samtec.com?CC46R

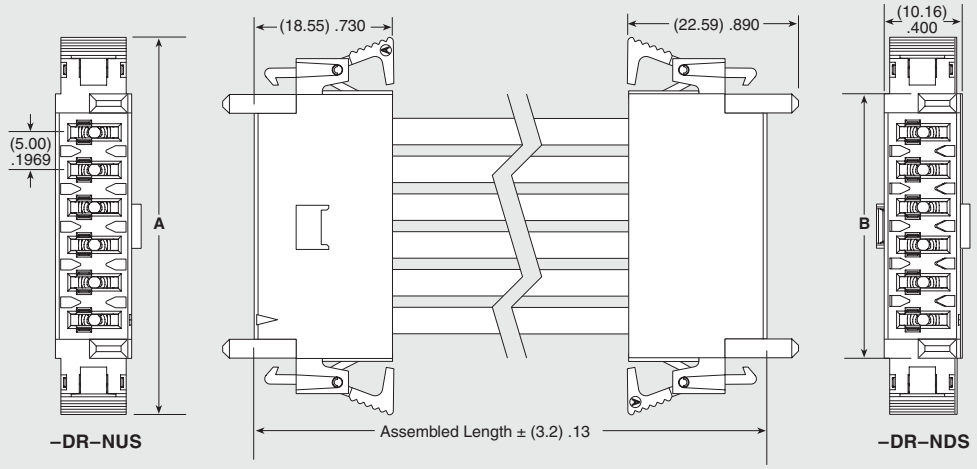


RUGGEDIZED BY SAMTEC

- Positive latching

MPSS	– NO. OF POSITIONS	– WIRE GAUGE	– PLATING OPTION	– ASSEMBLED LENGTH	– END 1 OPTION	– END 2 OPTION
	–02, –03, –04, –06, –08	–14 –16	–L = 10 µ" (0.25 µm) Gold on contact –T = Matte Tin	–"XX.XX" = Wire Length in Inches (83.00 mm) 03.25" min.	–SR = Single End –DR = Double End	(Available with –DR only) –NUS = Notch up, straight –NDS = Notch down, straight

NO. OF POSITIONS	A	B
–02	(30.07) 1.184	(15.27) .601
–03	(35.07) 1.381	(20.26) .798
–04	(40.08) 1.578	(25.25) .994
–06	(50.09) 1.972	(35.26) 1.388
–08	(60.10) 2.366	(45.26) 1.782



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POWER™ STRIP 30



MPCC–2–16–2–L–44–04.00–D–NUS

(5.00 mm) .197"(PWR) (2.00 mm) .079"(SIG)

MPCC SERIES

POWERSTRIP™/30 CABLE ASSEMBLY

SPECIFICATIONS

For complete specifications see www.samtec.com?MPCC

Insulator Material:
Black LCP
Contact Material:
Signal: BeCu
Power: Copper Alloy
Plating:
Sn or Au over
50 µ" (1.27 µm) Ni
Current Rating:
Signal Pin (24 AWG):
3.4 A per pin
(4 adjacent pins powered)
Power Pin (14 AWG):
23.2 A per pin
(1 pin powered)
Operating Temp Range:
-10 °C to +105 °C
Voltage Rating:
300 VAC
RoHS Compliant:
Yes
Lead–Free Solderable:
Yes

Mates with:
MPTC

RECOGNITIONS

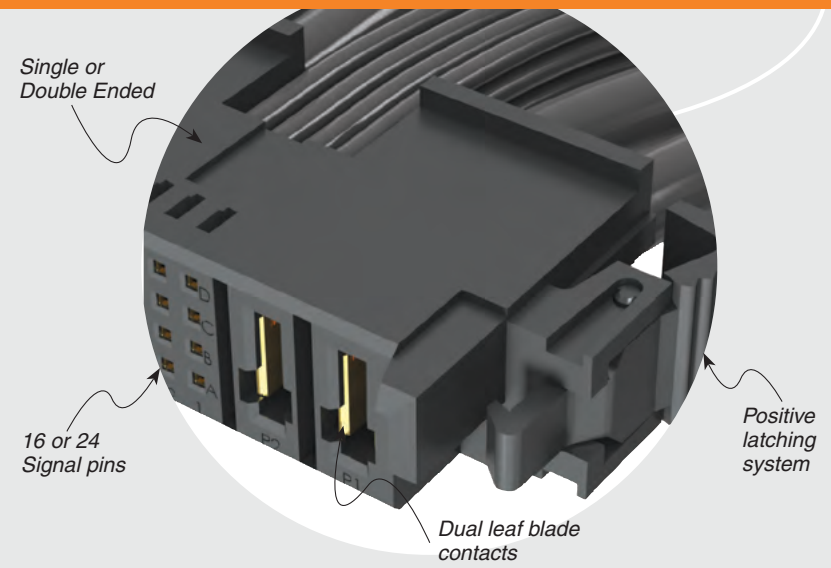
For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

COMPONENTS

- For body, see www.samtec.com?IMSC5
- For contacts, see www.samtec.com?CC81L www.samtec.com?CC81R www.samtec.com?CC46L www.samtec.com?CC46R

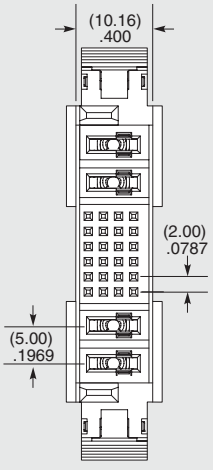
Note: Some sizes, styles and options are non-standard, non-returnable.

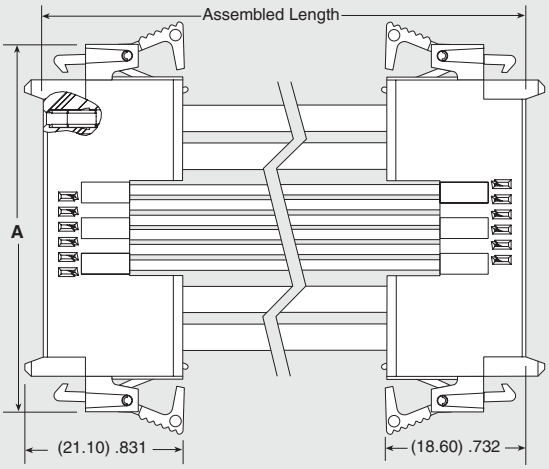


MPCC	–	2	–	SIG PINS	–	2	–	PLATING OPTION	–	LEAD STYLE	–	LENGTH	–	END 1 OPTION	–	END 2 OPTION
				–16 = Total Signal Pins –24 = Total Signal Pins				–L = 10 µ" (0.25 µm) Gold on contact (Power & Signal) –T = Matte Tin on contacts and tail (Power), Gold on contact (Signal)		Specify LEAD STYLE from chart		–"XX.XX" = Assembled Length in Inches (101.60 mm) 04.00" min.		–S = Single End –D = Double End		(Available with –D only) –NUS = Notch up, straight (Pin A1 to Pin AX)

LEAD STYLE	PWR/SIG	AWG
–44	PWR	14
	SIG	24
–46	PWR	14
	SIG	26
–48	PWR	14
	SIG	28
–40	PWR	14
	SIG	30
–64	PWR	16
	SIG	24
–66	PWR	16
	SIG	26
–68	PWR	16
	SIG	28
–60	PWR	16
	SIG	30

SIGNAL PINS	A
16	(44.55) 1.754
24	(48.55) 1.911



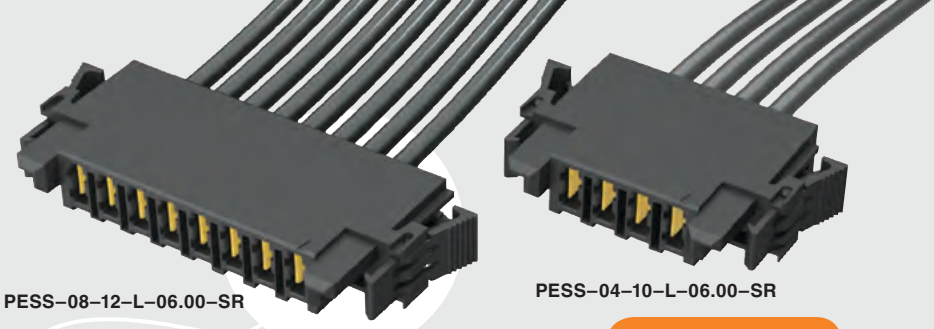


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POWER STRIP 40



PESS–08–12–L–06.00–SR

PESS–04–10–L–06.00–SR

(6.35 mm) .250"

PESS SERIES

POWERSTRIP™/40 CABLE ASSEMBLY

SPECIFICATIONS

For complete specifications see www.samtec.com?PESS

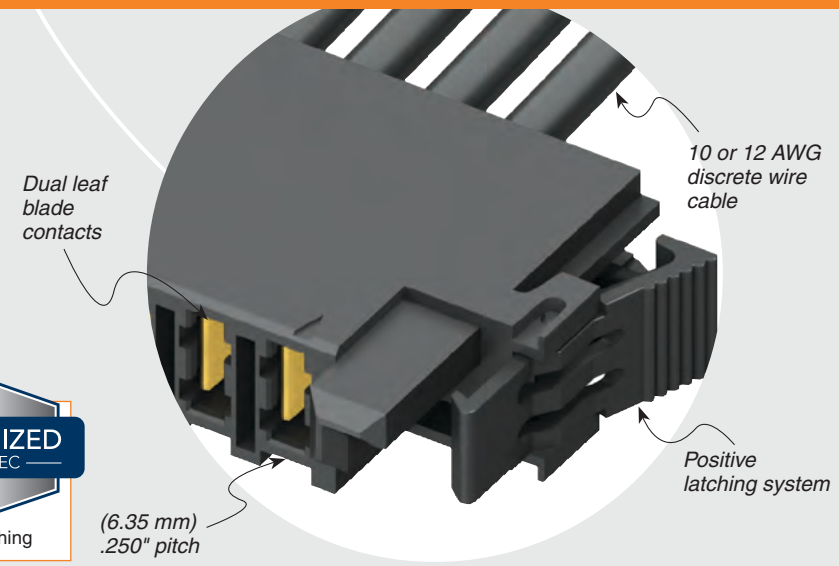
Insulator Material:
Nylon Black
Contact Material:
Copper Alloy
Plating:
Sn or Au over
50 µ" (1.27 µm) Ni
Latch:
Nylon Black
Operating Temp Range:
-30 °C to +105 °C
Voltage Rating:
600 VAC
846 VDC
Wire:
10 or 12 AWG
RoHS Compliant:
Yes

Mates with:
PET

PESS/PET	
WIRE GAUGE	CURRENT RATING (PER PIN)
10 AWG	34.5 A
12 AWG	29.7 A
1 PIN POWERED	

RUGGEDIZED BY SAMTEC

• Positive latching



RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

COMPONENTS

- For body, see www.samtec.com?IPS6
- For contacts, see www.samtec.com?CC10L www.samtec.com?CC10R

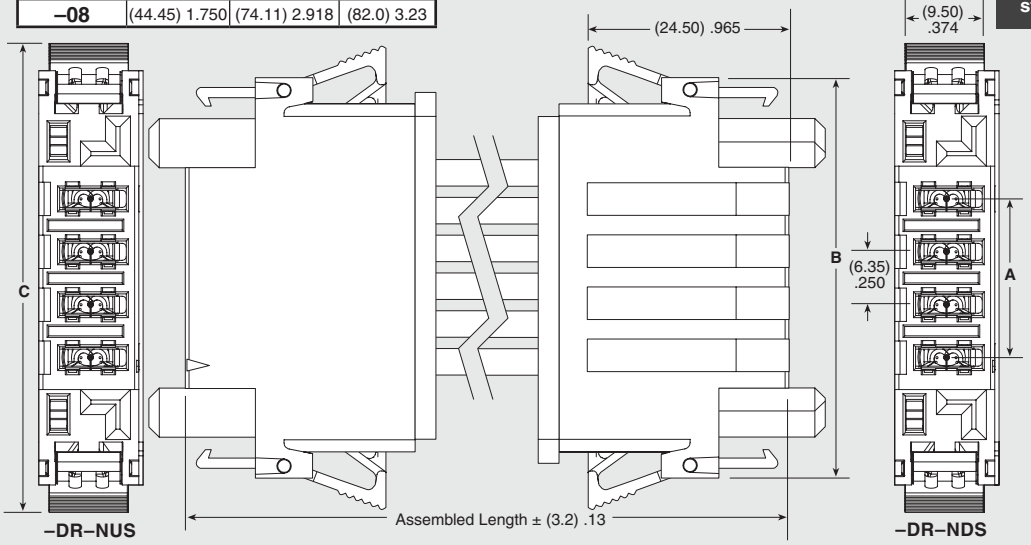
ALSO AVAILABLE (MOQ Required)

- Other platings

Note: Some sizes, styles and options are non-standard, non-returnable.

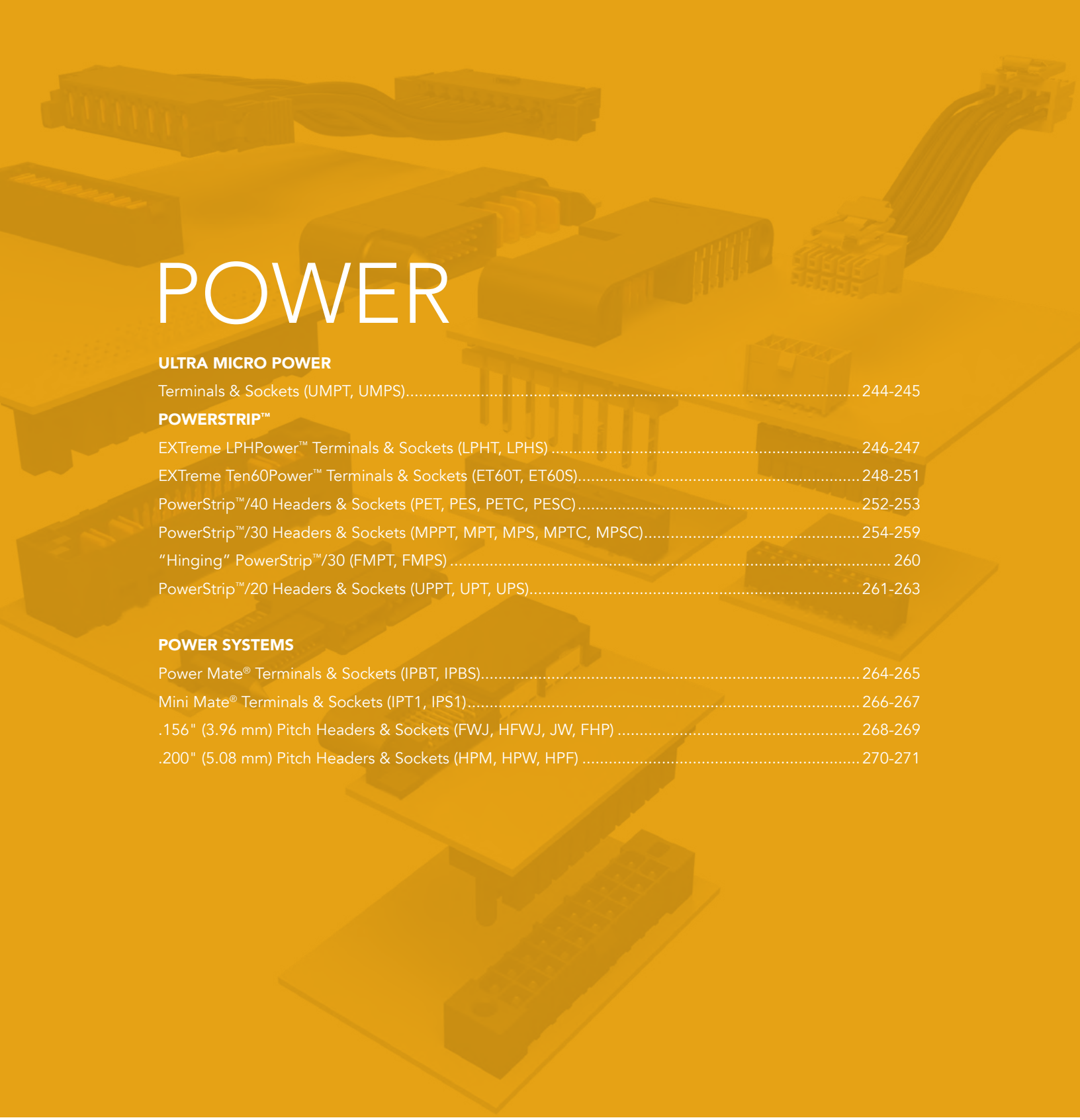
PESS	–	NO. OF POSITIONS	–	WIRE GAUGE	–	PLATING OPTION	–	ASSEMBLED LENGTH	–	END 1 OPTION	–	END 2 OPTION
		–02, –04, –06, –08		–10 –12		–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail –T = Matte Tin		–"XX.XX" = Wire Length in inches (152.4 mm) 06.00" min.		–SR = Single End –DR = Double End		(Available with –DR only) –NUS = Notch up, straight –NDS = Notch down, straight

NO. OF POSITIONS	A	B	C
–02	(6.35) .250	(36.01) 1.418	(43.9) 1.73
–04	(19.05) .750	(48.71) 1.918	(56.6) 2.23
–06	(31.75) 1.250	(61.41) 2.418	(69.3) 2.73
–08	(44.45) 1.750	(74.11) 2.918	(82.0) 3.23



Due to technical progress, all designs, specifications and components are subject to change without notice.

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POWER

ULTRA MICRO POWER

Terminals & Sockets (UMPT, UMPS) 244-245

POWERSTRIP™

EXTreme LPHPower™ Terminals & Sockets (LPHT, LPHS) 246-247

EXTreme Ten60Power™ Terminals & Sockets (ET60T, ET60S) 248-251

PowerStrip™/40 Headers & Sockets (PET, PES, PETC, PESC) 252-253

PowerStrip™/30 Headers & Sockets (MPPT, MPT, MPS, MPTC, MPSC) 254-259

"Hinging" PowerStrip™/30 (FMPT, FMPS) 260

PowerStrip™/20 Headers & Sockets (UPPT, UPT, UPS) 261-263

POWER SYSTEMS

Power Mate® Terminals & Sockets (IPBT, IPBS) 264-265

Mini Mate® Terminals & Sockets (IPT1, IPS1) 266-267

.156" (3.96 mm) Pitch Headers & Sockets (FWJ, HFWJ, JW, FHP) 268-269

.200" (5.08 mm) Pitch Headers & Sockets (HPM, HPW, HPF) 270-271

APPLICATIONS

Micro Rugged Power and Panel Systems 38-39

samtec



UMPT–04–06.5–L–VT–SM–WT



UMPT–04–01.5–T–VT–SM–WT



UMPT–02–01.5–L–VT–SM

(2.00 mm) .0787"

UMPT SERIES

ULTRA MICRO POWER TERMINAL

SPECIFICATIONS

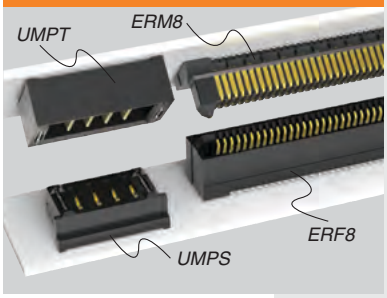
Mates with:
UMPS

For complete specifications see www.samtec.com?UMPT

Insulator Material:
Black LCP
Contact Material:
Copper Alloy
Weld Tab:
Phosphor Bronze
Plating:
Sn or Au over
50 µ" (1.27 µm) Ni
Current Rating:
12 A to 15 A per pin
(4 pins powered)
Operating Temp Range:
Testing Now!
Voltage Rating:
Testing Now!
RoHS Compliant:
Yes
Lead–Free Solderable:
Yes

UMPT/UMPS	
PINS	CURRENT RATING (PER CONTACT)
1	17.1 A
2	14.3 A
3	13.6 A
4	12.0 A
5	11.9 A

APPLICATION





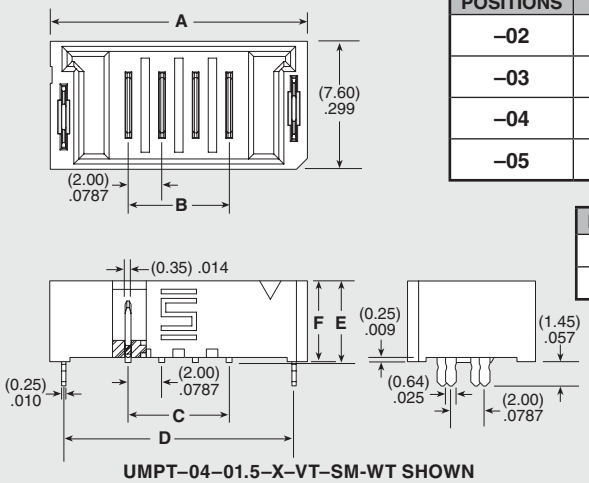
UMPT	–	NO. OF POSITIONS	–	LEAD STYLE	–	PLATING	VT	–	SM	–	OPTION
		–02, –03, –04, –05		–01.5 = (01.5 mm) .059" –06.5 = (06.5 mm) .256"		–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail –T = Matte Tin					(Leave blank for no weld tab) –WT = Weld Tab Through-hole –K = Pick & Place Pad

POWER/SIGNAL APPLICATION

Create a unique power/signal system by combining UMPT/UMPS with a variety of Samtec connectors at various stack heights.
Contact microrugged@samtec.com.

SERIES	STACK HEIGHT			
	5 mm	7 mm	10 mm	12 mm
ADX6	X			
BXE	X			
BXH	X			
BXS	X			
ERX5		X	X	X
ERX6	X			
ERX8		X	X	X
LPAX	X			
QMS/QFS			X	
QRX8		X	X	X
QXE	X			
QXH	X			
QTS/QSS	X			
SEAX		X	X	X
SEAX8		X	X	
SX4	X			
SX5	X			
XEM		X	X	

Note:
Some sizes, styles and options are non-standard, non-returnable.



UMPT–04–01.5–X–VT–SM–WT SHOWN

NO. OF POSITIONS	A	B	C	D
–02	(11.30) .445	(2.00) .0787	(2.00) .0787	(9.70) .382
–03	(13.30) .524	(4.00) .1574	(4.00) .1574	(11.70) .460
–04	(15.30) .602	(6.00) .2362	(6.00) .2362	(13.70) .539
–05	(17.30) .681	(8.00) .3149	(8.00) .3149	(15.70) .616

LEAD STYLE	E	F
–01.5	(4.80) .189	(4.85) .191
–06.5	(9.55) .376	(9.60) .378

IN DESIGN

- Modular interlocking
- Shielding
- Right-angle

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samtec


UMPS–02–03.5–L–VT–SM–WT


UMPS–04–03.5–T–VT–SM

UMPS–04–05.5–T–VT–SM–WT




UMPS–05–03.5–T–VT–SM–WT

(2.00 mm) .0787"

UMPS SERIES

ULTRA MICRO POWER SOCKET

SPECIFICATIONS

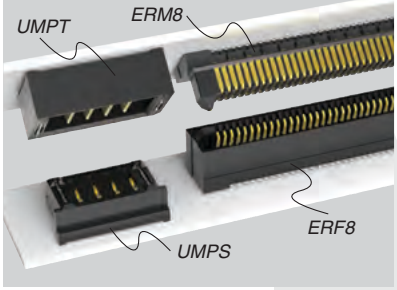
Mates with:
UMPT

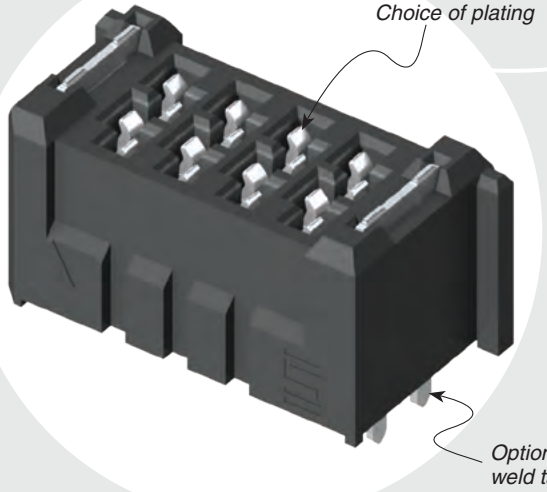
For complete specifications see www.samtec.com?UMPS

Insulator Material:
Black LCP
Contact Material:
Copper Alloy
Weld Tab:
Phosphor Bronze
Plating:
Sn or Au over
50 µ" (1.27 µm) Ni
Current Rating:
12 A to 15 A per pin
(4 pins powered)
Operating Temp Range:
Testing Now!
Voltage Rating:
Testing Now!
RoHS Compliant:
Yes
Lead–Free Solderable:
Yes

UMPT/UMPS	
PINS	CURRENT RATING (PER CONTACT)
1	17.1 A
2	14.3 A
3	13.6 A
4	12.0 A
5	11.9 A

APPLICATION





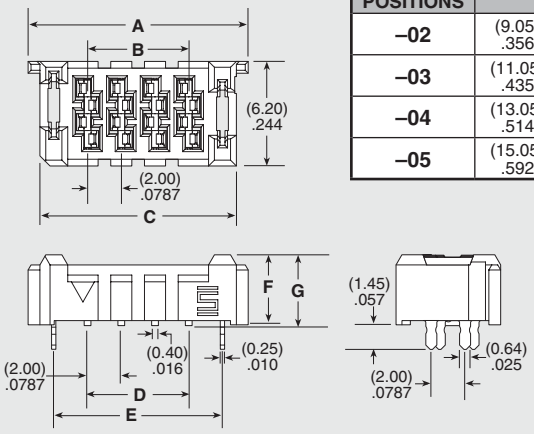
UMPS	–	NO. OF POSITIONS	–	LEAD STYLE	–	PLATING	VT	–	SM	–	OPTION
		–02, –03, –04, –05		–03.5 = (03.5 mm) .138" –05.5 = (05.5 mm) .217"		–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail –T = Matte Tin					(Leave blank for no weld tab) –WT = Weld Tab Through-hole –K = Pick & Place Pad

POWER/SIGNAL APPLICATION

Create a unique power/signal system by combining UMPT/UMPS with a variety of Samtec connectors at various stack heights.
Contact microrugged@samtec.com.

SERIES	STACK HEIGHT			
	5 mm	7 mm	10 mm	12 mm
ADX6	X			
BXE	X			
BXH	X			
BXS	X			
ERX5		X	X	X
ERX6	X			
ERX8		X	X	X
LPAX	X			
QMS/QFS			X	
QRX8		X	X	X
QXE	X			
QXH	X			
QTS/QSS	X			
SEAX		X	X	X
SEAX8		X	X	
SX4	X			
SX5	X			
XEM		X	X	

Note:
Some sizes, styles and options are non-standard, non-returnable.



UMPS–04–03.5–X–VT–SM–WT SHOWN

NO. OF POSITIONS	A	B	C	D	E
–02	(9.05) .356	(2.00) .0787	(7.65) .301	(2.00) .0787	(6.00) .2362
–03	(11.05) .435	(4.00) .1574	(9.65) .380	(4.00) .1574	(8.00) .3149
–04	(13.05) .514	(6.00) .2362	(11.65) .459	(6.00) .2362	(10.00) .3937
–05	(15.05) .592	(8.00) .3149	(13.65) .537	(8.00) .3149	(12.00) .4724

LEAD STYLE	E	F
–03.5	(4.15) .163	(4.20) .165
–05.5	(6.15) .242	(6.20) .244

IN DESIGN

- Modular interlocking
- Shielding
- Right-angle

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Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.

POWER STRIP™ EXTreme LPH

(12.00 mm) .472"(PWR) (1.27 mm) .050"(SIG)



LPHT SERIES

EXTreme LPHPower™ TERMINAL

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?LPHT

Insulator Material:
Black LCP
Terminal Material:
Signal: Brass
Power: Copper Alloy
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Current Rating:
Power: 30 A per power blade (4 blades powered)
Signal: 1 A per signal contact
Operating Temp Range:
-40 °C to +105 °C
Voltage Rating:
250 VAC
Standard Creepage:
(1.21 mm) .048" (power)
Standard Clearance:
(1.36 mm) .054" (power)
RoHS Compliant:
Yes

PROCESSING

Lead-Free Solderable:
Yes

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

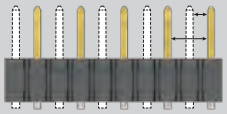
FILE NO. E111594

ALSO AVAILABLE (MOQ Required)

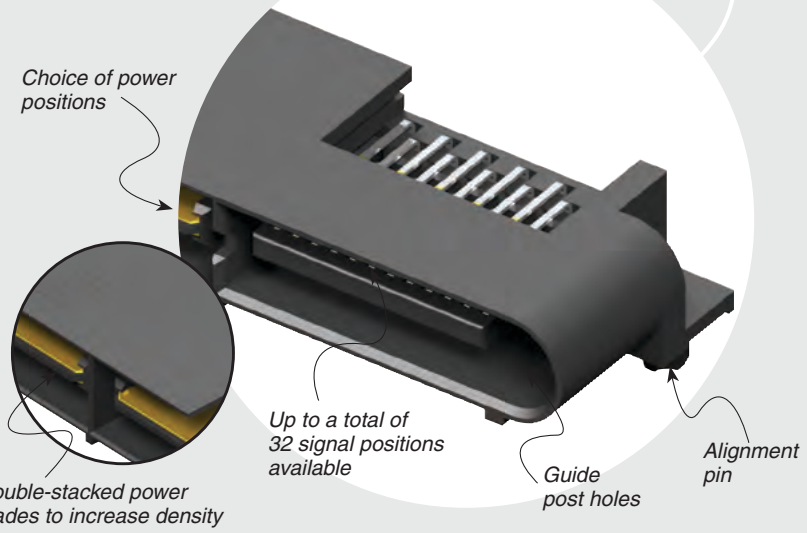
- Other platings
- 28 Signal positions
- No Guide post

Mates with:
LPHS

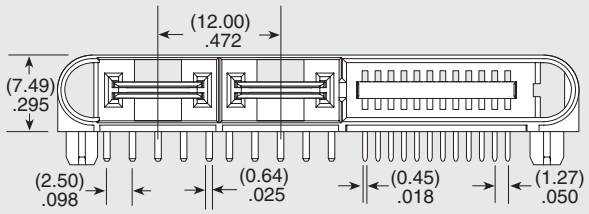
CREEPAGE AND CLEARANCE



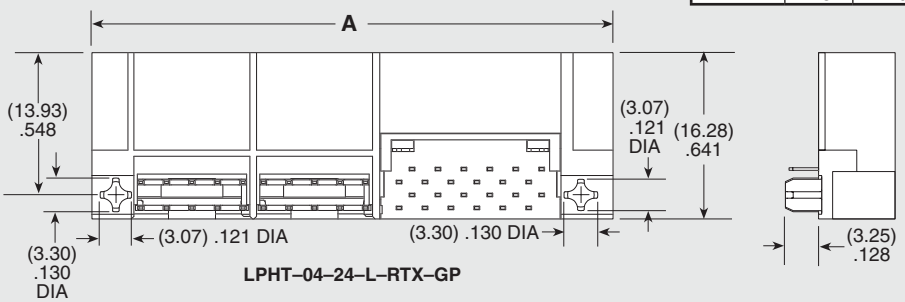
Selectively loading contacts achieves customer specific creepage and clearance requirements.
Contact asp@samtec.com



LPHT	–	POWER POSITIONS	–	SIGNAL POSITIONS	–	PLATING	–	TAIL	–	GP
		–02, –04, –06, –08, –10 (Total, 2 per power bank)		–16, –20, –24, –32 (Total)		–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail		–RT1 = Right-angle Through-hole (Use with (1.60 mm) .062" thick board) –RT2 = Right-angle Through-hole (Use with (2.36 mm) .093" thick board)		



SIGNAL POSITIONS	POWER POSITIONS				
	A (–02)	A (–04)	A (–06)	A (–08)	A (–10)
–16	(33.97) 1.337	(45.97) 1.810	(57.97) 2.282	(69.97) 2.755	(81.97) 3.227
–20	(36.51) 1.437	(48.51) 1.910	(60.51) 2.382	(72.51) 2.855	(84.51) 3.327
–24	(39.05) 1.537	(51.05) 2.010	(63.05) 2.482	(75.05) 2.955	(87.05) 3.427
–32	(44.13) 1.737	(65.13) 2.210	(68.13) 2.682	(80.13) 3.155	(92.13) 3.627



LPHT–04–24–L–RTX–GP

Notes:
Series is rated up to 60 A per power bank.

Some lengths, styles and options are non-standard, non-returnable.

The Molex EXTreme LPHPower™ line is a second source to the Samtec LPHT Series

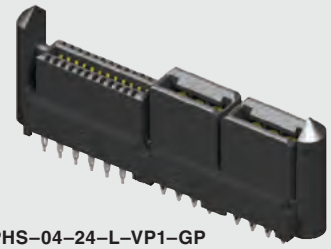
* EXTreme LPHPower™ is a trademark of Molex Incorporated.

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samtec

POWER STRIP™ EXTreme LPH



LPHS–04–24–L–VP1–GP



LPHS–04–24–L–RT1–GP

(12.00 mm) .472"(PWR) (1.27 mm) .050"(SIG)

LPHS SERIES

EXTreme LPHPower™ SOCKET ASSEMBLY

Mates with:
LPHT

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?LPHS

Insulator Material:
Black LCP
Terminal Material:
Signal: Brass
Power: Copper Alloy
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Current Rating:
Power: 30 A per power blade (4 blades powered)
Signal: 1 A per signal contact
Operating Temp Range:
-40 °C to +105 °C
Voltage Rating: 250 VAC
Standard Creepage:
(2.86 mm) .113"
(with -VP1 power)
(5.63 mm) .222"
(with -RTX power)
Standard Clearance:
(2.69 mm) .105"
(with -VP1 power)
(1.36 mm) .054"
(with -RTX power)
RoHS Compliant: Yes

PROCESSING

Lead–Free Solderable: Yes
(-RT1 & -RT2 option)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

ALSO AVAILABLE
(MOQ Required)

- Other platings
- 28 Signal positions
- No Guide post

Notes:
Series is rated up to 60 A per power bank.

Some lengths, styles and options are non-standard, non-returnable.

The Molex EXTreme LPHPower™ line is a second source to the Samtec LPHS Series

* EXTreme LPHPower™ is a trademark of Molex Incorporated.

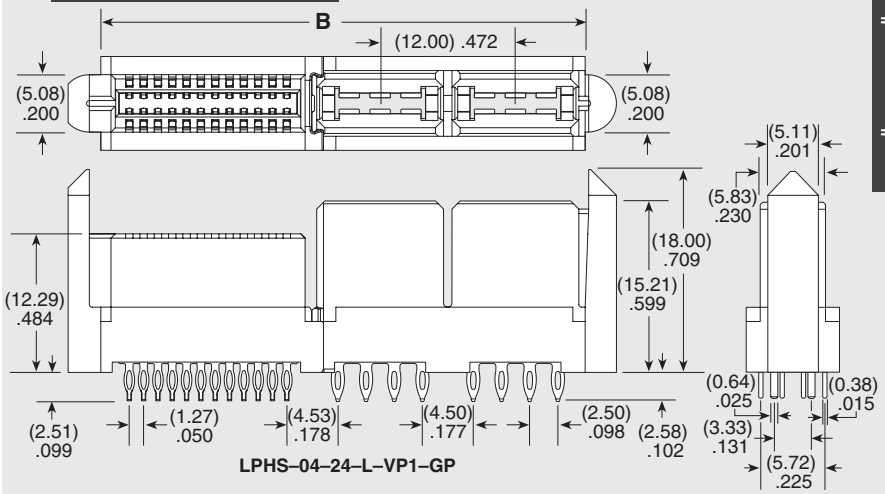
LPHS	–	POWER POSITIONS	–	SIGNAL POSITIONS	–	PLATING	–	TAIL	–	GP

POWER POSITIONS: –02, –04, –06, –08, –10 (Total, 2 per power bank)

SIGNAL POSITIONS: –16, –20, –24, –32 (Total)

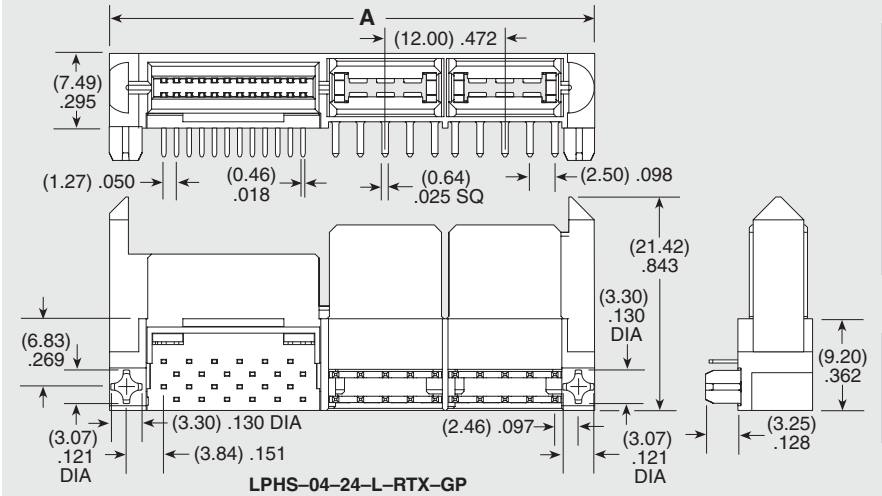
PLATING: –L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

TAIL:
–VP1 = Vertical Press-fit
–RT1 = Right-angle Through-hole (Use with (1.60 mm) .062" thick board)
–RT2 = Right-angle Through-hole (Use with (2.36 mm) .093" thick board)



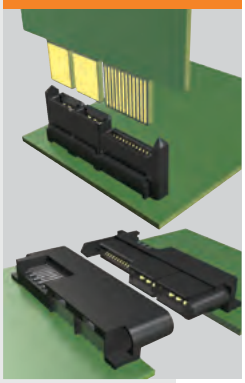
LPHS–04–24–L–VP1–GP

SIGNAL POSITIONS	POWER POSITIONS									
	A (–02)	B (–02)	A (–04)	B (–04)	A (–06)	B (–06)	A (–08)	B (–08)	A (–10)	B (–10)
–16	(31.64) 1.918	(25.88) 1.019	(43.64) 1.718	(37.88) 1.491	(55.64) 2.191	(49.88) 1.964	(67.64) 2.633	(61.88) 2.436	(79.64) 3.135	(73.88) 2.909
–20	(34.18) 1.346	(28.42) 1.119	(46.18) 1.818	(40.42) 1.591	(58.18) 2.291	(52.42) 2.064	(77.18) 2.763	(64.42) 2.536	(82.18) 3.235	(76.42) 3.009
–24	(36.72) 1.446	(30.96) 1.219	(48.72) 1.918	(42.96) 1.691	(60.72) 2.391	(54.96) 2.164	(72.72) 2.863	(66.96) 2.636	(84.72) 3.335	(78.96) 3.109
–32	(41.80) 1.646	(36.04) 1.419	(53.80) 2.118	(48.04) 1.891	(65.80) 2.591	(60.04) 2.364	(77.80) 3.063	(72.04) 2.836	(89.80) 3.535	(84.04) 3.309

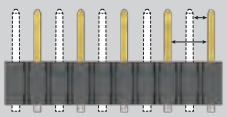


LPHS–04–24–L–RTX–GP

APPLICATION



CREEPAGE AND CLEARANCE



Selectively loading contacts achieves customer specific creepage and clearance requirements.
Contact asp@samtec.com

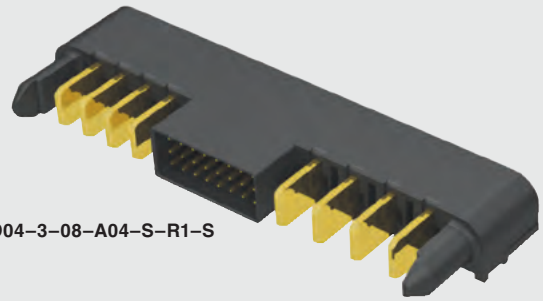
TOOLING

- Press-Fit
  CAT-PT-LPHS-XX-XX
  For more information, visit www.samtec.com/tooling

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POWER™ EXTreme STRIP Ten60



ET60T–D04–3–08–A04–S–R1–S

RIGHT-ANGLE POWER/SIGNAL HEADER

Mates with:
ET60S

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?ET60T

Insulator Material:
Black LCP
Terminal Material:
Signal: Phosphor Bronze
Power: Copper Alloy
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Current Rating:
Power: 60 A max per blade (2 pins powered)
Signal: 2.8 A max (6 pins powered)
Operating Temp Range:
-40 °C to +105 °C
Voltage Rating:
250 V max
RoHS Compliant:
Yes

PROCESSING

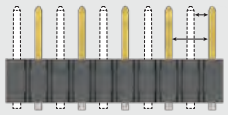
Lead-Free Solderable:
Yes

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

CREEPAGE AND CLEARANCE



Selectively loading contacts achieves customer specific creepage and clearance requirements.

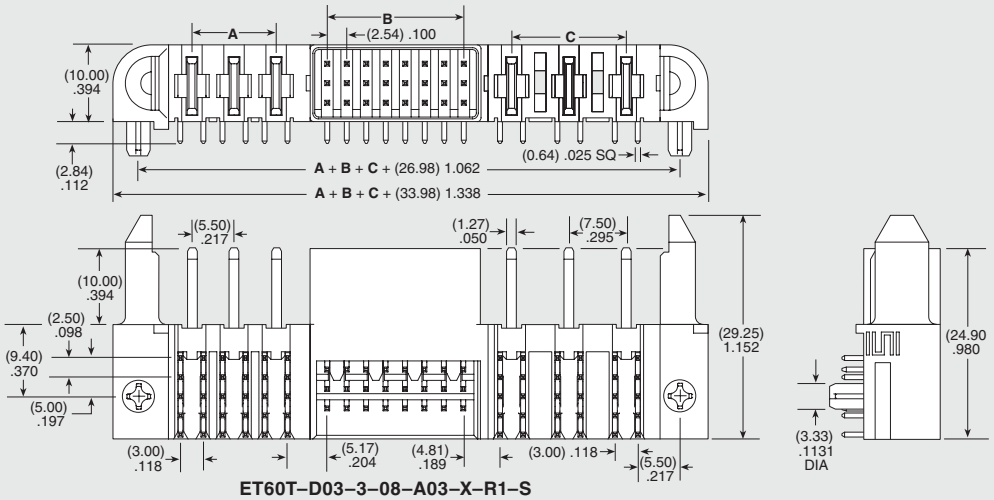
Contact asp@samtec.com

Notes:
Some lengths, styles and options are non-standard, non-returnable.

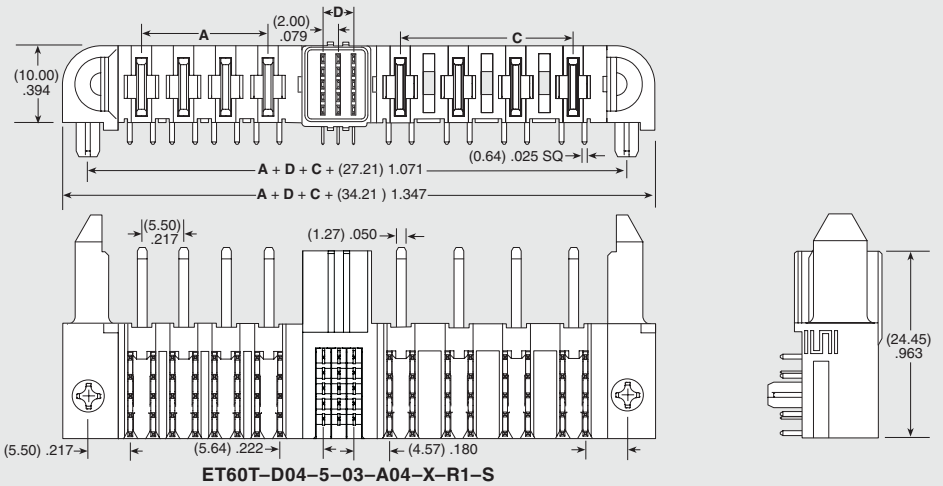
EXTreme Ten60Power™ is a trademark of Molex Incorporated and is dual sourced by Molex®

ET60T	– POWER POSITIONS (LEFT)	– ROWS	– SIGNAL POSITIONS
	–AXX = AC Power Positions (–02, –03, –04, –05, –06) –DXX = DC Power Positions (–02, –03, –04, –05, –06, –07, –08, –09, –10) –SXX* = Split Power –000 = No Power	–0 = No Signal –3 = 3 Rows –5 = 5 Rows	–00 = No Signal –08 = 3 Row only –01, –02, –03, –04, –05, –06, –07, –08 = 5 Row only

Note:
–SXX* & –T* are Preliminary



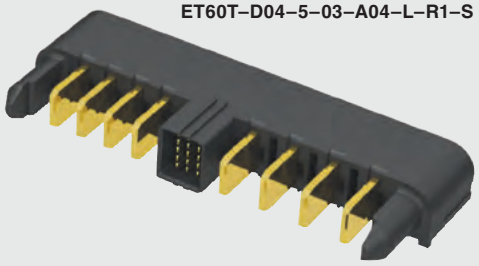
ET60T–D03–3–08–A03–X–R1–S



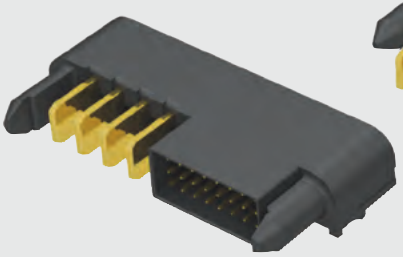
ET60T–D04–5–03–A04–X–R1–S

Due to technical progress, all designs, specifications and components are subject to change without notice.

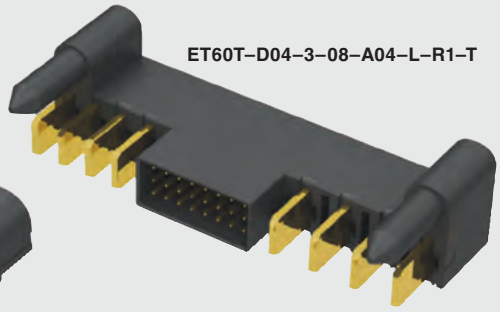
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ET60T–D04–5–03–A04–L–R1–S



ET60T–D04–3–08–000–S–R1–S

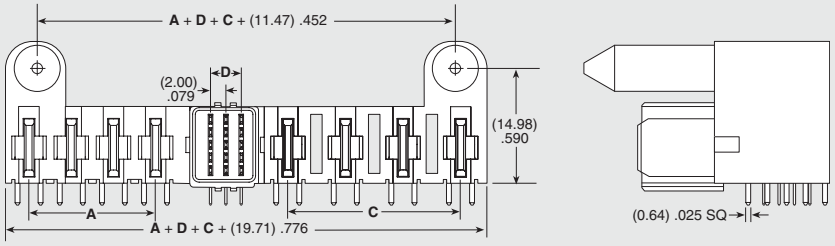


ET60T–D04–3–08–A04–L–R1–T

POWER POSITIONS (RIGHT)	PLATING	TAIL	GUIDE POST	OPTION
–AXX = AC Power Positions (–02, –03, –04, –05, –06) **–DXX** = DC Power Positions (–02, –03, –04, –05, –06, –07, –08, –09, –10) **–SXX*** = Split Power **–000** = No Power	**–L** = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail (Not available for 5 rows) **–S** = 30 µ" (0.76 µm) Gold on contact, Matte Tin on tail	**–R1** = Right-angle Through-hole (Use with (1.60 mm) .062" thick card)	(Required callout) **–S** = Side Guide Post **–T*** = Top Guide Post	**–H** = Hot Swap (Leave blank for no Hot Swap

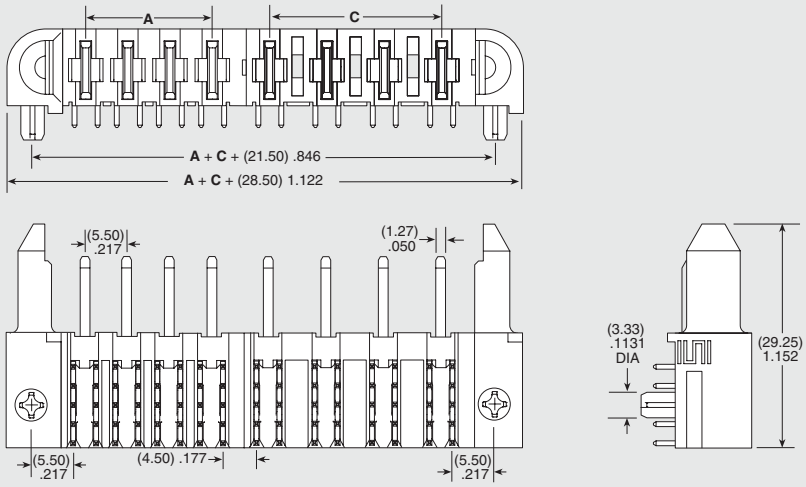
Note:
–SXX* & –T* are Preliminary

POWER POSITIONS (LEFT)	POWER POSITIONS (RIGHT)	A DC POWER	C AC POWER
–02	–02	(5.50) .217	(7.50) .295
–03	–03	(11.00) .433	(15.00) .591
–04	–04	(16.50) .650	(22.50) .886
–05	–05	(22.00) .866	(30.00) 1.181
–06	–06	(27.50) 1.083	(37.50) 1.476
–07	–07	(33.00) 1.299	N/A
–08	–08	(38.50) 1.516	N/A
–09	–09	(44.00) 1.732	N/A
–10	–10	(49.50) 1.949	N/A



ET60T–D04–5–03–A04–X–R1–T

SIGNAL POSITIONS PER ROW (3 Row)	B	SIGNAL POSITIONS PER ROW (5 Row)	D
–08	(17.78) .700	–01	N/A
		–02	(2.00) .079
		–03	(4.00) .157
		–04	(6.00) .236
		–05	(8.00) .315
		–06	(10.00) .394
		–07	(12.00) .472
		–08	(14.00) .551

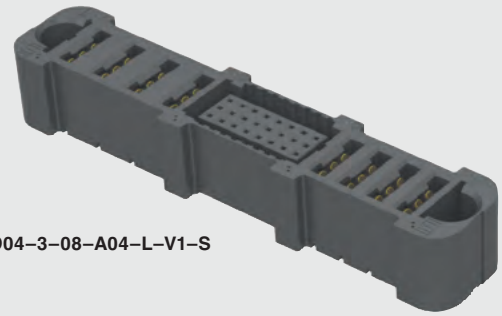


ET60T–D04–0–00–A04–X–R1–S

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POWER™ STRIP EXTreme Ten60



ET60S–D04–3–08–A04–L–V1–S

EXTreme Ten60Power™ SOCKET

Mates with:
ET60T

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?ET60S

Insulator Material:
Black LCP
Terminal Material:
Signal: Copper Alloy
Power: Copper Alloy
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Current Rating:
Power: 60 A max per blade (2 pins powered)
Signal: 2.8 A max (6 pins powered)
Operating Temp Range:
-40 °C to +105 °C
RoHS Compliant:
Yes

PROCESSING

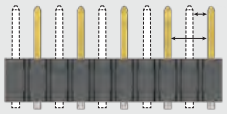
Lead-Free Solderable:
Yes

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

CREEPAGE AND CLEARANCE



Selectively loading contacts achieves customer specific creepage and clearance requirements.

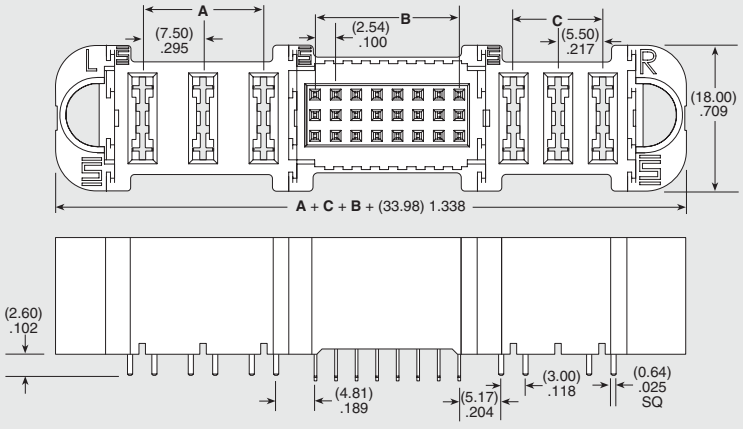
Contact asp@samtec.com

Notes:
Some lengths, styles and options are non-standard, non-returnable.

EXTreme Ten60Power™ is a trademark of Molex Incorporated and is dual sourced by Molex®

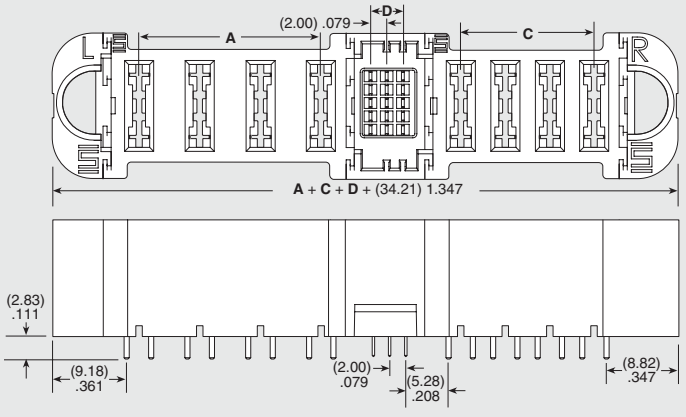
ET60S	–	POWER OPTION (RIGHT)	–	ROWS	–	SIGNAL POSITIONS PER ROW
		–AXX = AC Power Positions (–02, –03, –04, –05, –06 positions only) –DXX = DC Power Positions (–02, –03, –04, –05, –06, –07, –08, –09, –10 positions only) –SXX* = Split Power –000 = No Power		–0 = No Signal –3 = 3 Rows –5 = 5 Rows		–00 = No Signal –08 = 3 Row only –01, –02, –03, –04, –05, –06, –07, –08 = 5 Row only

Note:
–SXX* –T* are Preliminary



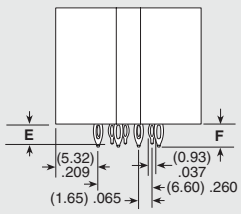
ET60S–D03–3–08–A03–X–V1–S

POWER POSITIONS (LEFT)	POWER POSITIONS (RIGHT)	A AC POWER	C DC POWER
–02	–02	(7.50) .295	(5.50) .217
–03	–03	(15.00) .591	(11.00) .433
–04	–04	(22.50) .886	(16.50) .650
–05	–05	(30.00) 1.181	(22.50) .886
–06	–06	(37.50) 1.476	(27.50) 1.083
–07	–07	N/A	(33.00) 1.299
–08	–08	N/A	(38.50) 1.516
–09	–09	N/A	(44.00) 1.732
–10	–10	N/A	(49.50) 1.949



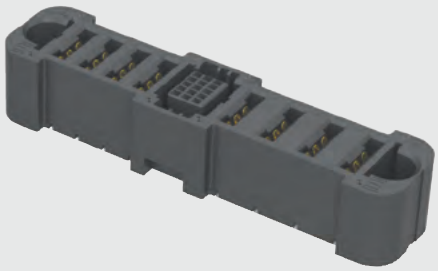
ET60S–D04–5–03–A04–X–VP–S

TAIL	3 ROWS E	3 ROWS F	5 ROWS E	5 ROWS F
–VP	(3.28) .129	(2.83) .111	(2.83) .111	(2.50) .098
–V1		(2.60) .102	N/A	

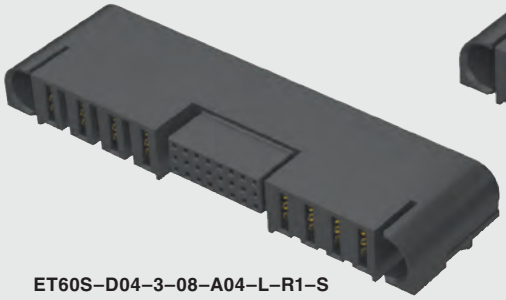


Due to technical progress, all designs, specifications and components are subject to change without notice.

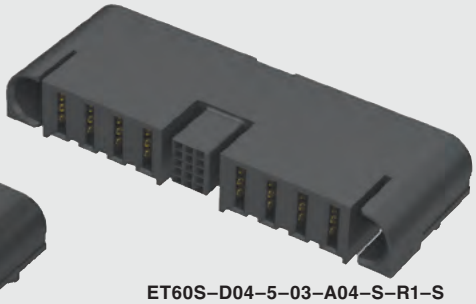
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ET60S–A04–5–03–D04–L–VP–S



ET60S–D04–3–08–A04–L–R1–S



ET60S–D04–5–03–A04–S–R1–S

ET60S SERIES

POWER OPTION (LEFT)

–AXX
= AC Power Positions
(–02, –03, –04, –05, –06 positions only)

–DXX
= DC Power Positions
(–02, –03, –04, –05, –06, –07, –08, –09, –10 positions only)

–SXX*
= Split Power

–000
= No Power

PLATING

–L
= 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail
(Not available for 5 rows)

–S
= 30 µ" (0.76 µm) Gold on contact, Matte Tin on tail

TAIL

–VP
= Vertical Press-fit

–V1
= Vertical through-hole
(Use with (1.60 mm) .062" thick card)
(–0 and –3 Row only)

–R1
= Right-angle through-hole
(Use with (1.60 mm) .062" thick card)

GUIDE POST

(Required callout)

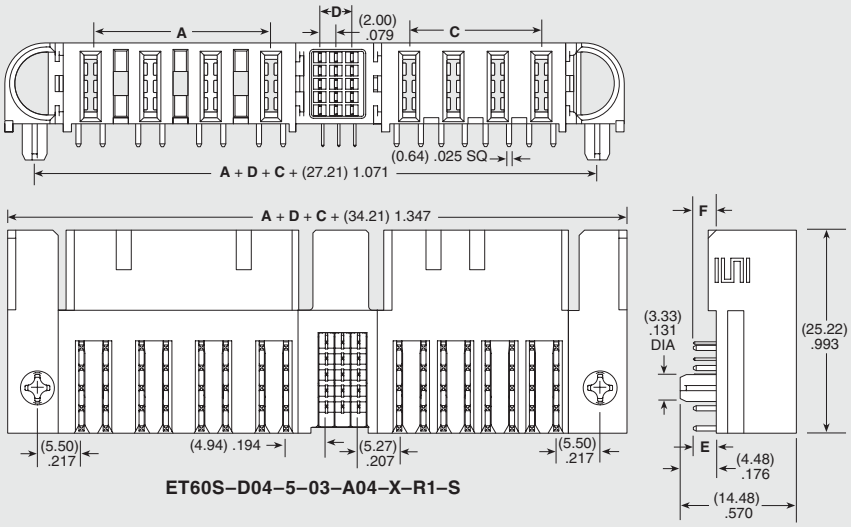
–S
= Side Guide Post

–T*
= Top Guide Post

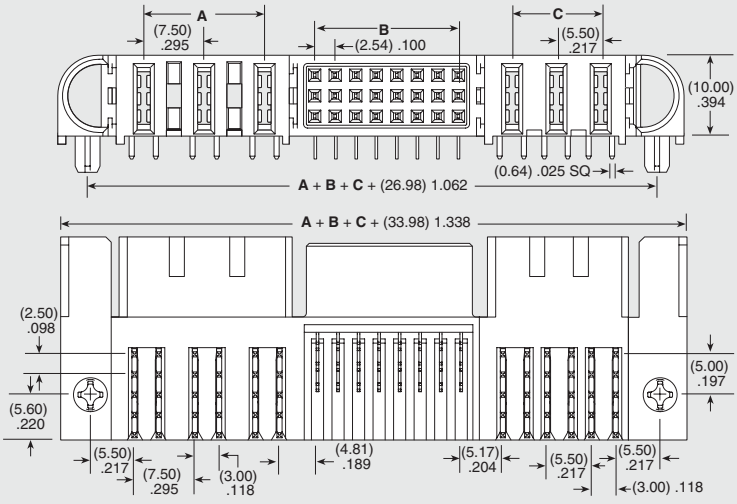
Note:
–SXX* –T* are Preliminary

SIGNAL POSITIONS PER ROW (3 Row)	B	SIGNAL POSITIONS PER ROW (5 Row)	D
–08	(17.78) .700	–01	N/A
		–02	(2.00) .079
		–03	(4.00) .157
		–04	(6.00) .236
		–05	(8.00) .315
		–06	(10.00) .394
		–07	(12.00) .472
		–08	(14.00) .551

TAIL	E	F
–R1	(2.84) .112	



ET60S–D04–5–03–A04–X–R1–S

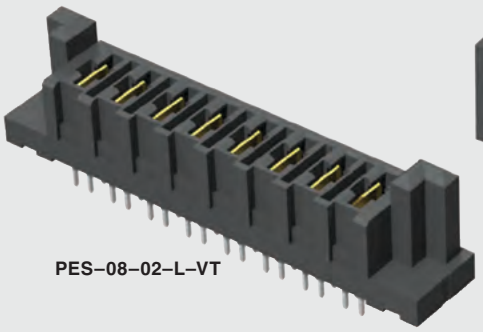


ET60S–D03–3–08–A03–X–R1–S

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POWER STRIP 40


PES–08–02–L–VT


PET–04–01–L–VT

(6.35 mm) .250"

PES, PET SERIES

40 A HIGH POWER HEADER & SOCKET

PES Mates with:
PET

PET Mates with:
PES, PESS

SPECIFICATIONS

For complete specifications see www.samtec.com?PET or www.samtec.com?PES

Insulator Material:
Black LCP
Terminal Material:
Copper Alloy
Plating:
Sn or Au over 50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +105 °C with Tin
-55 °C to +125 °C with Gold
Voltage Rating:
725 VAC/1025 VDC
Wiping Distance (PES):
(0.38 mm) .015"
Standard Creepage:
(3.66 mm) .144"
Standard Clearance:
(3.31 mm) .130"
RoHS Compliant:
Yes
Lead–Free Solderable:
Yes

PET/PES	
PINS	CURRENT RATING (PER CONTACT)
1	58.7 A
2	48.5 A
3	41.1 A
4	38.0 A
8	29.4 A

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

ALSO AVAILABLE (MOQ Required)

- Locking Clip (Manual placement required)
- No Latch ears
- Other platings

OTHER SOLUTIONS

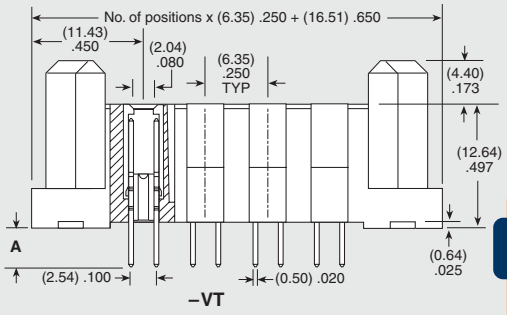
- Combination Signal/Power. See PESC or PETC Series.

Note: Some sizes, styles and options are non-standard, non-returnable.

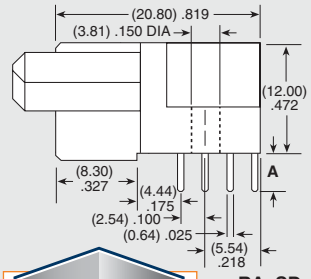
PES

NO. PINS PER ROW	LEAD STYLE	PLATING OPTION	TAIL OPTION	OTHER OPTION
–02, –04, –06, –08	–01 = Use with (1.60 mm) .062" Thick PCB –02 = Use with (3.18 mm) .125" Thick PCB	–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail –T = Matte Tin	–VT = Vertical – RA = Right-angle (Screw Down option required)	–SD = Screw Down (Right-angle only)

LEAD STYLE	A
–01	(2.35) .093
–02	(3.95) .156



–VT

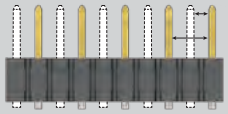


–RA–SD

RUGGEDIZED BY SAMTEC

- Screw down (right-angle)

CREEPAGE AND CLEARANCE



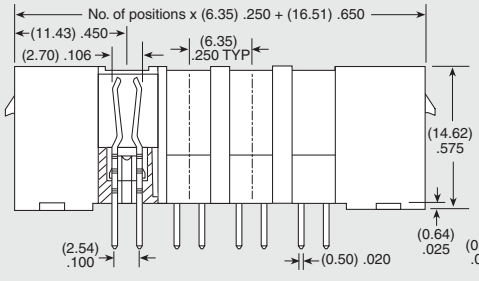
Selectively loading contacts achieves customer specific creepage and clearance requirements.

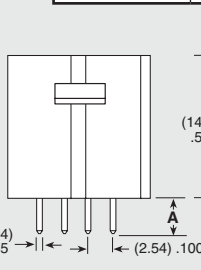
Contact asp@samtec.com

PET

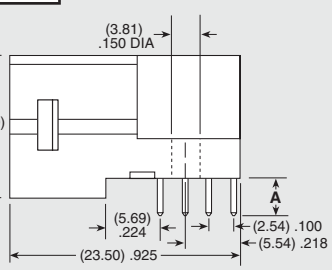
NO. PINS PER ROW	LEAD STYLE	PLATING OPTION	TAIL OPTION	OTHER OPTION
–02, –04, –06, –08	–01 = Use with (1.60 mm) .062" Thick PCB –02 = Use with (3.18 mm) .125" Thick PCB	–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail –T = Matte Tin	–VT = Vertical – RA = Right-angle (Screw Down option required)	–SD = Screw Down (Right-angle only)

LEAD STYLE	A
–01	(2.35) .093
–02	(3.95) .156





–VT



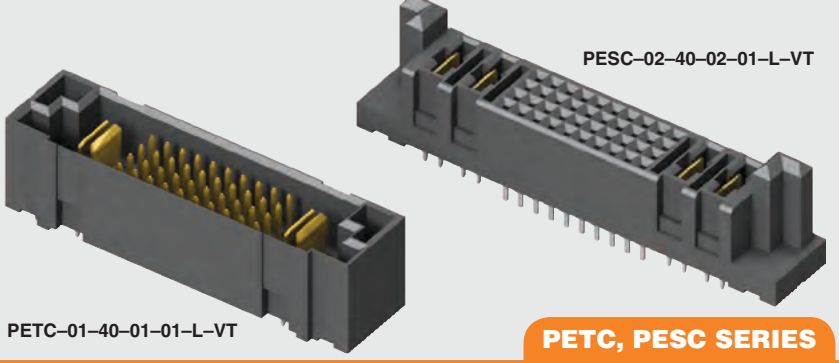
–RA–SD

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POWER STRIP 40



(6.35 mm) .250"(PWR) (2.54 mm) .100"(SIG)

PETC, PESC SERIES

40 A SIGNAL/POWER COMBO SYSTEM

SPECIFICATIONS

For complete specifications see www.samtec.com?PETC or www.samtec.com?PESC

Insulator Material:
Black LCP
Terminal Material:
Copper Alloy
Plating:
Sn or Au over 50 µ" (1.27 µm) Ni
Current Rating (Signal Pin):
5.7 A per pin
(4 pins powered)
Insertion Depth (Power Pin):
(5.00 mm) .197" to
(8.46 mm) .333"
Wiping Distance (Power Pin):
(0.38 mm) .015"
Operating Temp Range:
-55 °C to +125 °C for Au
-55 °C to +105 °C for Sn
Voltage Rating:
Signal: 450 VAC/636 VDC
Power: 650 VAC/919 VDC
Standard Creepage:
(3.66 mm) .144" (power)
Standard Clearance:
(3.31 mm) .130" (power)
RoHS Compliant:
Yes
Lead–Free Solderable:
Yes

PETC/PESC	
POWER PINS	CURRENT RATING (PER CONTACT)
1	31.4 A
2	28.0 A
3	24.4 A
4	22.9 A

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

ALSO AVAILABLE (MOQ Required)

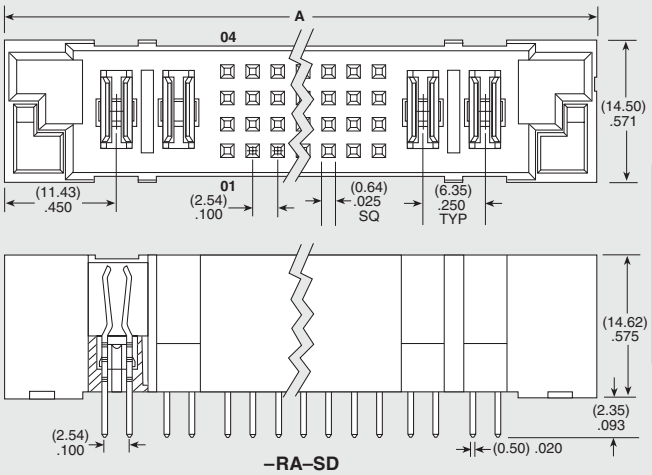
- Other signal pins
- Power pins
- Asymmetric power pin placement
- Other platings

Notes:
The number of power pins on each end must equal.

Some sizes, styles and options are non-standard, non-returnable.

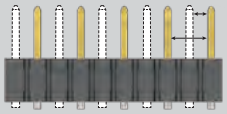
PETC – POWER PINS – SIGNAL PINS – POWER PINS – 01 – PLATING OPTION – TAIL – OTHER OPTION

POWER PINS	SIGNAL PINS	POWER PINS	PLATING OPTION	TAIL	OTHER OPTION
–01, –02, –04	–12, –40	–01, –02, –04	–L = 10 µ" (0.25 µm) Gold on contact area, Matte Tin on tail –T = Matte Tin	–VT =Vertical –RA = Right-angle	–SD = Screw Down (Right- angle only) –LC = Locking Clip (Manual placement required)



POWER PINS/ END	A	
	12 SIGNAL PINS	40 SIGNAL PINS
–01	(39.37) 1.550	(57.15) 2.250
–02	(52.07) 2.050	(69.85) 2.750
–04	(77.47) 3.050	(95.25) 3.750

CREEPAGE AND CLEARANCE

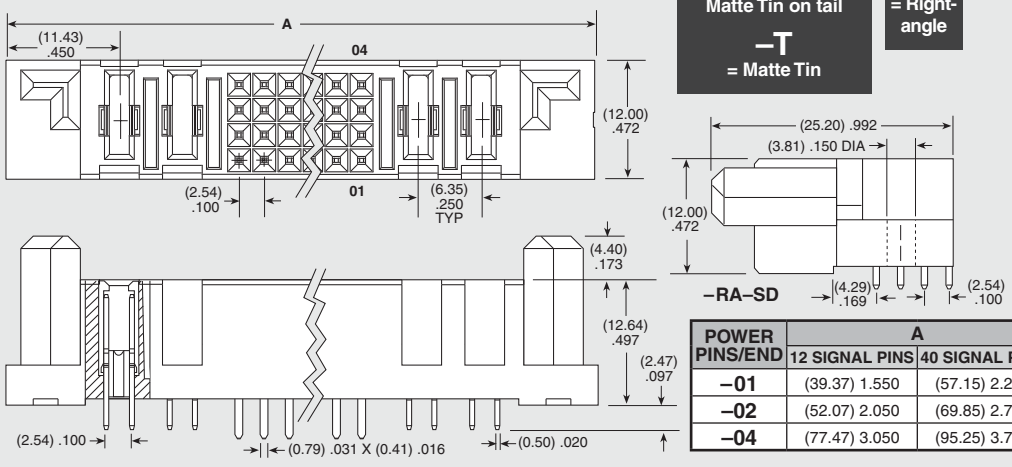


Selectively loading contacts achieves customer specific creepage and clearance requirements.

Contact asp@samtec.com

PESC – POWER PINS – SIGNAL PINS – POWER PINS – 01 – PLATING OPTION – TAIL – OTHER OPTION

POWER PINS	SIGNAL PINS	POWER PINS	PLATING OPTION	TAIL	OTHER OPTION
–01, –02, –04	–12, –40	–01, –02, –04	–L = 10 µ" (0.25 µm) Gold on contact area, Matte Tin on tail –T = Matte Tin	–VT =Vertical –RA = Right-angle	–SD = Screw Down (Right-angle only) –LC = Locking Clip (Manual placement required)



POWER PINS/END	A	
	12 SIGNAL PINS	40 SIGNAL PINS
–01	(39.37) 1.550	(57.15) 2.250
–02	(52.07) 2.050	(69.85) 2.750
–04	(77.47) 3.050	(95.25) 3.750

samtec

POWER™ STRIP 30





(5.00 mm) .1969"

MPT SERIES

30 A DUAL BLADE HEADER

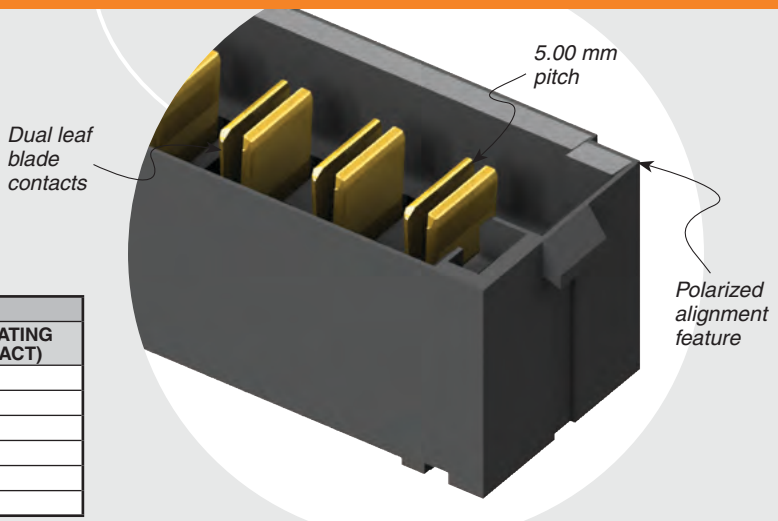
SPECIFICATIONS

For complete specifications see www.samtec.com?MPT

Insulator Material:
Black LCP
Terminal Material:
Copper Alloy
Plating:
Sn or Au over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +105 °C with Tin;
-55 °C to +125 °C with Gold
Voltage Rating:
575 VAC/812 VDC
Standard Creepage:
(2.86 mm) .113"
Standard Clearance:
(2.71 mm) .106"
RoHS Compliant:
Yes
Lead–Free Solderable:
Yes

Board Mates:
MPS

Cable Mates:
MPSS



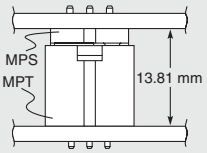
MPT-V/MPS-V	
POWER PINS	CURRENT RATING (PER CONTACT)
1	28.8 A
2	24.7 A
3	24.1 A
4	22.3 A
8	18.5 A
–T PLATING	

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

MATED HEIGHT



OTHER SOLUTIONS

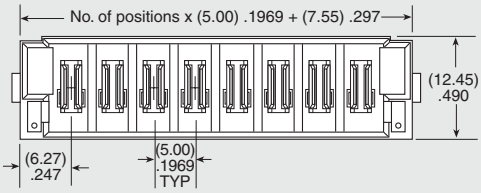
- Power/Signal combination Headers (see MPTC Series)
- High Power Headers. (see PET Series)
- Right-angle (see MPT-RA Series)

ALSO AVAILABLE (MOQ Required)

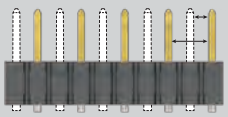
- Locking Clip (Manual placement required)

Note: Some sizes, styles and options are non-standard, non-returnable.

MPT	–	POWER PINS	–	LEAD STYLE	–	TAIL LENGTH	–	PLATING OPTION	–	V
		–02, –03, –04, –06, –08		–6.30 = (6.30 mm) 0.248"		–01 = Use with (1.60 mm) .062" Thick PCB –03 = Use with (2.36 mm) .093" Thick PCB		–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail –T = Matte Tin		



CREEPAGE AND CLEARANCE



Selectively loading contacts achieves customer specific creepage and clearance requirements.

Contact asp@samtec.com

Due to technical progress, all designs, specifications and components are subject to change without notice.

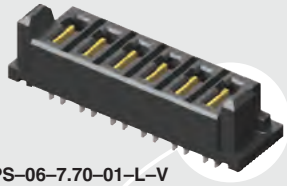
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samtec

POWER STRIP 30



MPS–02–7.70–01–L–V



MPS–06–7.70–01–L–V

(5.00 mm) .1969"

MPS SERIES

30 A DUAL LEAF SOCKET

SPECIFICATIONS

For complete specifications see www.samtec.com?MPT

Insulator Material:
Black LCP
Terminal Material:
Copper Alloy
Plating:
Sn or Au over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +105 °C with Tin;
-55 °C to +125 °C with Gold
Voltage Rating:
575 VAC/812 VDC
Standard Creepage:
(2.86 mm) .113"
Standard Clearance:
(2.71 mm) .106"
RoHS Compliant:
Yes
Lead–Free Solderable:
Yes

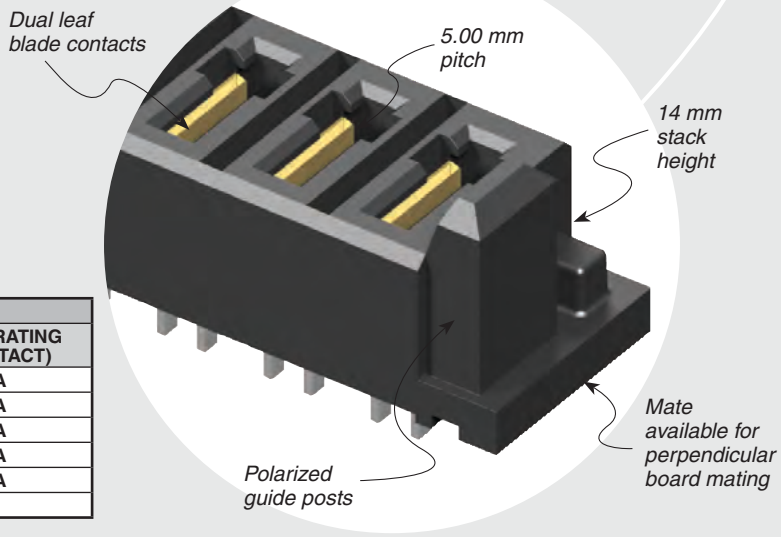
RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

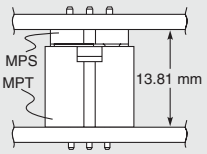
Mates with:
MPT

MPT-V/MPS-V	
POWER PINS	CURRENT RATING (PER CONTACT)
1	28.8 A
2	24.7 A
3	24.1 A
4	22.3 A
8	18.5 A
–T PLATING	



MPS	–	POWER PINS	–	LEAD STYLE	–	TAIL LENGTH	–	PLATING OPTION	–	V
		–02, –03, –04, –06, –08		–7.70 = (7.70 mm) .303"		–01 = Use with (1.60 mm) .062" Thick PCB –03 = Use with (2.36 mm) .093" Thick PCB		–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail –T = Matte Tin		

MATED HEIGHT



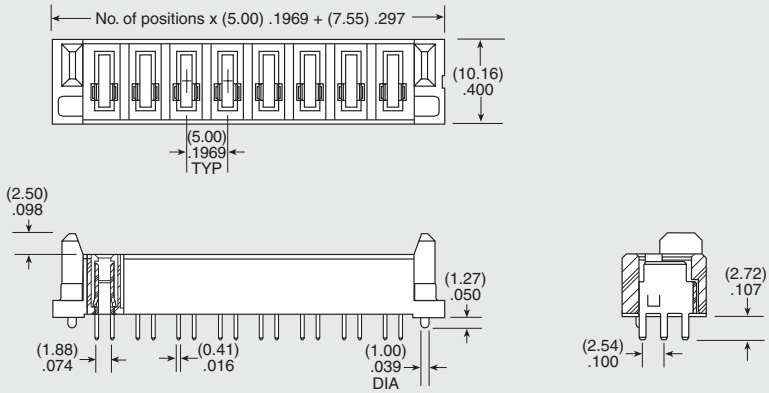
OTHER SOLUTIONS

- Power/Signal combination Headers (see MPSC Series)
- High Power Headers (see PES Series)

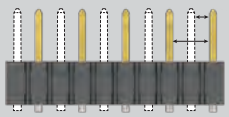
ALSO AVAILABLE (MOQ Required)

- Other sizes
- Locking Clip (Manual placement required)

Note: Some sizes, styles and options are non-standard, non-returnable.



CREEPAGE AND CLEARANCE



Selectively loading contacts achieves customer specific creepage and clearance requirements.

Contact asp@samtec.com

Due to technical progress, all designs, specifications and components are subject to change without notice.

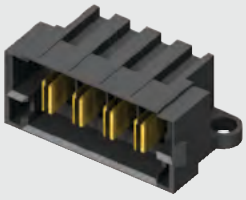
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POWER™ STRIP 30

MPS–06–01–01–L–RA–SD





MPT–04–01–01–L–RA–SD

(5.00 mm) .1969"

MPT-RA, MPS-RA SERIES

RIGHT-ANGLE 30 A POWER CONNECTORS

MPT-RA Mates with:
MPS, MPSS

MPS-RA Mates with:
MPT

SPECIFICATIONS

For complete specifications see www.samtec.com?MPT or www.samtec.com?MPS

Insulator Material:
Black LCP
Terminal Material:
Copper Alloy
Plating:
Sn or Au over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +105 °C with Tin;
-55 °C to +125 °C with Gold
Voltage Rating:
575 VAC/812 VDC
Standard Creepage:
(2.86 mm) .113"
Standard Clearance:
(2.71 mm) .106"
RoHS Compliant:
Yes
Lead–Free Solderable:
Yes

MPT-RA/MPS-RA	
POWER PINS	CURRENT RATING (PER CONTACT)
1	23.3 A
2	20.5 A
3	19.4 A
4	18.4 A
8	17.2 A
–L PLATING	

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

OTHER SOLUTIONS

- Power/Signal combination headers & sockets (see MPTC or MPSC Series)
- High Power Headers (see PET Series)
- High Power Sockets (see PES Series)
- Vertical (see MPT or MPS Series)

Note: Some sizes, styles and options are non-standard, non-returnable.

MPT	–	POWER PINS	–	01	–	TAIL LENGTH	–	PLATING OPTION	–	RA	–	SD

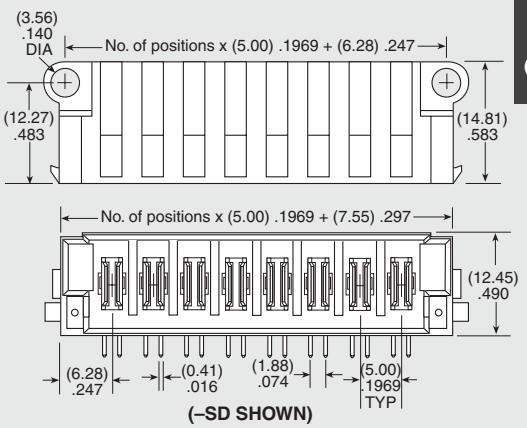
–02, –04, –06, –08

–01
= Use with (1.60 mm) .062" Thick PCB

–03
= Use with (2.36 mm) .093" Thick PCB

–L
= 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

–T
= Matte Tin

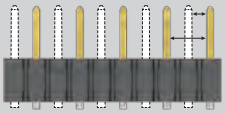


(–SD SHOWN)

RUGGEDIZED BY SAMTEC

- Screw downs

CREEPAGE AND CLEARANCE



Selectively loading contacts achieves customer specific creepage and clearance requirements.

Contact asp@samtec.com

MPS	–	POWER PINS	–	01	–	TAIL LENGTH	–	PLATING OPTION	–	RA	–	SD

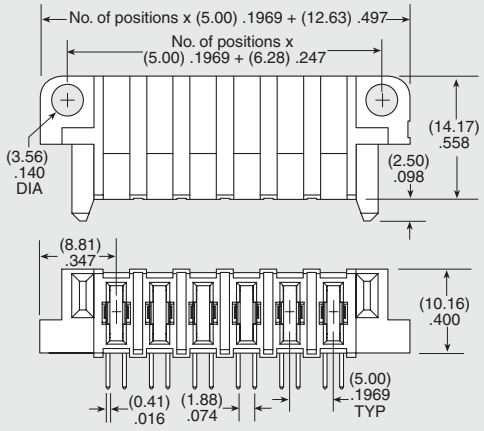
–02, –04, –06, –08

–01
= Use with (1.60 mm) .062" Thick PCB

–03
= Use with (2.36 mm) .093" Thick PCB

–L
= 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

–T
= Matte Tin



(–SD SHOWN)

ALSO AVAILABLE (MOQ Required)

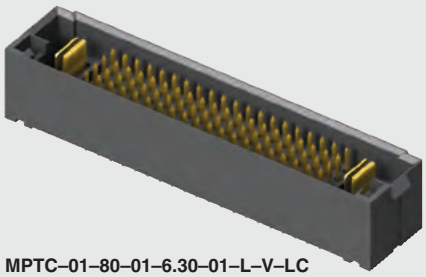
- Other sizes
- Locking Clip (Manual placement required)

Due to technical progress, all designs, specifications and components are subject to change without notice.

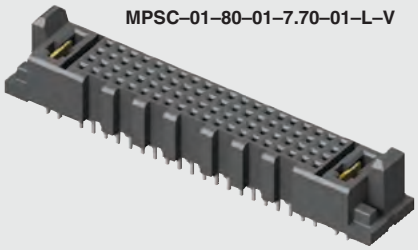
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POWER STRIP 30



MPTC–01–80–01–6.30–01–L–V–LC



MPSC–01–80–01–7.70–01–L–V

(5.00 mm) .197"(PWR) (2.00 mm) .079"(SIG)

MPTC, MPSC SERIES

30 A SIGNAL/POWER COMBO SYSTEM

MPTC Mates with:
MPSC, MPCC

MPSC Mates with:
MPTC

SPECIFICATIONS

For complete specifications see www.samtec.com?MPTC or www.samtec.com?MPSC

Insulator Material:
Black LCP
Terminal/Contact Material:
Signal: Phosphor Bronze
Power: Copper Alloy
Plating:
Sn or Au over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +105 °C with Tin
-55 °C to +125 °C with Gold
Voltage Rating:
300 VAC/424 VDC
Standard Creepage:
MPTC: (2.86 mm) .113" (power)
MPSC: (2.86 mm) .113" (without -LC, power)
(2.69 mm) .105" (with -LC, power)
Standard Clearance:
(2.71 mm) .106" (without -LC, power)
MPTC: (2.54 mm) .100" (with -LC, power)
MPSC: (1.93 mm) .076" (with -LC, power)
RoHS Compliant:
Yes
Lead–Free Solderable:
Yes

MPTC-V/MPSC-V	
POWER PINS	CURRENT RATING (PER CONTACT)
1	28.8 A
2	24.7 A
3	24.1 A
4	22.3 A
–T PLATING	

RUGGEDIZED BY SAMTEC

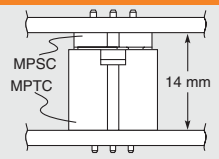
- Locking clip option

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

MATED HEIGHT



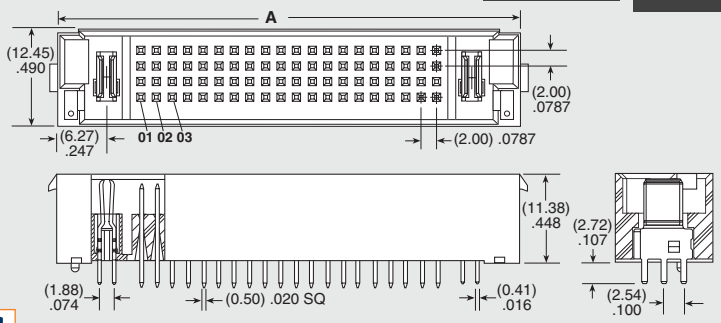
ALSO AVAILABLE (MOQ Required)

- 4, 8, 36 and 48 total signal pins

Note: Some sizes, styles and options are non-standard, non-returnable.

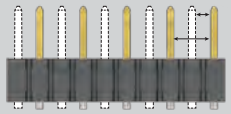
MPTC	PWR PINS	SIG PINS	PWR PINS	LEAD STYLE	TAIL LENGTH	PLATING OPTION	V	OTHER OPTION
	–01, –02 = Power Pins Per End	–16, –24, –40, –80	–01, –02 = Power Pins Per End	–6.30 = (6.30 mm) 0.248"	–01 = Use with (1.60 mm) .062" Thick PCB –03 = Use with (2.36 mm) .093" Thick PCB	–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail (Power & Signal) –T = Matte Tin on contacts and tail (Power), Gold on contact, Matte Tin on tail (Signal)		–LC = Locking Clip (Manual placement required)

Note:
Available standard power pin combinations: MPTC-01-XX-01 or MPTC-02-XX-02.



POWER PINS/END	A			
	16 SIGNAL PINS	24 SIGNAL PINS	40 SIGNAL PINS	80 SIGNAL PINS
–01	(27.44) 1.081	(31.45) 1.238	(39.44) 1.553	(59.44) 2.340
–02	(37.44) 1.474	(41.45) 1.632	(49.44) 1.946	(69.44) 2.734

CREEPAGE AND CLEARANCE

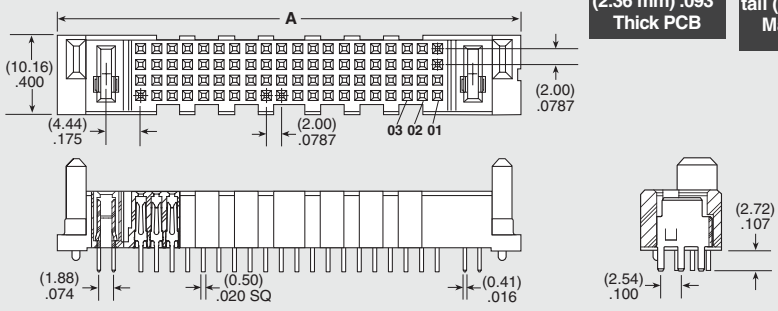


Selectively loading contacts achieves customer specific creepage and clearance requirements.

Contact asp@samtec.com

MPSC	PWR PINS	SIG PINS	PWR PINS	LEAD STYLE	TAIL LENGTH	PLATING OPTION	V	OTHER OPTION
	–01, –02 = Power Pins Per End	–16, –24, –40, –80	–01, –02 = Power Pins Per End	–7.70 = (7.70 mm) .303"	–01 = Use with (1.60 mm) .062" Thick PCB –03 = Use with (2.36 mm) .093" Thick PCB	–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail (Power & Signal) –T = Matte Tin on contacts and tail (Power), Gold on contact, Matte Tin on tail (Signal)		–LC = Locking Clip (Manual placement required) (Not available with –16 signal pins)

Note:
Available standard power pin combinations: MPSC-01-XX-01 or MPSC-02-XX-02.

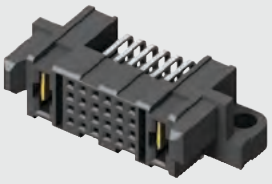


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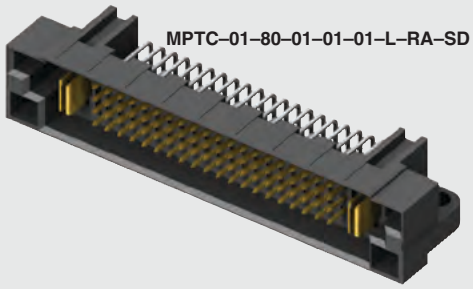
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samtec

POWER STRIP 30



MPSC–01–24–01–01–01–L–RA–SD



MPTC–01–80–01–01–01–L–RA–SD

(5.00 mm) .197"(PWR) (2.00 mm) .079"(SIG)

MPTC-RA, MPSC-RA SERIES

30 A RIGHT-ANGLE SIGNAL/POWER COMBO

MPTC-RA Mates with:
MPSC, MPCC

MPSC-RA Mates with:
MPTC

SPECIFICATIONS

For complete specifications see www.samtec.com?MPTC or www.samtec.com?MPSC

Insulator Material:
Black LCP
Terminal/Contact Material:
Signal: Phosphor Bronze
Power: Copper Alloy
Plating:
Sn or Au over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +105 °C
Voltage Rating:
Power:
600 VAC/848 VDC
Signal:
450 VAC/636 VDC
Standard Creepage:
(2.86 mm) .113"
(without -LC, power)
MPTC: (2.59 mm) .101"
(with -LC, power)
MPSC: (2.60 mm) .102"
(with -LC, power)
Standard Clearance:
MPTC: (2.72 mm) .107"
(without -LC, power)
(1.84 mm) .072"
(with -LC, power)
MPSC: (2.71 mm) .106"
(without -LC, power)
(1.85 mm) .073"
(with -LC, power)
RoHS Compliant:
Yes
Lead–Free Solderable:
Yes

MPTC-RA/MPSC-RA	
POWER PINS	CURRENT RATING (PER CONTACT)
1	28.8 A
2	24.7 A
3	24.1 A
4	22.3 A
–T PLATING	

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

Note: Some sizes, styles and options are non-standard, non-returnable.

MPTC – PWR PINS – SIG PINS – PWR PINS – 01 – TAIL LENGTH – PLATING OPTION – RA – OTHER OPTION

PWR PINS: –01, –02 = Power Pins Per End

SIG PINS: –24 = Total Signal Pins; –80 = Total Signal Pins

PWR PINS: –01, –02 = Power Pins Per End

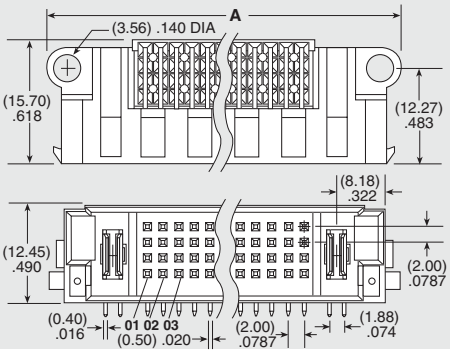
Note: Available standard power pin combinations: MPTC-01-XX-01 or MPTC-02-XX-02.

TAIL LENGTH: –01 = Use with (1.60 mm) .062" Thick PCB; –03 = Use with (2.36 mm) .093" Thick PCB

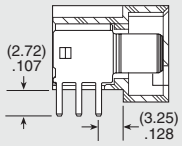
PLATING OPTION: –L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail (Power & Signal); –T = Matte Tin on contacts and tail (Power), Gold on contact, Matte Tin on tail (Signal)

RA

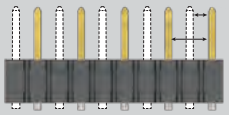
OTHER OPTION: –SD or –LC is a required callout; –SD = Screw Down; –LC = Locking Clip (Manual placement required)



POWER PINS/END	A	
	24 SIGNAL PINS	80 SIGNAL PINS
–01	(35.25) 1.388	(63.25) 2.490
–02	(45.25) 1.781	(73.25) 2.884



CREEPAGE AND CLEARANCE



Selectively loading contacts achieves customer specific creepage and clearance requirements.
Contact asp@samtec.com

MPSC – PWR PINS – SIG PINS – PWR PINS – 01 – TAIL LENGTH – PLATING OPTION – RA – OTHER OPTION

PWR PINS: –01, –02 = Power Pins Per End

SIG PINS: –24 = Total Signal Pins; –80 = Total Signal Pins

PWR PINS: –01, –02 = Power Pins Per End

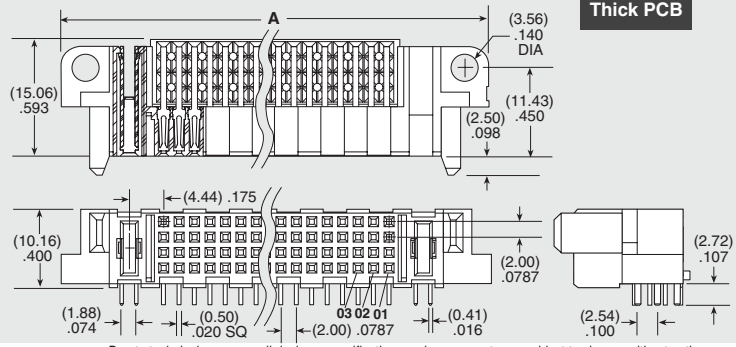
Note: Available standard power pin combinations: MPSC-01-XX-01 or MPSC-02-XX-02.

TAIL LENGTH: –01 = Use with (1.60 mm) .062" Thick PCB; –03 = Use with (2.36 mm) .093" Thick PCB

PLATING OPTION: –L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail (Power & Signal); –T = Matte Tin on contacts and tail (Power), Gold on contact, Matte Tin on tail (Signal)

RA

OTHER OPTION: –SD or –LC is a required callout; –SD = Screw Down; –LC = Locking Clip (Manual placement required)



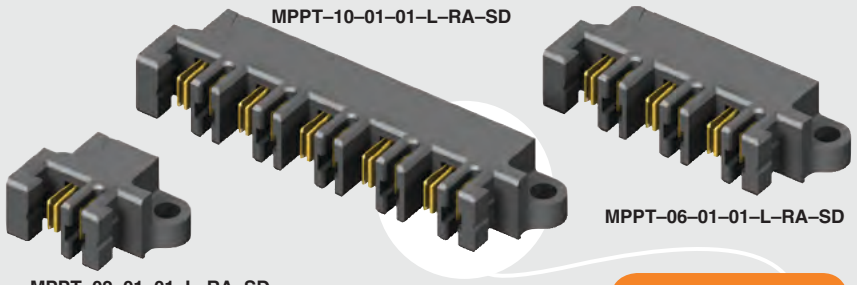
POWER PINS/END	A	
	24 SIGNAL PINS	80 SIGNAL PINS
–01	(36.52) 1.438	(64.52) 2.540
–02	(46.52) 1.831	(74.52) 2.934

Due to technical progress, all designs, specifications and components are subject to change without notice.

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samtec

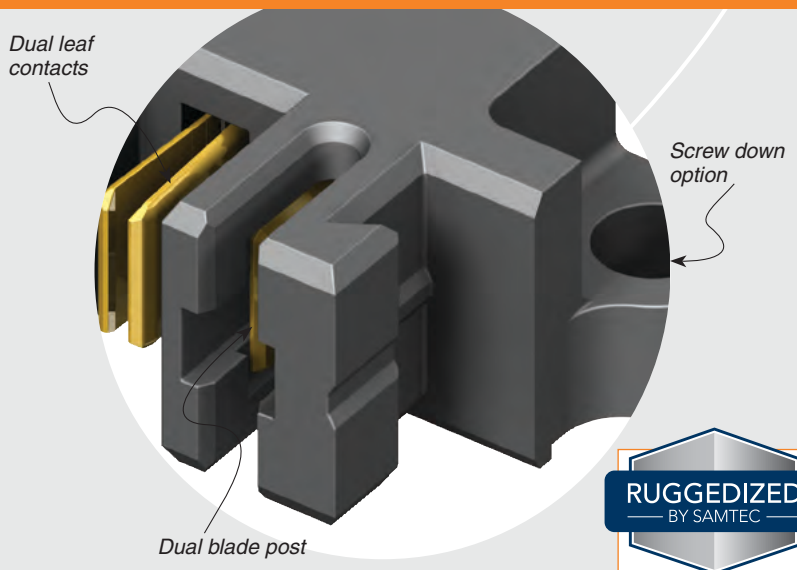
POWER STRIP 30



(5.00 mm) .1969"

MPPT SERIES

HERMAPHRODITIC 30 A POWER SYSTEM



RUGGEDIZED BY SAMTEC
• Screw down option

SPECIFICATIONS

Mates with: MPPT

For complete specifications see www.samtec.com?MPPT

Insulator Material: Black LCP
Terminal Material: Copper Alloy
Plating: Sn or Au over 50 µ" (1.27 µm) Ni
Operating Temp Range: -55 °C to +105 °C with Tin; -55 °C to +125 °C with Gold
Voltage Rating: 600 VAC/848 VDC
Standard Creepage: (2.95 mm) .116"
Standard Clearance: (2.71 mm) .106"
RoHS Compliant: Yes
Lead–Free Solderable: Yes

MPPT/MPPT	
POWER PINS	CURRENT RATING (PER CONTACT)
1	23.3 A
2	20.5 A
3	19.4 A
4	18.4 A
10	17.2 A

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

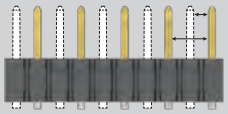
FILE NO. E111594

ALSO AVAILABLE (MOQ Required)

- Locking Clip (Manual placement required)
- Solder Leads for (2.36 mm) .093" thick board

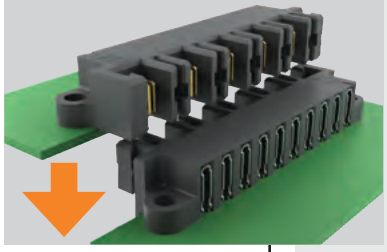
MPPT	–	NO. OF POSITIONS	–	01	–	TAIL LENGTH	–	PLATING	–	RA	–	SD	–	OPTION
		–02, –04, –06, –08, –10				–01 = (1.60 mm) .062" Thick PCB		–L =10 µ" (0.25 µm) Gold on contact, Matte Tin on tail –T = Matte Tin				–SD = Screw Down		–TR = Tape & Reel

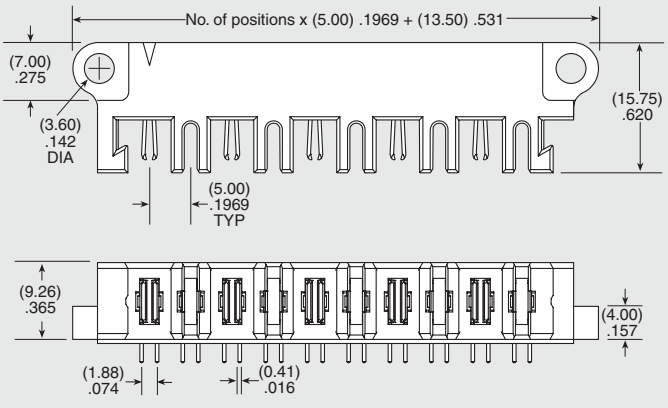
CREEPAGE AND CLEARANCE



Selectively loading contacts achieves customer specific creepage and clearance requirements.
Contact asp@samtec.com

APPLICATION





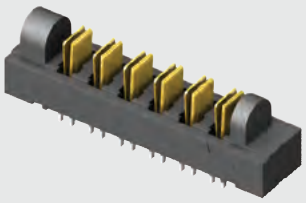
Note: Some sizes, styles and options are non-standard, non-returnable.

Due to technical progress, all designs, specifications and components are subject to change without notice.

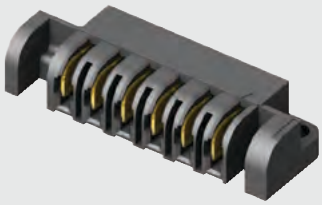
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POWER STRIP 30



FMPT–06–01–L–S–V



FMPS–06–01–L–S–RA–SD

(5.00 mm) .1969"

FMPS, FMPT SERIES

"HINGING" 30 A POWER HEADER & SOCKET

SPECIFICATIONS

For complete specifications see www.samtec.com?FMPS or www.samtec.com?FMPT

Insulator Material: Black LCP
Terminal Material: Copper Alloy
Plating: Sn or Au over 50 µ" (1.27 µm) Ni
Operating Temp Range: -55 °C to +105 °C with Tin; -55 °C to +125 °C with Gold
Voltage Rating: 525 VAC/742 VDC
Standard Creepage: FMPS: (3.67 mm) .144" FMPT: (6.53 mm) .257"
Standard Clearance: (2.71 mm) .106"
RoHS Compliant: Yes
Lead–Free Solderable: Yes

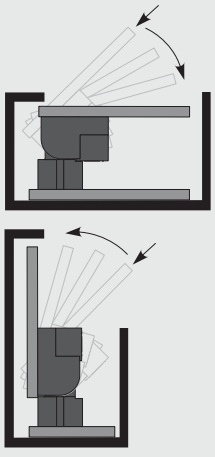
FMPT/FMPS	
PINS	CURRENT RATING (PER CONTACT)
1	26.7 A
2	22.9 A
3	19.1 A
4	17.6 A
8	15.8 A
–L PLATING	

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

APPLICATION



Ideal for blind mating applications.

Note: Some sizes, styles and options are non-standard, non-returnable.

FMPS	–	NO. OF POSITIONS	–	01	–	PLATING OPTION	–	S	–	RA	–	OPTION

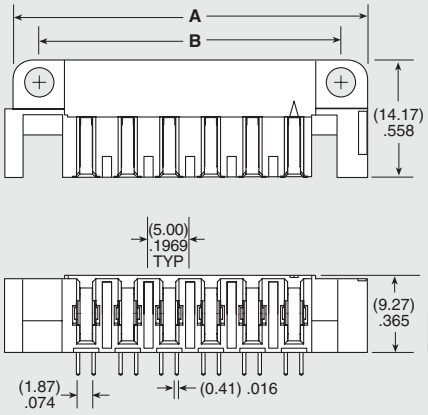
02, 04, 06, 08
(Standard sizes)

–L
= 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

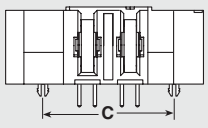
–T
= Matte Tin

–SD
= Screw Down
(Not Available with –LC)

–LC
= Locking Clip
(Manual placement required)
(Not Available with –SD)



–SD OPTION
(6 POSITIONS SHOWN)



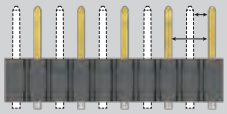
–LC OPTION
(2 POSITIONS SHOWN)

NUMBER OF POSITIONS	A	B	C
–02	(22.63) .891	(16.28) .641	(15.63) .615
–04	(32.63) 1.285	(26.28) 1.035	(25.63) 1.009
–06	(42.63) 1.678	(36.28) 1.428	(35.63) 1.403
–08	(52.63) 2.072	(46.28) 1.822	(45.63) 1.796

ALSO AVAILABLE
(MOQ Required)

- Other sizes

CREEPAGE AND CLEARANCE



Selectively loading contacts achieves customer specific creepage and clearance requirements.
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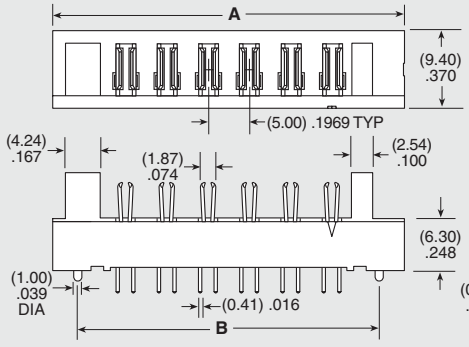
FMPT	–	NO. OF POSITIONS	–	01	–	PLATING OPTION	–	S	–	V	–	OPTION

02, 04, 06, 08
(Standard sizes)

–L
= 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

–T
= Matte Tin

–LC
= Locking Clip
(Manual placement required)



–LC

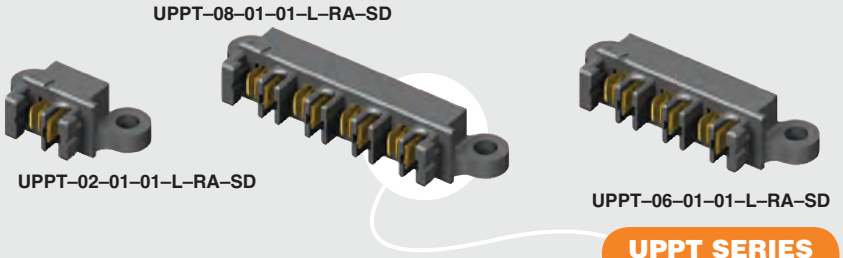
NUMBER OF POSITIONS	A	B
–02	(22.63) .891	(16.53) .651
–04	(32.63) 1.285	(26.53) 1.044
–06	(42.63) 1.678	(36.53) 1.438
–08	(52.63) 2.072	(46.53) 1.832

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POWER STRIP 20



(3.81 mm) .150"

UPPT SERIES

HERMAPHRODITIC 20 A POWER SYSTEM

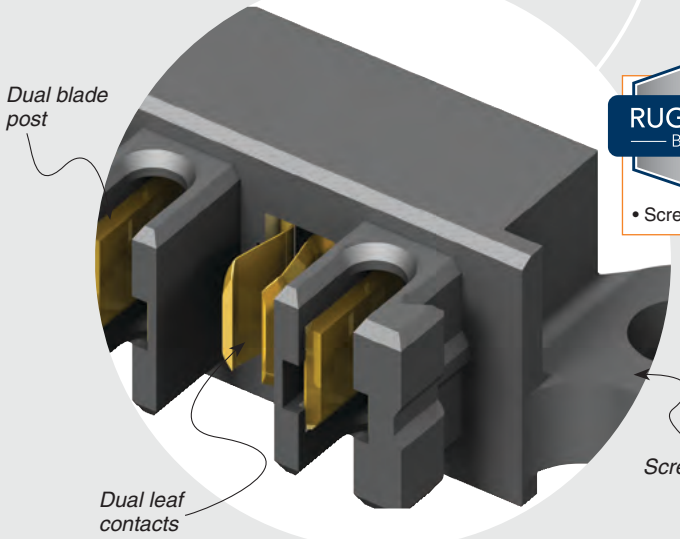
SPECIFICATIONS

Mates with:
UPPT

For complete specifications see www.samtec.com?UPPT

Insulator Material:
Black LCP
Terminal Material:
Copper Alloy
Plating:
Sn or Au over 50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +105 °C with Tin;
-55 °C to +125 °C with Gold
Voltage Rating:
425 VAC/600 VDC
Standard Creepage:
(1.91 mm) .075"
Standard Clearance:
(1.51 mm) .059"
RoHS Compliant:
Yes
Lead–Free Solderable:
Yes

UPPT/UPPT	
PINS	CURRENT RATING (PER CONTACT)
1	21.4 A
2	19.8 A
3	17.1 A
4	16.9 A
8	14.1 A



RUGGEDIZED BY SAMTEC

• Screw down option

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

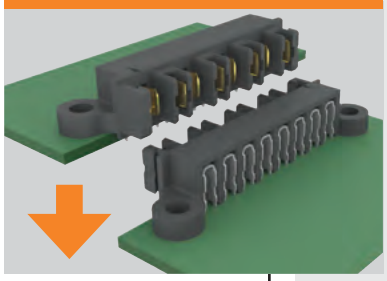
FILE NO. E111594

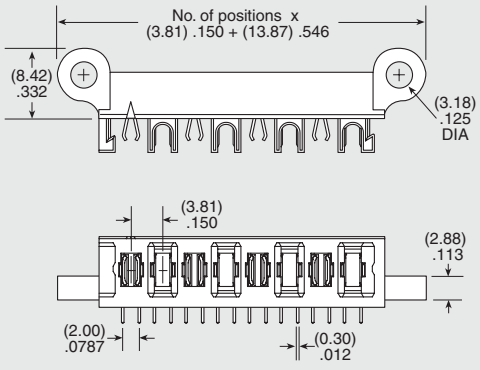
ALSO AVAILABLE (MOQ Required)

- Solder Leads for (2.36 mm) .093" thick board
- Locking Clip (Manual placement required)
- Tape & Reel Packaging

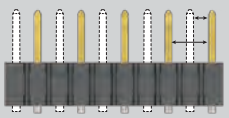
UPPT	–	NO. OF POSITIONS	–	01	–	TAIL LENGTH	–	PLATING	–	RA	–	SD
		–02, –04, –06, –08				–01 = (1.60 mm) .062" Thick PCB		–L =10 µ" (0.25 µm) Gold on contact, Matte Tin on tail –T = Matte Tin				

APPLICATION





CREEPAGE AND CLEARANCE



Selectively loading contacts achieves customer specific creepage and clearance requirements.

Contact asp@samtec.com

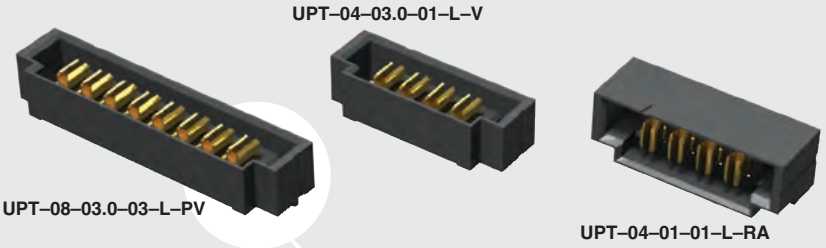
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POWER STRIP 20



(3.81 mm) .150"

UPT SERIES

DUAL BLADE 20 A POWER HEADER

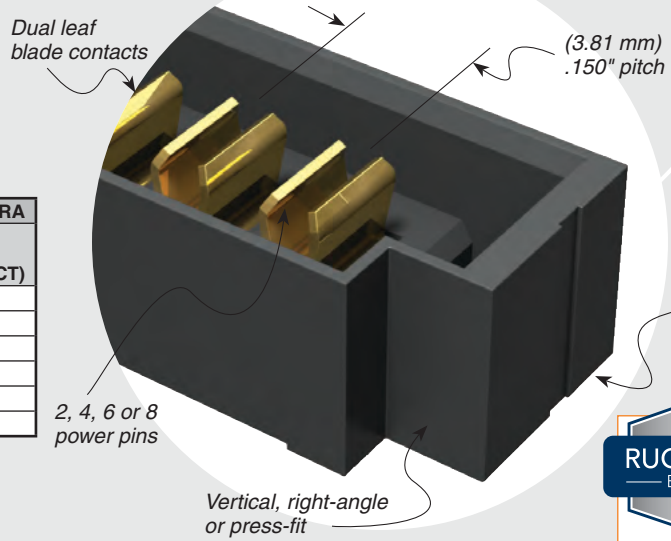
SPECIFICATIONS

Mates with:
UPS

For complete specifications see www.samtec.com?UPT

Insulator Material:
Black LCP
Terminal Material:
BeCu
Plating:
Sn or Au over 50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +105 °C with Tin;
-55 °C to +125 °C with Gold
Voltage Rating:
438 VAC/620 VDC
Standard Creepage:
(5.5 mm) .217" (with -V)
(2.97 mm) .117" (with -RA)
Standard Clearance:
(1.51 mm) .059")
RoHS Compliant:
Yes
Lead–Free Solderable:
Yes

PINS	UPT-V/UPS-V CURRENT RATING (PER CONTACT)	UPT-RA/UPS-RA CURRENT RATING (PER CONTACT)
1	23 A	23.5 A
2	18.6 A	20.1 A
3	17.5 A	16.9 A
4	16.7 A	15.5 A
8	14 A	13.3 A
-L PLATING		



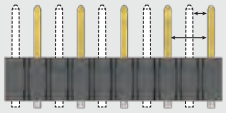
RUGGEDIZED BY SAMTEC
• Locking clip option

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

CREEPAGE AND CLEARANCE



Selectively loading contacts achieves customer specific creepage and clearance requirements.
Contact asp@samtec.com

ALSO AVAILABLE (MOQ Required)

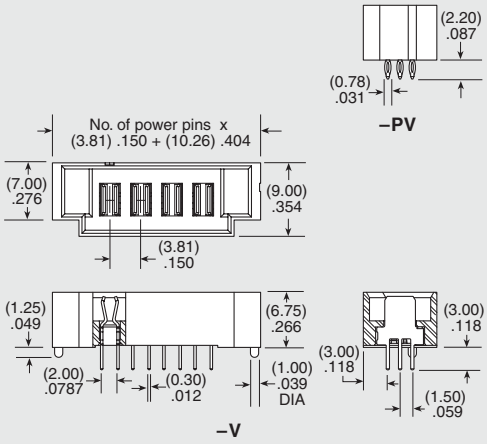
- Solder leads for (2.36 mm) .093" thick board

TOOLING

Press-fit tooling available.

Note:
Some sizes, styles and options are non-standard, non-returnable.

UPT	POWER PINS	LEAD STYLE	TAIL LENGTH	PLATING OPTION	TAIL	OTHER OPTION
	–02, –04, –06, –08	–01 = RA only –03.0 = (03.0 mm) .118" (–V & –PV only)	–01 = Use with (1.60 mm) .062" Thick PCB (–V & –RA only) –03 = Use with (1.60 mm) .062" Thick PCB (–PV only)	–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail –T = Matte Tin (–RA option only)	–V = Vertical (Not available with –T plating) –RA = Right-angle –PV = Press-fit, Vertical	–LC = Locking Clip (Manual placement required) Not available with –PV option



MATED HEIGHT*		
UPT LEAD STYLE	UPS LEAD STYLE –04.0	UPS LEAD STYLE –07.0
–03.0	(7.00) .276	(10.00) .394

*Processing conditions will affect mated height.

Due to technical progress, all designs, specifications and components are subject to change without notice.

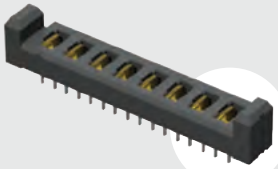
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POWER™ STRIP 20



UPS–04–01–01–L–RA–LC



UPS–08–04.0–01–L–V



UPS–04–07.0–03–L–PV

(3.81 mm) .150"

UPS SERIES

DUAL LEAF 20 A POWER SOCKET

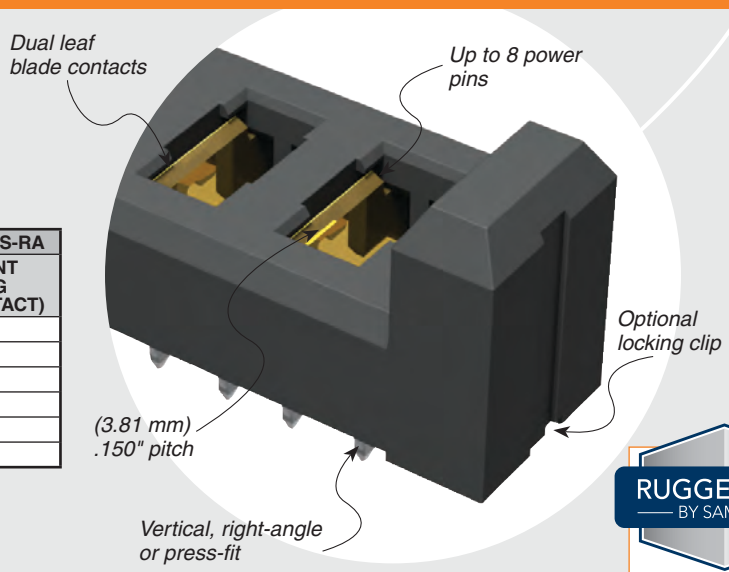
SPECIFICATIONS

For complete specifications see www.samtec.com?UPS

Insulator Material:
Black LCP
Contact Material:
BeCu
Plating:
Sn or Au over 50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +105 °C with Tin;
-55 °C to +125 °C with Gold
Voltage Rating:
375 VAC/530 VDC
Standard Creepage:
(5.8 mm) .228" (with –V)
(2.97 mm) .117" (with –RA)
Standard Clearance:
(1.51 mm) .059"
RoHS Compliant:
Yes
Lead–Free Solderable:
Yes

Mates with:
UPT

PINS	UPT-V/UPS-V CURRENT RATING (PER CONTACT)	UPT-RA/UPS-RA CURRENT RATING (PER CONTACT)
1	23 A	23.5 A
2	18.6 A	20.1 A
3	17.5 A	16.9 A
4	16.7 A	15.5 A
8	14 A	13.3 A
-L PLATING		



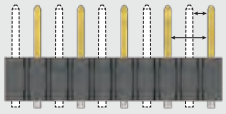
RUGGEDIZED BY SAMTEC
• Locking clip option

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

CREEPAGE AND CLEARANCE



Selectively loading contacts achieves customer specific creepage and clearance requirements.
Contact asp@samtec.com

ALSO AVAILABLE (MOQ Required)

- Solder leads for (2.36 mm) .093" thick board

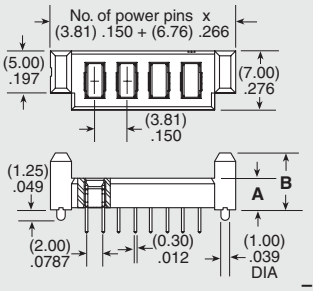
TOOLING

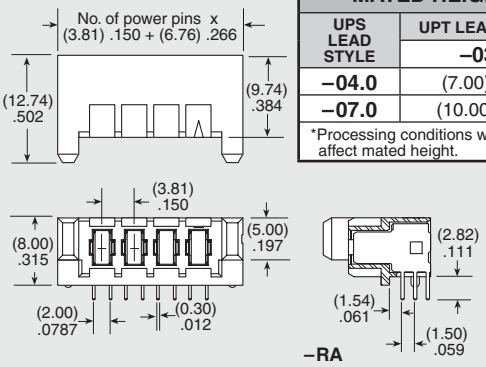
Press-fit tooling available.

Note:
Some sizes, styles and options are non-standard, non-returnable.

UPS	POWER PINS	LEAD STYLE	TAIL LENGTH	PLATING OPTION	TAIL	OTHER OPTION
	–02, –04, –06, –08	–01 = RA only –04.0 = (04.0 mm) .157" (–V & –PV only) –07.0 = (07.0 mm) .276" (–V & –PV only)	–01 = Use with (1.60 mm) .062" Thick PCB (–V & –RA only) –03 = Use with (1.60 mm) .062" Thick PCB (–PV only)	–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail –T = Matte Tin (–RA option only)	–V = Vertical (Not available with –T plating) –RA = Right-angle –PV = Press-fit, Vertical	–LC = Locking Clip (Manual placement required) Not available with –PV option

LEAD STYLE	A	B
–04.0	(3.75) .148	(6.75) .266
–07.0	(6.75) .266	(9.75) .384





MATED HEIGHT*		
UPS LEAD STYLE	UPT LEAD STYLE –03.0	
–04.0	(7.00) .276	
–07.0	(10.00) .394	

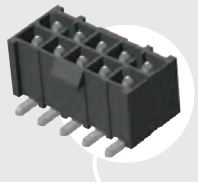
*Processing conditions will affect mated height.

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POWERMATE®

IPBT–105–H2–T–D–K





IPBT–105–H1–T–D–GP

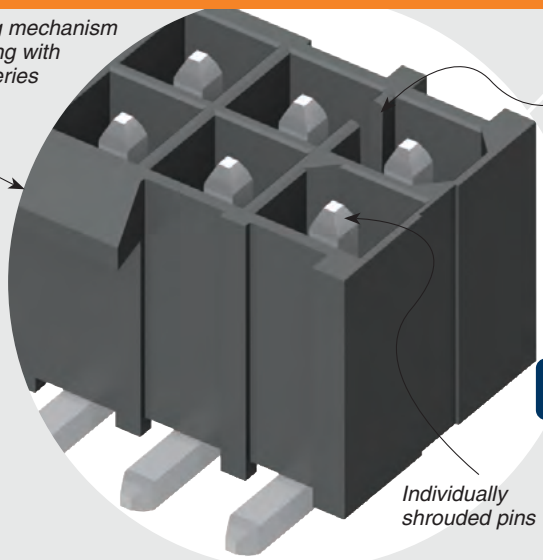
IPBT–108–H1–T–D–RA–K



(4.19 mm) .165"

IPBT SERIES

ISOLATED TERMINAL POWER HEADER



RUGGEDIZED BY SAMTEC

- Individually shrouded contacts
- Polarized guide post hole option

SPECIFICATIONS

For complete specifications see www.samtec.com?IPBT

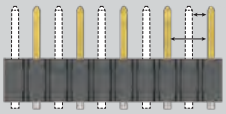
Insulator Material: Black Liquid Crystal Polymer
Contact Material: High Copper Alloy
Plating: Sn over 50 µ" (1.27 µm) Ni
Operating Temp Range: -55 °C to +105 °C
Voltage Rating: 400 VAC/565 VDC
Standard Creepage: (3.66 mm) .144" (-S) (3.63 mm) .143" (-D)
Standard Clearance: (3.05 mm) .120"
RoHS Compliant: Yes
Lead–Free Solderable: Yes

IPBT/IPBS	
PINS POWERED	CURRENT RATING (PER CONTACT)
2	10.3 A
4	8.4 A
6	7.6 A
8	7.1 A
30	6.0 A

Board Mates: IPBS

Cable Mates: PMSD, PMSS

CREEPAGE AND CLEARANCE



Selectively loading contacts achieves customer specific creepage and clearance requirements.

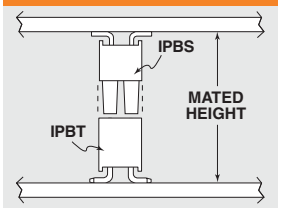
Contact asp@samtec.com

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

APPLICATION



IPBT/IPBS LEAD STYLE	MATED HEIGHT*
H1/–01	(15.25) .600
–H2/–02	(16.84) .663
*Processing conditions will affect mated height.	

ALSO AVAILABLE (MOQ Required)

- Other sizes
- Other lead styles

Note: Some lengths, styles and options are non-standard, non-returnable.

ORDERING INFORMATION

IPBT – 1 – NO. OF POSITIONS PER ROW – LEAD STYLE – PLATING OPTION – ROW OPTION – OPTION

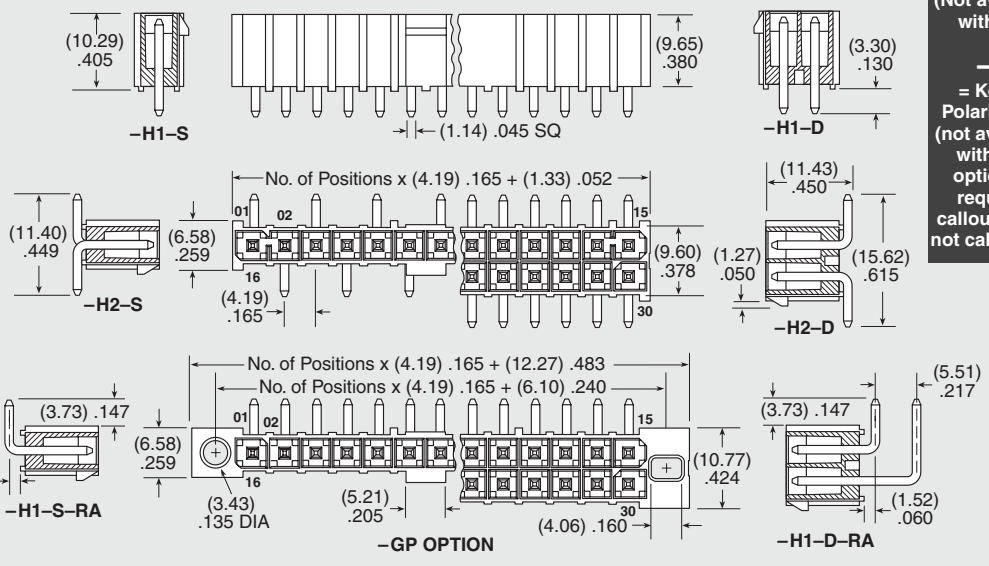
NO. OF POSITIONS PER ROW
02, 03, 04, 05, 08, 10, 15 (–D only)
02, 03, 04, 05, 08, 10 (–S only)
(Standard sizes)

LEAD STYLE
–H1 = Through-hole
–H2 = Surface Mount

PLATING OPTION
–T = Matte Tin

ROW OPTION
–S = Single Row
–D = Double Row

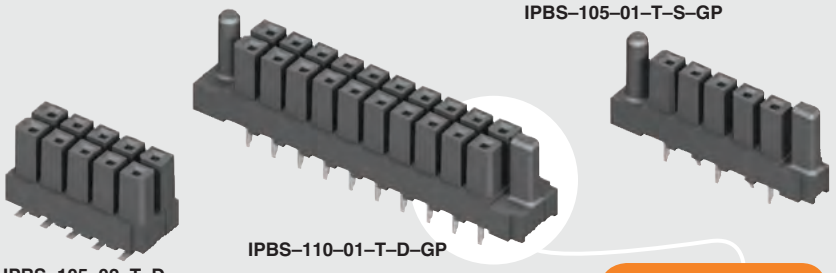
OPTION
–RA = Right-angle (Lead Style –H1 only)
–GP = Guide Post Holes (Not available with –K)
–K = Keyed Polarization (not available with -GP option, is required callout if -GP not called out)



samtec

POWERMATE®

(4.19 mm) .165"



IPBS SERIES

ISOLATED CONTACT POWER SOCKET

SPECIFICATIONS

For complete specifications see www.samtec.com?IPBS

Insulator Material:
Black Liquid Crystal Polymer
Contact Material:
Phosphor Bronze
Plating:
Sn over 50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +105 °C
Insertion Depth:
(6.15 mm) .242" to
(7.24 mm) .285"
Wiping Distance:
(0.38 mm) .015" min.
Voltage Rating:
400 VAC/565 VDC
Standard Creepage:
(4.27 mm) .168" (-S)
(1.68 mm) .066" (-D)
Standard Clearance:
(2.16 mm) .085" (-S)
(1.14 mm) .045" (-D)
RoHS Compliant:
Yes
Lead–Free Solderable:
Yes

IPBT/IPBS	
PINS POWERED	CURRENT RATING (PER CONTACT)
2	10.3 A
4	8.4 A
6	7.6 A
8	7.1 A
30	6.0 A

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

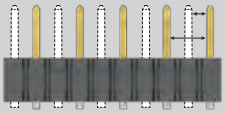
ALSO AVAILABLE
(MOQ Required)

- Other sizes

Note:
Some lengths, styles and options are non-standard, non-returnable.

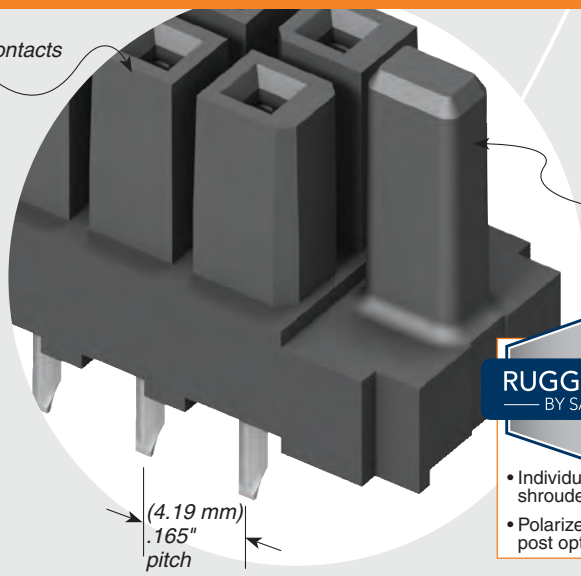
Mates with:
IPBT

CREEPAGE AND CLEARANCE



Selectively loading contacts achieves customer specific creepage and clearance requirements.

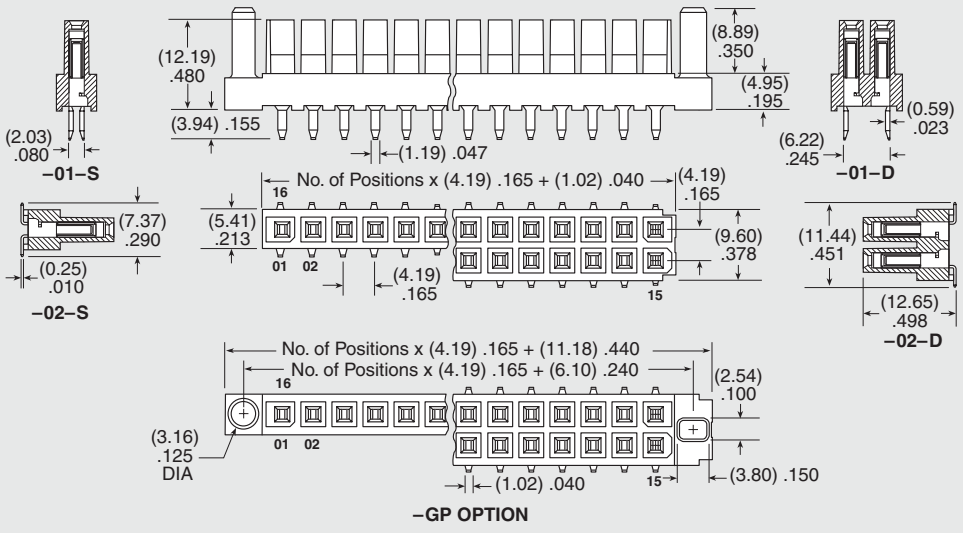
Contact asp@samtec.com



RUGGEDIZED BY SAMTEC

- Individually shrouded contacts
- Polarized guide post option

IPBS	1	NO. OF POSITIONS PER ROW	LEAD STYLE	PLATING OPTION	ROW OPTION	OPTION
		02, 03, 04, 05, 08, 10, 15 (–D only) 02, 03, 04, 05, 08, 10 (–S only) (Standard sizes)	–01 = Standard Power –02 = Standard Power Surface Mount	–T = Matte Tin	–S = Single Row –D = Double Row	–GP = Guide Post



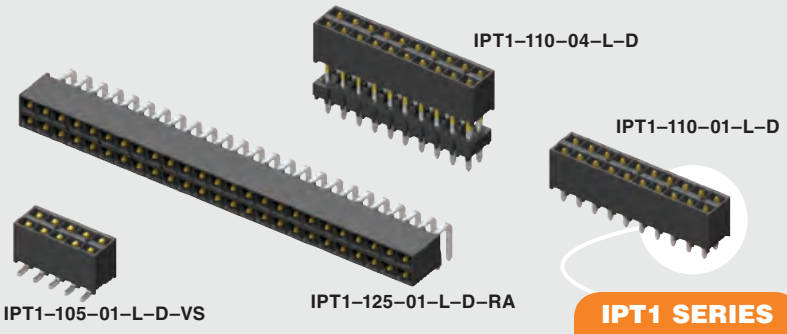
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samtec

miniMATE®

(2.54 mm) .100"



IPT1 SERIES

SHROUDED POWER CONNECTOR SET

SPECIFICATIONS

For complete specifications see www.samtec.com?IPT1

Insulator Material: Black LCP
Contact Material: Phosphor Bronze
Plating: Sn or Au over 50 µ" (1.27 µm) Ni
Operating Temp Range: -55 °C to +105 °C with Tin; -55 °C to +125 °C with Gold
Insertion Depth: (3.81 mm) .150" to (6.48 mm) .255"
Wiping Distance: (0.38 mm) .015"
Voltage Rating: 775 VAC/1095 VDC
Standard Creepage: (2.49 mm) .098" (without -LC) (1.28 mm) .050" (with -LC)
Standard Clearance: (1.91 mm) .075" (without -LC) (0.91 mm) .036" (with -LC)
RoHS Compliant: Yes

IPT1/IPS1	
PINS	CURRENT RATING (PER CONTACT)
1	5.9 A
2	4.8 A
3	4.1 A
4	3.6 A
50	2.3 A

PROCESSING

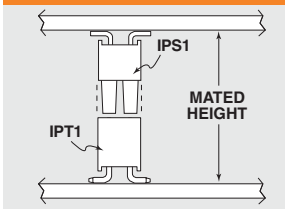
Lead-Free Solderable: Yes
SMT Lead Coplanarity:
(0.13 mm) .005" max (05-10)*
(0.15 mm) .006" max (15-25)*
*(.004" stencil solution may be available; contact IPG@samtec.com)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

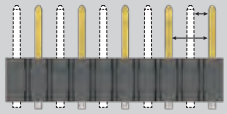
APPLICATION



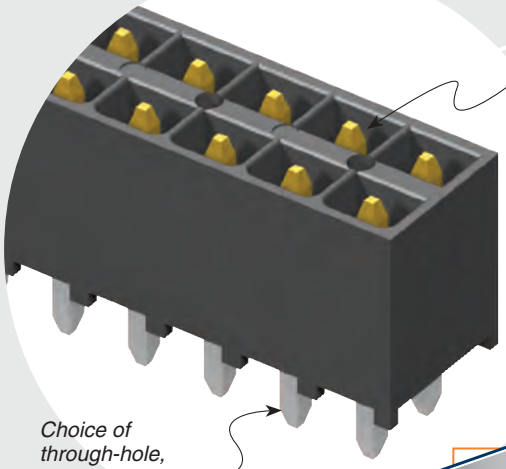
Note:
Some sizes, styles and options are non-standard, non-returnable.

Mates with:
IPS1

CREEPAGE AND CLEARANCE



Selectively loading contacts achieves customer specific creepage and clearance requirements.
Contact asp@samtec.com



RUGGEDIZED BY SAMTEC

- Individually shrouded contacts
- Locking clip option

IPT1	–	1	NO. PINS PER ROW	–	LEAD STYLE	–	PLATING OPTION	–	D	–	TAIL OPTION	–	OTHER OPTION

05, 10, 15, 20, 25
(Standard sizes)

Specify LEAD STYLE from chart

–L
= 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

Requires –01 Lead Style (Leave blank for Through-hole)

–RA
= Right-angle

–VS
= Surface Mount

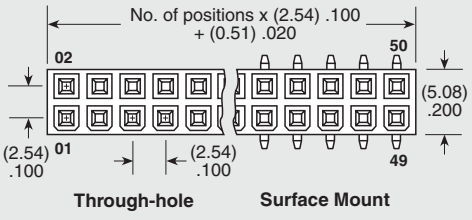
–A
= Alignment Pin (–VS only) (N/A with -LC)

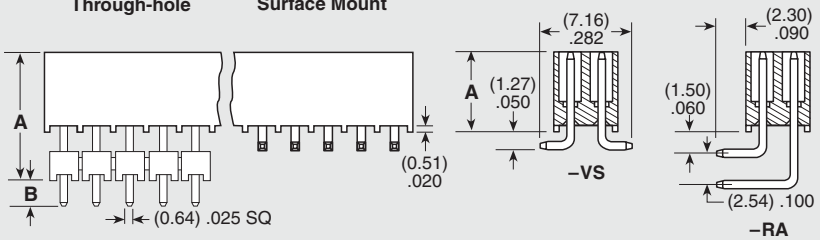
–LC
= Locking Clip (Manual placement required) (–VS only) (N/A with -A)

–K
= (6.00 mm) .236" DIA Polyimide film Pick & Place Pad (–VS only)

–TR
= Tape & Reel Packaging (–VS only)

LEAD STYLE	MATED HEIGHT	A	B
–01	(11.05) .435	(6.35) .250	(2.16) .085
-01-VS	(13.59) .535	(6.35) .250	N/A
–02	(14.00) .551	(9.30) .366	(2.64) .104
–03	(16.00) .630	(11.30) .445	(2.16) .085
–04	(17.00) .669	(12.30) .484	(2.69) .106
–05	(19.00) .748	(14.30) .563	(2.46) .097
–06	(20.00) .787	(15.30) .602	(2.35) .093
–07	(25.00) .984	(20.30) .799	(2.31) .091
–08	(30.00) 1.181	(25.30) .996	(2.39) .094
–09	(35.00) 1.378	(30.30) 1.193	(2.46) .097





ALSO AVAILABLE (MOQ Required)

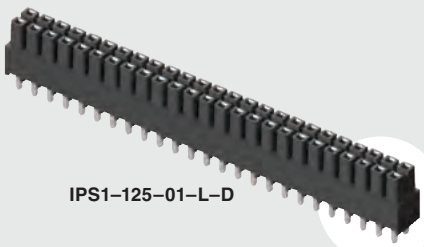
- Other sizes
- Other platings
- Latching feature
- No. 1 position polarized

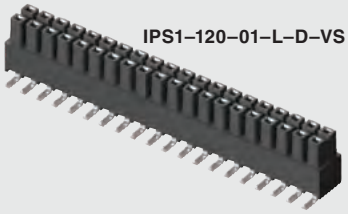
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samtec

miniMATE®





(2.54 mm) .100"

IPS1 SERIES

SHROUDED POWER CONNECTOR SET

SPECIFICATIONS

For complete specifications see www.samtec.com?IPS1

Insulator Material:
Black LCP
Contact Material:
Phosphor Bronze
Plating:
Sn or Au over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +105 °C with Tin;
-55 °C to +125 °C with Gold
Insertion Depth:
(3.81 mm) .150" to
(6.48 mm) .255"
Wiping Distance:
(0.38 mm) .015"
Voltage Rating:
775 VAC/1095 VDC
Standard Creepage:
(2.55 mm) .100" (without -LC)
(1.08 mm) .043" (with -LC)
Standard Clearance:
(1.75 mm) .069" (without -LC)
(0.62 mm) .024" (with -LC)
RoHS Compliant:
Yes

IPT1/IPS1	
PINS	CURRENT RATING (PER CONTACT)
1	5.9 A
2	4.8 A
3	4.1 A
4	3.6 A
50	2.3 A

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.13 mm) .005" max (05-10)*
(0.15 mm) .006" max (15-25)*
*(.004" stencil solution may be available; contact IPG@samtec.com)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

ALSO AVAILABLE
(MOQ Required)

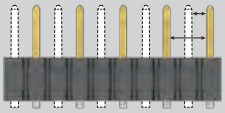
- Other sizes
- Other platings
- Latching feature
- No. 1 position polarized

Note:
Some sizes, styles and options are non-standard, non-returnable.

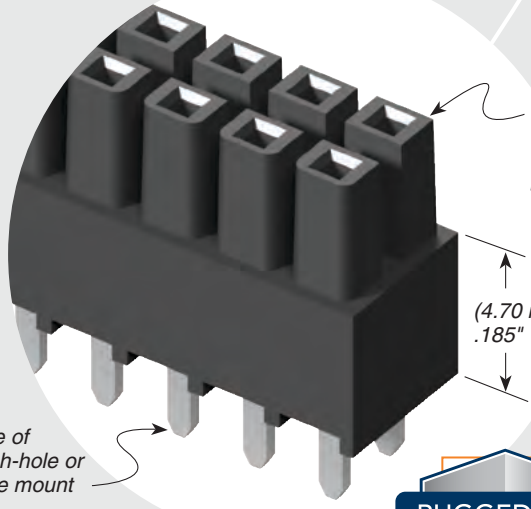
Mates with:
IPT1

TIGER BUY™ CONTACT

CREEPAGE AND CLEARANCE



Selectively loading contacts achieves customer specific creepage and clearance requirements.
Contact asp@samtec.com



RUGGEDIZED BY SAMTEC

- Individually shrouded contacts
- Locking clip option

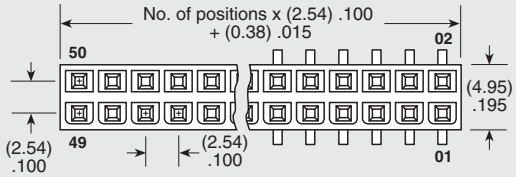
IPS1	–	1	NO. PINS PER ROW	–	01	–	PLATING OPTION	–	D	–	TAIL OPTION	–	OTHER OPTION

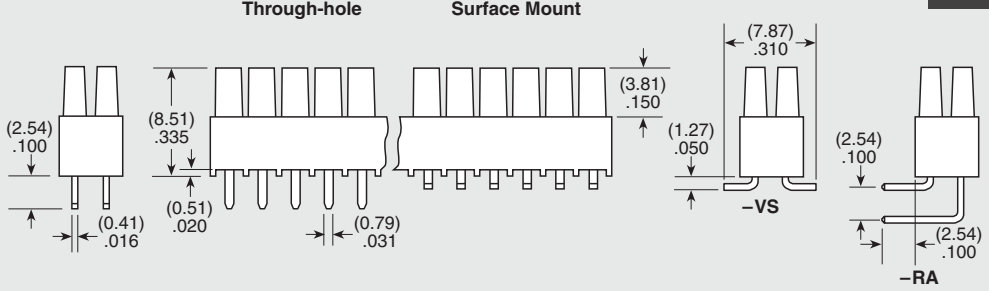
NO. PINS PER ROW: 05, 10, 15, 20, 25 (Standard sizes)

PLATING OPTION: –L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

TAIL OPTION: Leave blank for Through-hole; –VS = Surface Mount; –RA = Right-angle

OTHER OPTION: –LC = Locking Clip (Manual placement required) (–VS only); –K = (5.50 mm) .217" DIA Polyimide film Pick & Place Pad (–VS only); –TR = Tape & Reel Packaging (–VS only)

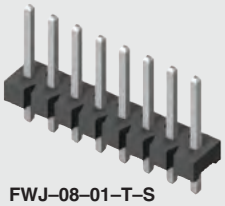




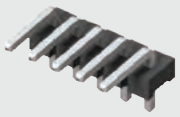
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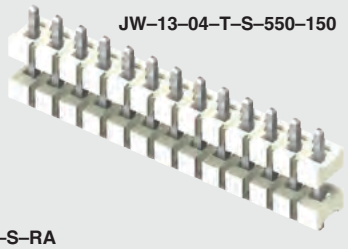
samtec



FWJ–08–01–T–S



FWJ–05–02–T–S–RA



JW–13–04–T–S–550–150

(3.96 mm) .156"

FWJ, HFWJ, JW SERIES

POWER HEADERS & BOARD STACKERS

Mates with:
FHP

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?FWJ, www.samtec.com?HFWJ or www.samtec.com?JW

Insulator Material:
FWJ = Black Glass Filled Polyester
HFWJ, JW = Natural Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Plating:
Sn over 50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +105 °C
Voltage Rating:
600 VAC/845 VDC
Standard Creepage:
FWJ: (2.82 mm) .111"
HFWJ, JW: (3.92 mm) .154"
Standard Clearance:
(2.82 mm) .111
RoHS Compliant:
Yes

PROCESSING

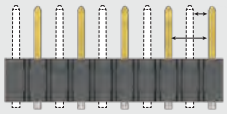
Lead–Free Solderable:
FWJ = Wave only
HFWJ, JW = Yes
SMT Lead Coplanarity:
(0.20 mm) .008" max (02-16)*
(0.25 mm) .010" max (17-24)*
*(.004" stencil solution may be available; contact IPG@samtec.com)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

CREEPAGE AND CLEARANCE



Selectively loading contacts achieves customer specific creepage and clearance requirements.

Contact asp@samtec.com

TYPE STRIP	NO. OF PINS	LEAD STYLE	PLATING OPTION	S	OTHER OPTION

FWJ = Standard Header

HFWJ = High Temp Header

FHP/HFWJ	
PINS	CURRENT RATING (PER CONTACT)
1	13.1 A
2	11.2 A
3	10.3 A
4	9.2 A
24	6.7 A

Note:
Some lengths, styles and options are non-standard, non-returnable.

–T = Matte Tin

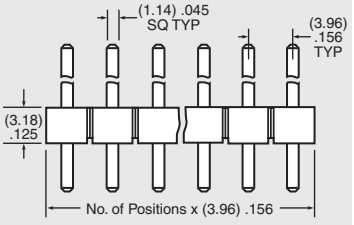
Leave blank for Through-hole

–RA = Right-angle (Style –02 & –04 only)

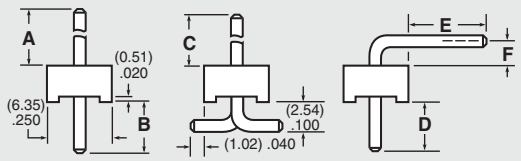
–VS = Surface Mount Requires HFWJ (2 pins/row minimum) Style –05 not available.

–P = Pick & Place Pad (3 Pos. min.) (6.98 mm) .275" min. post height (–VS only)

01 thru 24



Specify LEAD STYLE from chart below.



LEAD STYLE	A	B	C	D	E	F
–01	(11.43) .450	(4.45) .175	(10.46) .412	———	———	———
–02	(12.70) .500		(11.73) .462	(4.45) .175	(8.13) .320	(2.54) .100
–04	(20.55) .809	(3.96) .156	(19.10) .752	(3.96) .156	(13.56) .534	(4.95) .195
* –05	(3.81) .150	(12.07) .475	———	———	———	———

*FWJ Only

JW	NO. OF PINS	04	PLATING OPTION	S	STACK HEIGHT	POST HEIGHT	OTHER OPTION

–T = Matte Tin

–"XXX" = Stacker Height (in inches) (0.13 mm) .005" increments
Example: –250 = (6.35 mm) .250"

–"XXX" = Post Height (in inches)

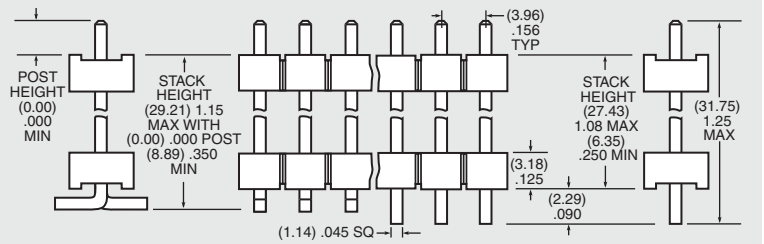
Note:
This Series is non-standard, non-returnable.

Leave blank for Through-hole

–VS = Surface Mount (2 pins/row minimum)

–P = Pick & Place Pad (3 Pos. min.) (6.98 mm) .275" min. post height (–VS only)

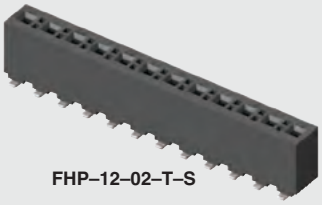
02 thru 24

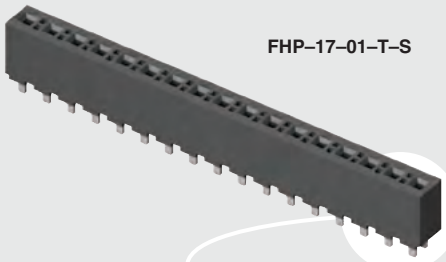


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samtec





(3.96 mm) .156"

FHP SERIES

POWER SOCKETS

SPECIFICATIONS

Mates with:
FWJ, HFWJ, JW

For complete specifications and recommended PCB layouts see www.samtec.com?FHP

Insulator Material:
Black LCP
Contact Material:
BeCu
Plating:
Sn over 50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +105 °C
Voltage Rating:
600 VAC/845 VDC
Insertion Depth:
(3.57 mm) .140" to
(8.76 mm) .345" or
pass-through from top
Wiping Distance:
(0.38 mm) .015"
Standard Creepage:
(1.74 mm) .069" (without -LC)
(0.89 mm) .035" (with -LC)
Standard Clearance:
(1.39 mm) .055" (without -LC)
(0.59 mm) .023" (with -LC)
RoHS Compliant:
Yes

FHP/HFWJ	
PINS	CURRENT RATING (PER CONTACT)
1	13.1 A
2	11.2 A
3	10.3 A
4	9.2 A
24	6.7 A

PROCESSING

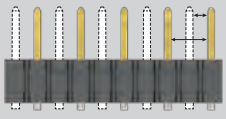
Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

CREEPAGE AND CLEARANCE

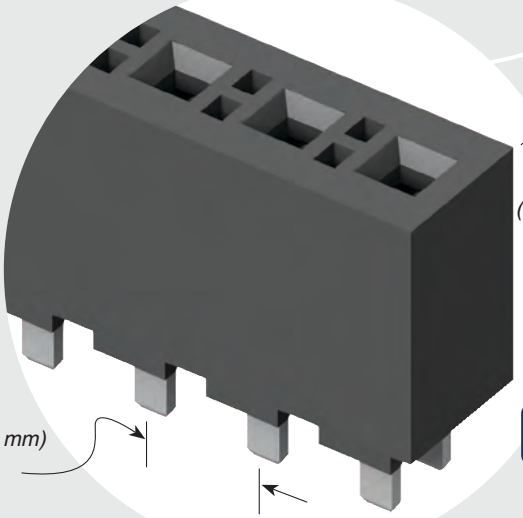


Selectively loading contacts achieves customer specific creepage and clearance requirements.
Contact asp@samtec.com

ALSO AVAILABLE (MOQ Required)

- Alignment pins

Note: Some lengths, styles and options are non-standard, non-returnable.



RUGGEDIZED BY SAMTEC

- Three-finger Power Eye contact
- Locking clip option

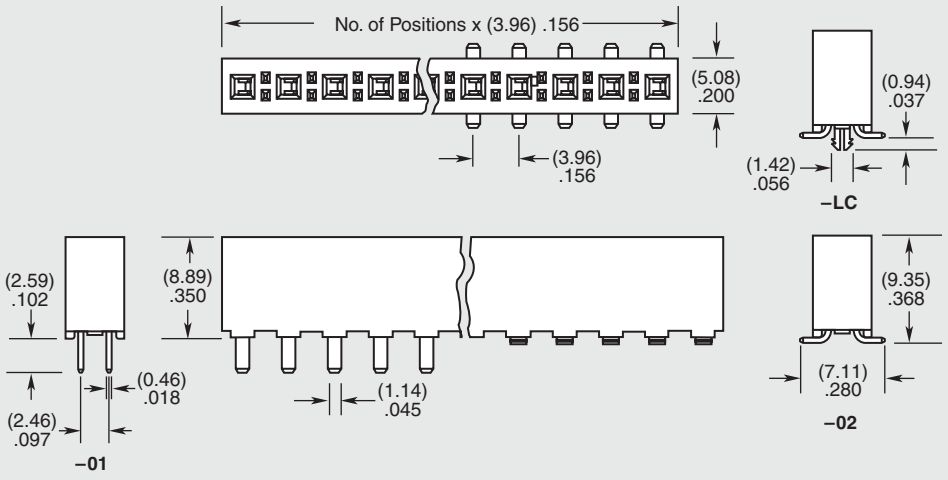
FHP	–	NO. OF PINS PER ROW	–	LEAD STYLE	–	PLATING OPTION	–	S	–	OTHER OPTION

NO. OF PINS PER ROW: 02 thru 24

LEAD STYLE:
–01 = Through-hole
–02 = Surface Mount

PLATING OPTION:
–T = Matte Tin

OTHER OPTION:
–LC = Locking Clip (Manual placement required) (–02 lead style only)
–K = (6.50 mm) .256" DIA Polyimide film Pick & Place Pad (2-4 positions require –TR) (–02 lead style only)
–TR = Tape & Reel Packaging (Available on positions 2-18) –02 lead style only

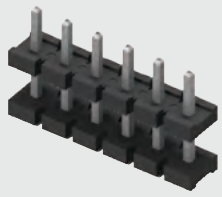


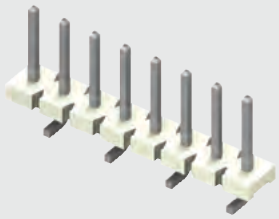
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samtec

HPM–08–01–T–S–VS







HPW–06–04–T–S–350–150

HPM–04–01–T–S

(5.08 mm) .200"

HPM, HPW SERIES

POWER HEADERS & BOARD STACKERS

HPM & HPW Mates with:
HPF

SPECIFICATIONS

For complete specifications see www.samtec.com?HPM or www.samtec.com?HPW

Insulator Material:
HPM = Glass Filled Polyester (Through-hole),
Natural Liquid Crystal Polymer (Surface Mount)
HPW = Liquid Crystal Polymer
Terminal Material:
Copper Alloy
Plating:
Sn over 50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +105 °C
Voltage Rating:
HPM = 850 VAC/1200 VDC
Standard Creepage:
(3.94 mm) .155"
Standard Clearance:
(3.94 mm) .155"
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
HPM Surface Mount = Yes
HPM TH & RA = Wave only
HPW = Yes
SMT Lead Coplanarity:
HPM = (0.20 mm) .008" max (02-15)*
HPM = (0.25 mm) .010" max (16-20)*
HPW = (0.20 mm) .008" max*
*(.004" stencil solution may be available; contact IPG@samtec.com)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

Note:
Some lengths, styles and options are non-standard, non-returnable.

TYPE STRIP	NO. PINS	LEAD STYLE	PLATING OPTION	S	TAIL OPTION	OTHER OPTION

HPM
= High Temp High Power Header

–T
= Matte Tin

Leave blank for Through-hole

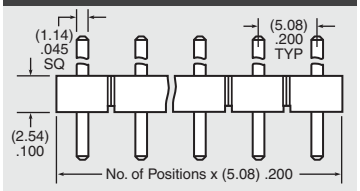
–RA
= Right-angle (-02 & -04 lead style only)

–VS
= Surface Mount (2 pins/row minimum) (-01 & -02 lead style only)

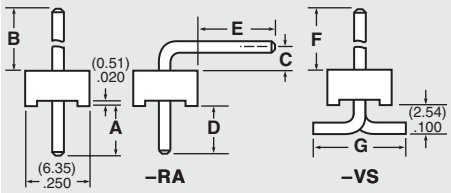
–P
= Pick & Place Pad (3 Pos. min.) (–VS only) (Not Available with -05 lead style)

HPF/HPM	
PINS	CURRENT RATING (PER CONTACT)
1	16.6 A
2	14.4 A
3	13.2 A
4	12.7 A
20	8.9 A

01 thru 20

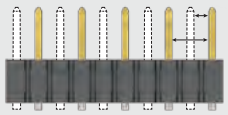


Specify LEAD STYLE from chart below.



LEAD STYLE	A	B	C	D	E	F	G
–01	(4.57) .180	(11.94) .470	____	____	____	(10.72) .422	(8.64) .340
–02	(4.57) .180	(13.21) .520	(2.54) .100	(4.57) .180	(8.08) .318	(12.24) .482	(8.38) .330
–04	(4.09) .161	(21.06) .829	(4.95) .195	(3.96) .156	(13.82) .544	____	____
–05	(4.57) .180	(3.81) .150	____	____	____	____	____

CREEPAGE AND CLEARANCE



Selectively loading contacts achieves customer specific creepage and clearance requirements.
Contact asp@samtec.com

TYPE STRIP	NO. PINS	04	PLATING OPTION	S	STACK HEIGHT	POST HEIGHT	TAIL OPTION

HPW
= High Temp High Power

–T
= Matte Tin

–"XXX"
= Stacker Height (in inches) (0.13 mm) .005" increments
Example: –250 = (6.35 mm) .250"

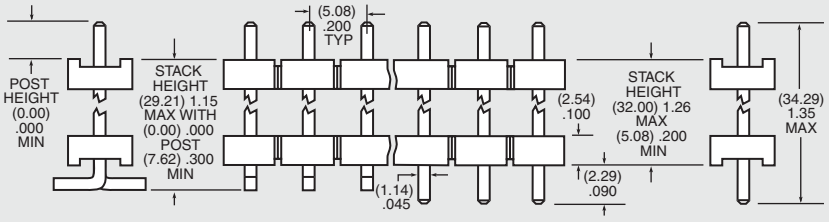
–"XXX"
= Post Height (in inches)

Leave blank for Through-hole

–VS
= Surface Mount (2 pins/row minimum)

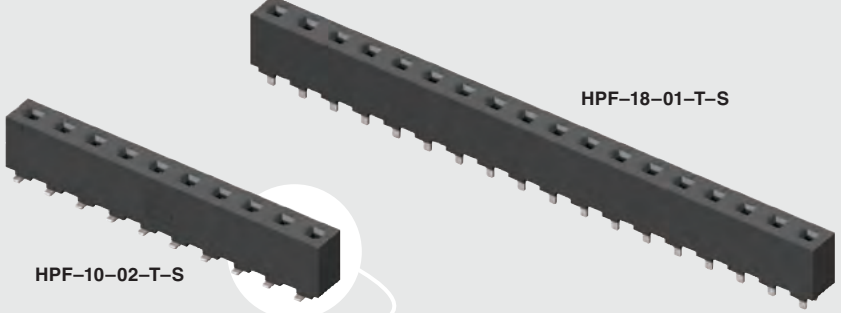
–P
= Pick & Place Pad (3 Pos. min.) (6.98 mm) .275" max. post height (–VS only)

02 thru 20



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(5.08 mm) .200"

HPF SERIES

POWER SOCKETS

SPECIFICATIONS

Mates with:
HPM, HPW

For complete specifications and recommended PCB layouts see www.samtec.com?HPF

Insulator Material:
Black LCP
Contact Material:
BeCu
Plating:
Sn over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +105 °C
Voltage Rating:
850 VAC/1200 VDC
Insertion Depth:
(3.68 mm) .145" to (8.26 mm) .325" (.368" (9.35 mm) plus board thickness minimum for bottom entry)
Wiping Distance:
(0.38 mm) .015"
Standard Creepage:
(2.82 mm) .111" (without -LC)
(1.38 mm) .054" (with -LC)
Standard Clearance:
(2.5 mm) .098" (without -LC)
(1.05 mm) .041" (with -LC)
Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.15 mm) .006" max (02-10)*
(0.20 mm) .008" max (11-20)*
*(.004" stencil solution may be available; contact IPG@samtec.com)
RoHS Compliant:
Yes

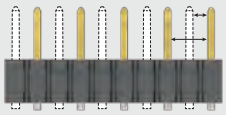
HPF/HPM	
PINS	CURRENT RATING (PER CONTACT)
1	16.6 A
2	14.4 A
3	13.2 A
4	12.7 A
20	8.9 A

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

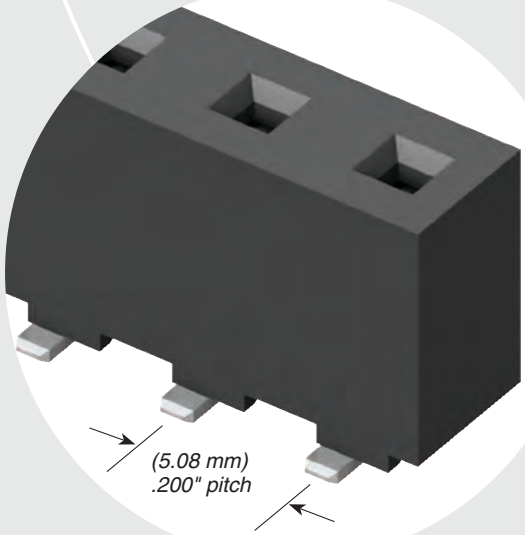
CREEPAGE AND CLEARANCE



Selectively loading contacts achieves customer specific creepage and clearance requirements.

Contact asp@samtec.com

Note:
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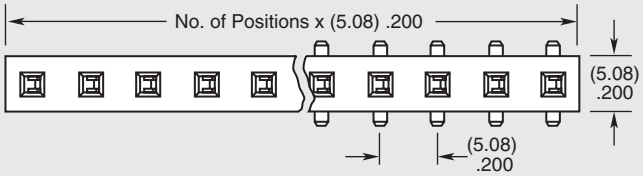


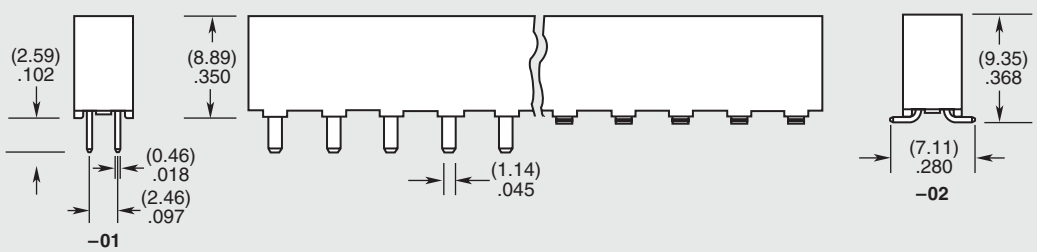
Surface Mount or Through-hole

RUGGEDIZED BY SAMTEC

- Three-finger Power Eye contact
- Locking clip option

HPF	–	NO. PINS PER ROW	–	LEAD STYLE	–	PLATING OPTION	–	S	–	OTHER OPTIONS
		02 thru 20		–01 = Through-hole –02 = Surface Mount		–T = Matte Tin				–LC = Locking Clip (Manual placement required) (Style –02 only) –K = (6.50 mm) .256" DIA Polyimide Film Pick & Place Pad –TR = Tape & Reel Packaging (14 positions maximum) (Style –02 only)





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RUGGED FEATURES & OPTIONS

Ruggedized Board-to-Board Interfaces

RUGGEDIZED BY SAMTEC

- Retention pins
- Positive latching systems
- Friction locks
- Board locks
- Threaded screw down hardware
- Weld tabs
- Standoffs
- Alignment pins
- Shielding

Ruggedized Cable Assemblies

- Retention pins
- Friction locks
- Captive panel screws
- Screw downs and mounting brackets
- Ejector headers with locking caps
- AccliMate™ sealed circular & rectangular cable systems
- Positive latching systems

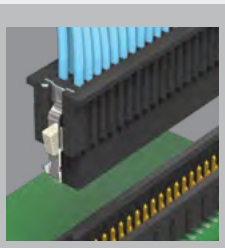
Power Integrity Services

- Standard power test data, including current carrying capacity, working voltage, voltage drop and resistance, creepage and clearance, is available for select power systems
- Current Cycling Test Data, which demonstrates connector performance in realistic and common applications, is available for select series
- Power Integrity Guidelines are based on test data and proven design parameters, and are designed to help in connector selection and PCB design maximization
- Power Integrity Certified products undergo testing and additional requirements unique to Samtec. To be certified, products must pass Current Cycling Test EIA 365-55, have current carrying capacity, resistance and amps vs. number of contacts data available and Power Integrity Guidelines developed
- Visit **samtec.com/powerintegrity** for more information

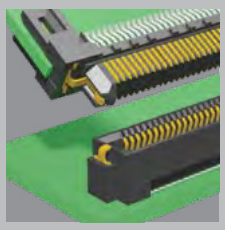
POWER INTEGRITY CERTIFIED



JACK SCREWS
Ideal for high normal force, zippering and other rugged applications



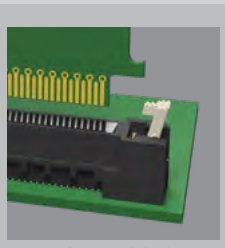
POSITIVE LATCHING
Manually activated latches increase unmating force by up to 200%



FRICTION LOCKS
Metal or plastic friction locks increase retention/withdrawal force



RETENTION PINS
Increase unmating force by up to 50%



BOARD LOCKS
Boards are mechanically locked together



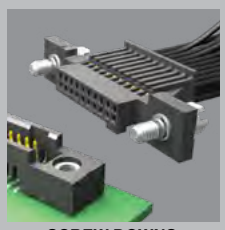
WELD TABS
Significantly increase sheer resistance of connector to PCB



GUIDE POSTS
Easy and secure mating



SHIELDING
360° shielding reduces EMI



SCREW DOWNS
Secure mechanical attachment to the board



BOARD STANDOFFS
Precision machined standoffs for 5 mm to 25 mm board spacing

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SEALED I/O

ACCLIMATE™ SOLDERED IP68 SEALED SYSTEMS

M12 (ACP-12, ACR-12, ACPK-12, ACRK-12) 274-277

M16 (ACP-16, ACR-16, ACPK-16, ACRK-16) 278-281

M22 (ACP-22, ACR-22, ACPK-22, ACRK-22) 282-285

ACCLIMATE™ CRIMPED IP68 SEALED SYSTEMS

Crimped 12 (CCP-12, CCR-12, CCRB-12) 286-287

ACCLIMATE™ IP67 SEALED SYSTEMS

Mini Push-Pull (MCP, MCR) 288

ACCLIMATE™ CIRCULAR IP68 SEALED SYSTEMS

USB (SCRUS) 289

Ethernet (SCRES) 289

ACCLIMATE™ RECTANGULAR IP68 SEALED SYSTEMS

Ethernet (RPBE, RPCE) 290

USB (RPBU, RPCU) 291

APPLICATIONS

Power and Panel Systems 38-39

samtec

ACCLIMATE™



ACP-12 SERIES

IP68 SEALED 12 mm CABLE ASSEMBLY

SPECIFICATIONS

For complete specifications see www.samtec.com?ACP-12

Insulator Material:
Thermoplastic
Terminal Material:
Brass
Contact Material:
Brass/BeCu
Plating:
Au over 50 µ" (1.27 µm) Ni
Operating Temp Range:
-40 °C to +80 °C
Housing:
–P: Black Nylon
–M: Zinc Alloy
Cable Jacket:
TPU
RoHS Compliant:
Yes

CURRENT RATING		
LEAD STYLE	PINS POWERED	CCC per PIN
–01	4	3.8 A
–02	5	3.6 A
–05	2 (plus 4 signal pins powered @ 1.2 A)	5.0 A

For general reference only. See www.samtec.com?ACP-12 for complete test data or contact AccliMate@samtec.com for applications requiring higher current carrying capacity.

Mates with:
ACR-12, ACRK-12

Solutionator®
DESIGN IN A MINUTE

- Easy sealed cable solutions
- Build a standard or flexible custom online
- Calculate performance, current rating, voltage drop
- Live chat with AccliMate™ engineers for custom options
- Variety of shells, pin sizes, signal, power, I/O interfaces
- Assembly and field kits available



ALSO AVAILABLE
(MOQ Required)

- Other assembly lengths

DUST CAPS

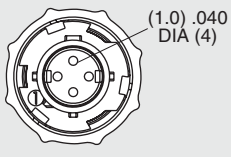
- DCA-ACP-12-M-X (Metal)
- DCA-ACP-12-P-X (Plastic)



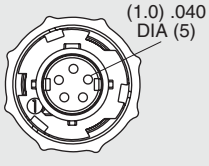
- Visit sealedio.samtec.com for a complete list of sealed systems

Note: Some lengths, styles and options are non-standard, non-returnable.

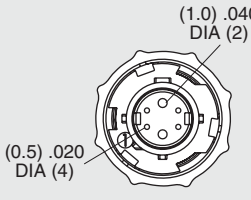
ACP	12	LEAD STYLE	PLATING	LENGTH	END 1	END 2	HOUSING MATERIAL	KEYING OPTIONS
		–01 = 1.0 mm DIA (4) terminals or sockets (24 AWG) –02 = 1.0 mm DIA (5) terminals or sockets (24 AWG) –05 = 1.0 mm DIA (2) terminals or sockets (24 AWG) + 0.5 mm DIA (4) terminals or sockets (28 AWG)	–G = 10 µ" (0.25 µm) Gold over 50 µ" (1.27 µm) Ni on contact	–"XX.XX" = Length in meters (00.25 m min. to 50.00 m max.) Standard lengths	–T = Terminal –S = Socket (N/A with End 2 -T)	–T = Terminal –S = Socket –BC = Blunt Cut	–P = Plastic –M = Metal	–1 = Orange, 45°



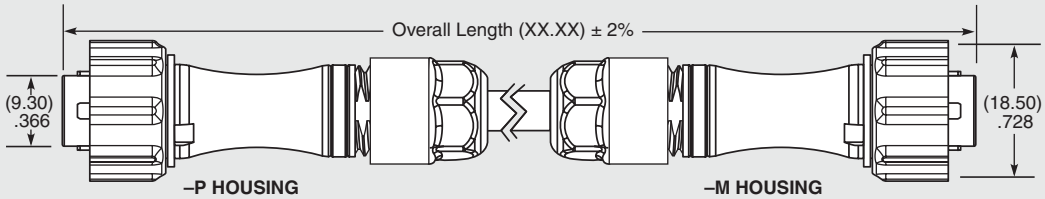
–01



–02



–05



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samtec

ACCLIMATE™



ACPK–12–01–G–S–M–1

ACPK-12 SERIES

12 mm IP68 FIELD TERMINATION KIT

SPECIFICATIONS

Mates with:
ACR-12, ACRK-12

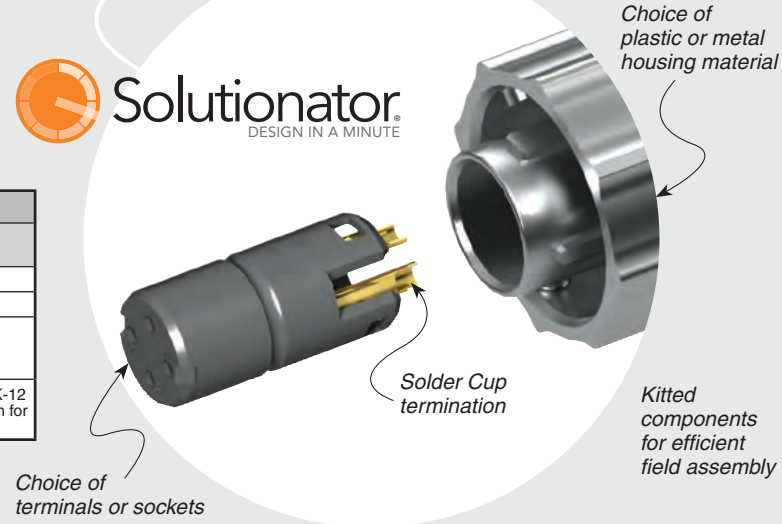
For complete specifications and processing guidelines see www.samtec.com?ACPK-12

Insulator Material: Thermoplastic
Terminal Material: Brass
Contact Material: Brass/BeCu
Plating: Au over 50 µ" (1.27 µm) Ni
Operating Temp Range: -40 °C to +80 °C
Housing: –P: Black Nylon –M: Zinc Alloy
RoHS Compliant: Yes

CURRENT RATING		
LEAD STYLE	PINS POWERED	CCC per PIN
–01	4	3.8 A
–02	5	3.6 A
–05	2 (plus 4 signal pins powered @ 1.2 A)	5.0 A

For general reference only. See www.samtec.com?ACPK-12 for complete test data or contact AcciMate@samtec.com for applications requiring higher current carrying capacity.

Solutionator® DESIGN IN A MINUTE



DUST CAPS

- DCA-ACP-12-M-X (Metal)
- DCA-ACP-12-P-X (Plastic)

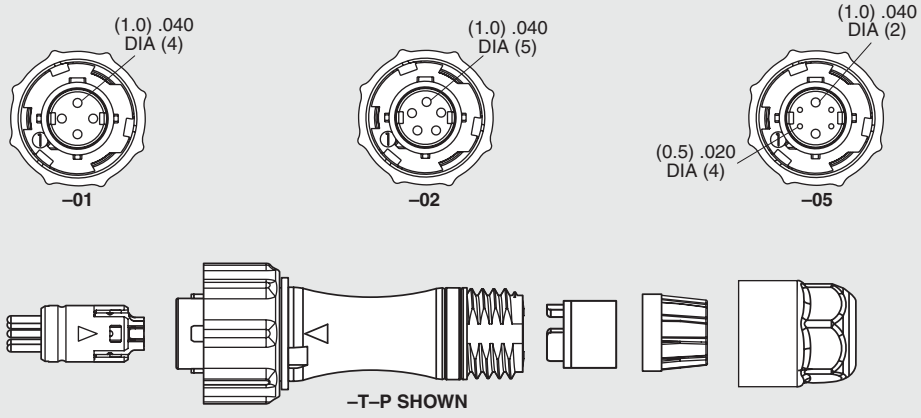


- Visit sealedio.samtec.com for a complete list of sealed systems

NOTE

For complete specifications and processing guidelines see www.samtec.com?ACPK-12

ACPK	12	LEAD STYLE	PLATING	GENDER	HOUSING MATERIAL	KEYING OPTIONS
		–01 = 1.0 mm DIA (4) terminals or sockets (20-24 AWG) –02 = 1.0 mm DIA (5) terminals or sockets (20-24 AWG) –05 = 1.0 mm DIA (2) terminals or sockets (20-24 AWG) + 0.5 mm DIA (4) terminals or sockets (26-30 AWG)	–G = 10 µ" (0.25 µm) Gold over 50 µ" (1.27 µm) Ni on contact	–T = Terminal –S = Socket	–P = Plastic –M = Metal	–1 = Orange, 45°



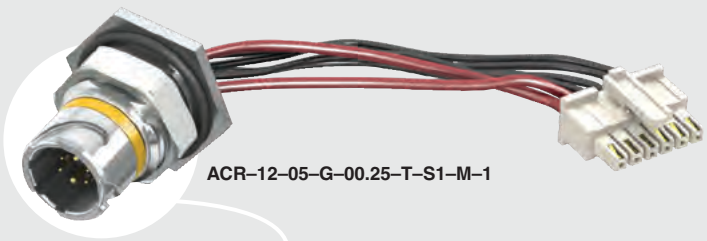
Note: Some lengths, styles and options are non-standard, non-returnable.

Due to technical progress, all designs, specifications and components are subject to change without notice.

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Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.

samtec

ACCLIMATE™



ACR-12 SERIES

IP68 SEALED 12 mm PANEL ASSEMBLY

SPECIFICATIONS

For complete specifications see www.samtec.com?ACR-12

Insulator Material:
Thermoplastic
Terminal Material:
Brass
Contact Material:
Brass/BeCu
Plating:
Au over 50 µ" (1.27 µm) Ni
Operating Temp Range:
-40 °C to +80 °C
Housing:
–P: Black Nylon
–M: Zinc Alloy
RoHS Compliant:
Yes

CURRENT RATING		
LEAD STYLE	PINS POWERED	CCC per PIN
–01	4	3.8 A
–02	5	3.6 A
–05	2 (plus 4 signal pins powered @ 1.2 A)	5.0 A

For general reference only. See www.samtec.com?ACR-12 for complete test data or contact AccliMate@samtec.com for applications requiring higher current carrying capacity.

Mates with:
ACP-12, ACPK-12

Solutionator®
DESIGN IN A MINUTE

- Easy sealed cable solutions
- Build a standard or flexible custom online
- Calculate performance, current rating, voltage drop
- Live chat with AccliMate™ engineers for custom options
- Variety of shells, pin sizes, signal, power, I/O interfaces
- Assembly and field kits available



ALSO AVAILABLE
(MOQ Required)

- Other assembly lengths

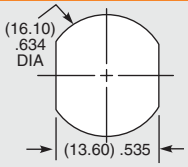
DUST CAPS

- DCA-ACR-12-M-X (Metal)
- DCA-ACR-12-P-X (Plastic)



- Visit sealedio.samtec.com for a complete list of sealed systems

PANEL OPENING



Note: Some lengths, styles and options are non-standard, non-returnable.

ACR	12	LEAD STYLE	PLATING	LENGTH	END 1	END 2	HOUSING MATERIAL	KEYING OPTIONS

LEAD STYLE
–01 = 1.0 mm DIA (4) terminals or sockets (24 AWG)
–02 = 1.0 mm DIA (5) terminals or sockets (24 AWG)
–05 = 1.0 mm DIA (2) terminals or sockets (24 AWG) + 0.5 mm DIA (4) terminals or sockets (28 AWG)

PLATING
–G = 10 µ" (0.25 µm) Gold over 50 µ" (1.27 µm) Ni on contact

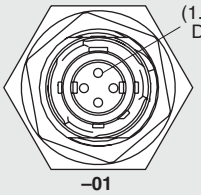
LENGTH
–"XX.XX" = Length in meters (00.20 m min. to 50.00 m max.)
Standard lengths

END 1
–T = Terminal
–S = Socket

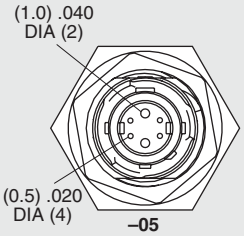
END 2
–BC = Blunt Cut
–S1 = Connector determined by lead style. (Specify LEAD STYLE from chart)

HOUSING MATERIAL
–P = Plastic
–M = Metal

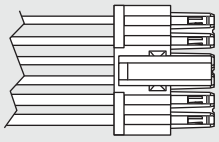
KEYING OPTIONS
–1 = Orange, 45°



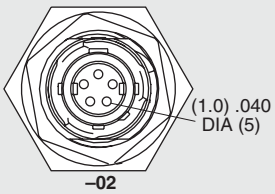
–01



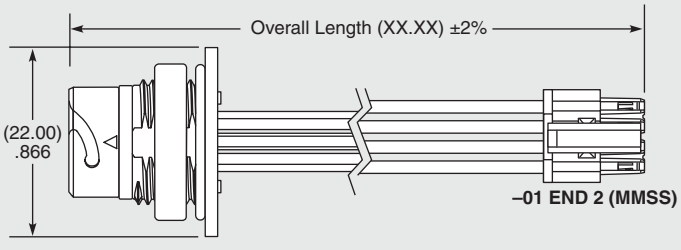
–05


–05 END 2 (MMSS)

LEAD STYLE	–S1 END 2	MATES WITH –S1
–01	MMSS (24 AWG)	IPL1
–02	MMSS (24 AWG)	
–05	MMSS (24 AWG (2x), 28 AWG (4x))	



–02



All parts within this catalog are built to Samtec's specifications.
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ACCLIMATE™



ACRK–12–05–G–T–C–P–1

ACRK-12 SERIES

12 mm IP68 FIELD TERMINATION KIT

SPECIFICATIONS

Mates with:
ACP-12, ACPK-12

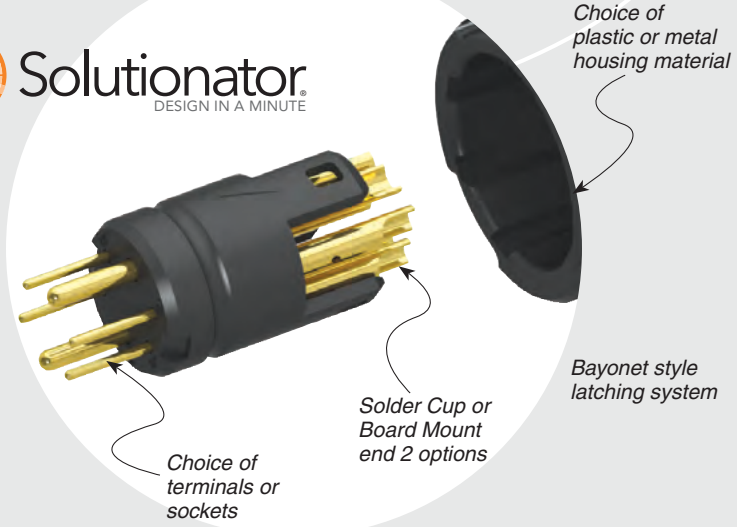
For complete specifications and processing guidelines see www.samtec.com?ACRK-12

Insulator Material: Thermoplastic
Terminal Material: Brass
Contact Material: Brass/BeCu
Plating: Au over 50 µ" (1.27 µm) Ni
Operating Temp Range: -40 °C to +80 °C
Housing: –P: Black Nylon –M: Zinc Alloy
RoHS Compliant: Yes

CURRENT RATING		
LEAD STYLE	PINS POWERED	CCC per PIN
–01	4	3.8 A
–02	5	3.6 A
–05	2 (plus 4 signal pins powered @ 1.2 A)	5.0 A

For general reference only. See www.samtec.com?ACRK-12 for complete test data or contact AccliMate@samtec.com for applications requiring higher current carrying capacity.

Solutionator® DESIGN IN A MINUTE



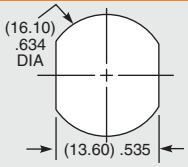
DUST CAPS

- DCA-ACR-12-M-X (Metal)
- DCA-ACR-12-P-X (Plastic)



- Visit sealedio.samtec.com for a complete list of sealed systems

PANEL OPENING

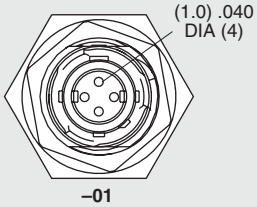


NOTE

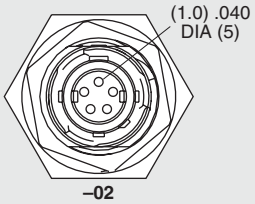
For complete specifications and processing guidelines see www.samtec.com?ACRK-12

Note: Some lengths, styles and options are non-standard, non-returnable.

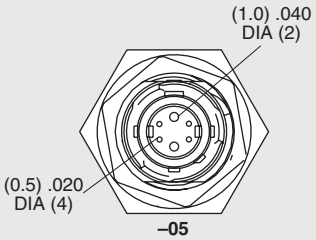
ACRK	12	LEAD STYLE	PLATING	END 1	END 2	HOUSING MATERIAL	KEYING OPTIONS
		–01 = 1.0 mm DIA (4) terminals or sockets (20-24 AWG) –02 = 1.0 mm DIA (5) terminals or sockets (20-24 AWG) –05 = 1.0 mm DIA (2) terminals or sockets (20-24 AWG) + 0.5 mm DIA (4) terminals or sockets (26-30 AWG)	–G = 10 µ" (0.25 µm) Gold over 50 µ" (1.27 µm) Ni on contact	–T = Terminal –S = Socket	–C = Solder Cup –B1 = (1.60 mm) .062" Board Mount	–P = Plastic –M = Metal	–1 = Orange, 45°



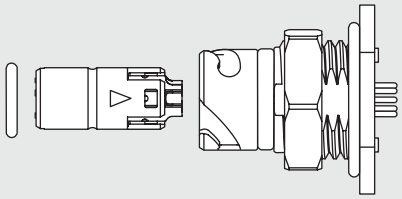
–01

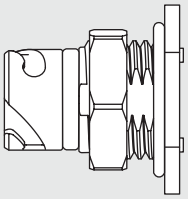


–02



–05


–B1 END SHOWN


–C END SHOWN

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ACCLIMATE™



ACP–16–06–G–00.25–T–T–M–1



ACP–16–01–G–00.25–S–S–P–1

ACP-16 SERIES

IP68 SEALED 16 mm CABLE ASSEMBLY

SPECIFICATIONS

For complete specifications see www.samtec.com?ACP-16

Insulator Material:
Thermoplastic
Terminal Material:
Brass
Contact Material:
Brass/BeCu
Operating Temp Range:
-40 °C to +105 °C
Housing:
–P: Thermoplastic
–M: Zinc Alloy
Cable Jacket:
TPU
RoHS Compliant:
Yes

Mates with:
ACR-16, ACRK-16

CURRENT RATING		
LEAD STYLE	PINS POWERED	CCC per PIN
–01	14	1.3 A
–02	10	2.6 A
–06	2 (plus 8 signal pins powered @ 1A)	11.6 A

For general reference only. See www.samtec.com?ACP-16 for complete test data or contact AccliMate@samtec.com for applications requiring higher current carrying capacity.

DUST CAPS

- DCA-ACP-16-M-X (Metal)
- DCA-ACP-16-P-X (Plastic)



- Visit sealedio.samtec.com for a complete list of sealed systems

ALSO AVAILABLE (MOQ Required)

- Other assembly lengths

Note: Some lengths, styles and options are non-standard, non-returnable.

Solutionator®
DESIGN IN A MINUTE

- Easy sealed cable solutions
- Build a standard or flexible custom online
- Calculate performance, current rating, voltage drop
- Live chat with AccliMate™ engineers for custom options
- Variety of shells, pin sizes, signal, power, I/O interfaces
- Assembly and field kits available



Field termination kit option

Choice of terminals or sockets

ACP	16	LEAD STYLE	PLATING	LENGTH	END 1	END 2	HOUSING MATERIAL	KEYING OPTIONS

LEAD STYLE

–01
= 0.5 mm DIA (14) terminals or sockets (28 AWG)

–02
= 1.0 mm DIA (10) terminals or sockets (24 AWG)

–06
= 1.5 mm DIA (2) terminals or sockets (16 AWG) + 0.5 mm DIA (8) terminals or sockets (28 AWG)

PLATING

–G
= 10 µ" (0.25 µm) Gold over 50 µ" (1.27 µm) Ni on contact

LENGTH

–"XX.XX"
= Length in meters (00.25 m min. to 50.00 m max.)
Standard lengths

END 1

–T
= Terminal

–S
= Socket

END 2

–T
= Terminal

–S
= Socket

–BC
= Blunt Cut

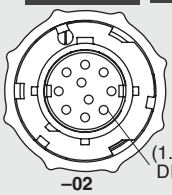
HOUSING MATERIAL

–P
= Plastic

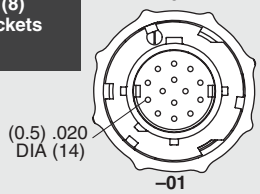
–M
= Metal

KEYING OPTIONS

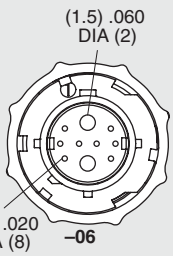
–1
= Orange, 45°



–02



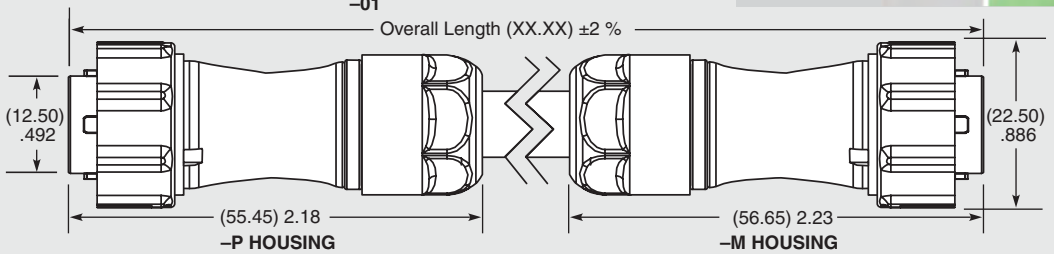
–01



–06

APPLICATION





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ACCLIMATE™



ACPK-16 SERIES

16 mm IP68 FIELD TERMINATION KIT

SPECIFICATIONS

For complete specifications and processing guidelines see www.samtec.com?ACPK-16

Insulator Material:
Thermoplastic
Terminal Material:
Brass
Contact Material:
Brass/BeCu
Operating Temp Range:
-40 °C to +105 °C
Housing:
–P: Thermoplastic
–M: Zinc Alloy
RoHS Compliant:
Yes

Mates with:
ACR-16, ACRK-16

Solutionator
DESIGN IN A MINUTE

CURRENT RATING		
LEAD STYLE	PINS POWERED	CCC per PIN
–01	14	1.3 A
–02	10	2.6 A
–06	2 (plus 8 signal pins powered @ 1A)	11.6 A

For general reference only. See www.samtec.com?ACPK-16 for complete test data or contact AccliMate@samtec.com for applications requiring higher current carrying capacity.



DUST CAPS

- DCA-ACP-16-M-X (Metal)
- DCA-ACP-16-P-X (Plastic)

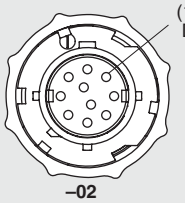


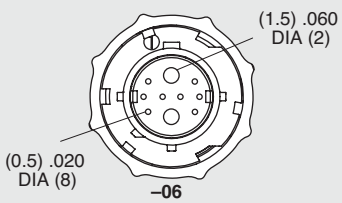
- Visit sealedio.samtec.com for a complete list of sealed systems

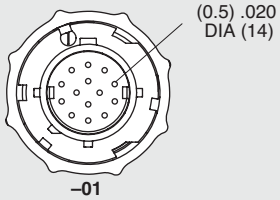
NOTE

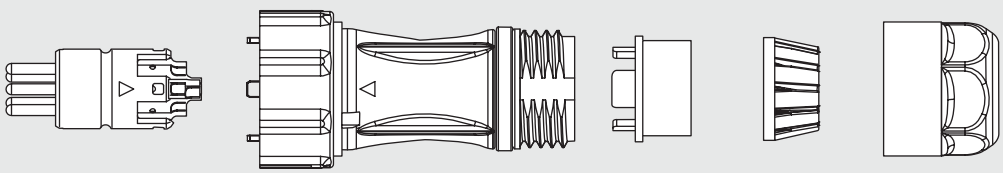
For complete specifications and processing guidelines see www.samtec.com?ACPK-16

ACPK	16	LEAD STYLE	PLATING	GENDER	HOUSING MATERIAL	KEYING OPTIONS
		–01 = 0.5 mm DIA (14) (26-30 AWG) –02 = 1.0 mm DIA (10) (20-24 AWG) –06 = 1.5 mm DIA (2) (14-18 AWG) + 0.5 mm DIA (8) (26-30 AWG)	–G = 10 µ" (0.25 µm) Gold over 50 µ" (1.27 µm) Ni on contact	–T = Terminal –S = Socket	–P = Plastic –M = Metal	–1 = Orange, 45°









–T–M SHOWN

Note: Some lengths, styles and options are non-standard, non-returnable.

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samtec

ACCLIMATE™

ACR–16–01–G–00.25–S–S1–P–1



ACR–16–02–G–00.25–S–S1–M–1

ACR-16 SERIES

IP68 SEALED 16 mm PANEL ASSEMBLY

SPECIFICATIONS

For complete specifications see www.samtec.com?ACR-16

Terminal Material:
Brass
Contact Material:
Brass/BeCu
Operating Temp Range:
-40 °C to +105 °C
Housing:
–P: Thermoplastic
–M: Zinc Alloy
RoHS Compliant:
Yes

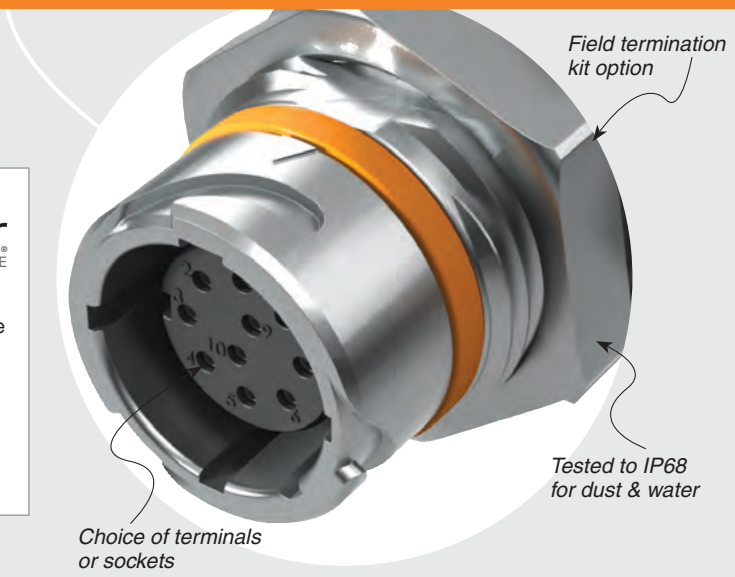
CURRENT RATING		
LEAD STYLE	PINS POWERED	CCC per PIN
–01	14	1.3 A
–02	10	2.6 A
–06	2 (plus 8 signal pins powered @ 1A)	11.6 A

For general reference only. See www.samtec.com?ACR-16 for complete test data or contact AccliMate@samtec.com for applications requiring higher current carrying capacity.

Mates with:
ACP-16, ACPK-16

Solutionator®
DESIGN IN A MINUTE

- Easy sealed cable solutions
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- Calculate performance, current rating, voltage drop
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- Variety of shells, pin sizes, signal, power, I/O interfaces
- Assembly and field kits available



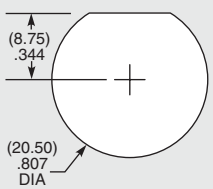
DUST CAPS

- DCA-ACR-16-M-X (Metal)
- DCA-ACR-16-P-X (Plastic)



- Visit sealedio.samtec.com for a complete list of sealed systems

PANEL OPENING



Note: Some lengths, styles and options are non-standard, non-returnable.

ACR	16	LEAD STYLE	PLATING	LENGTH	END 1	END 2	HOUSING MATERIAL	KEYING OPTIONS

LEAD STYLE

–01
= 0.5 mm DIA (14) terminals or sockets (28 AWG)

–02
= 1.0 mm DIA (10) terminals or sockets (24 AWG)

–06
= 1.5 mm DIA (2) terminals or sockets (16 AWG) + 0.5 mm DIA (8) terminals or sockets (28 AWG)

PLATING

–G
= 10 µ" (0.25 µm) Gold over 50 µ" (1.27 µm) Ni on contact

LENGTH

–"XX.XX"
= Length in meters (00.20 m min. to 50.00 m max.)
Standard lengths

END 1

–T
= Terminal

–S
= Socket

END 2

–BC
= Blunt Cut

–S1
= Connector determined by lead style. (Specify LEAD STYLE from chart)

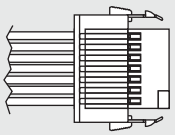
HOUSING MATERIAL

–P
= Plastic

–M
= Metal

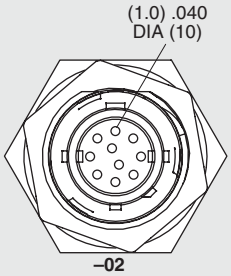
KEYING OPTIONS

–1
= Orange, 45°

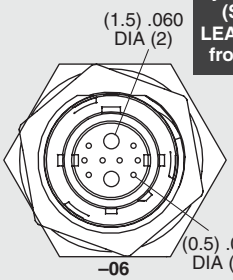


–01 END 2 (SFSD)

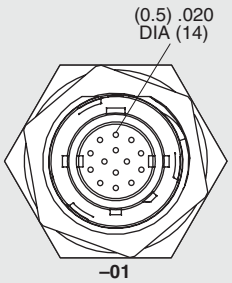
LEAD STYLE	-S1 END 2	MATES WITH -S1
–01	SFSD (28 AWG)	TFM
–02	MMSD (24 AWG)	IPL1
–06	1 x SFSD (28 AWG)	TFM
	1 x MPSS (16 AWG)	MPT



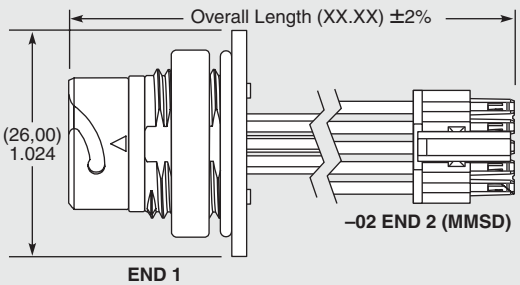
–02



–06

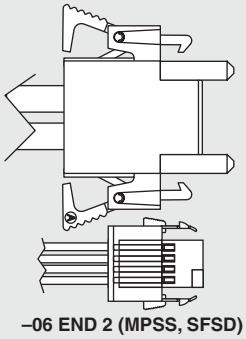


–01



–02 END 2 (MMSD)

END 1



–06 END 2 (MPSS, SFSD)

All parts within this catalog are built to Samtec's specifications.
Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.

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ACCLIMATE™



ACRK-16 SERIES

16 mm IP68 FIELD TERMINATION KIT

SPECIFICATIONS

Mates with:
ACP-16, ACPK-16

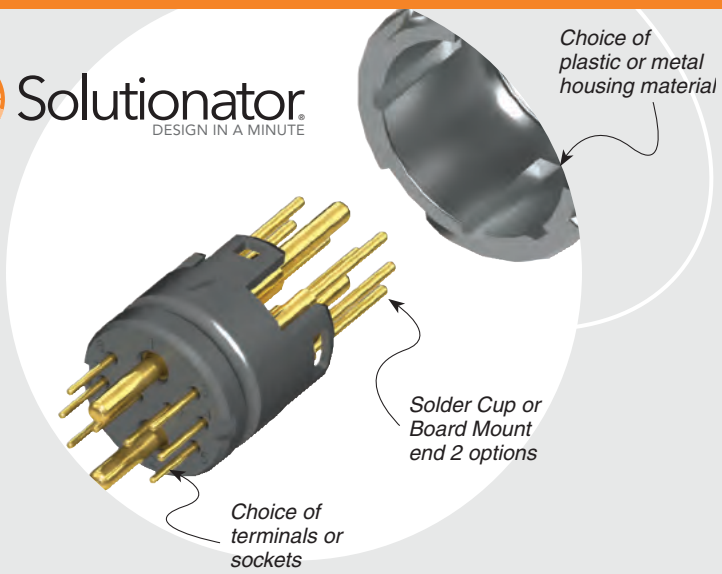
For complete specifications and processing guidelines see www.samtec.com?ACRK-16

Terminal Material:
Brass
Contact Material:
Brass/BeCu
Operating Temp Range:
-40 °C to +105 °C
Housing:
–P: Thermoplastic
–M: Zinc Alloy
RoHS Compliant:
Yes

CURRENT RATING		
LEAD STYLE	PINS POWERED	CCC per PIN
–01	14	1.3 A
–02	10	2.6 A
–06	2 (plus 8 signal pins powered @ 1A)	11.6 A

For general reference only. See www.samtec.com?ACRK-16 for complete test data or contact AccliMate@samtec.com for applications requiring higher current carrying capacity.

Solutionator® DESIGN IN A MINUTE



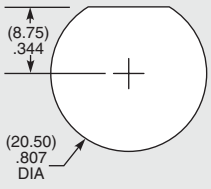
DUST CAPS

- DCA-ACR-16-M-X (Metal)
- DCA-ACR-16-P-X (Plastic)



- Visit sealedio.samtec.com for a complete list of sealed systems

PANEL OPENING

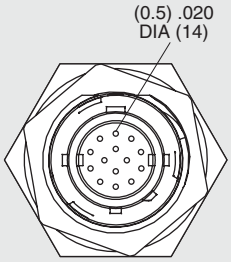


NOTE

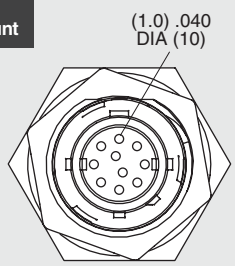
For complete specifications and processing guidelines see www.samtec.com?ACRK-16

Note: Some lengths, styles and options are non-standard, non-returnable.

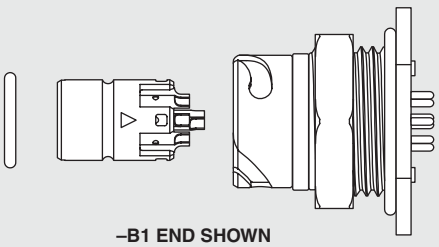
ACRK	16	LEAD STYLE	PLATING	END 1	END 2	HOUSING MATERIAL	KEYING OPTIONS
		–01 = 0.5 mm DIA (14) (26-30 AWG) –02 = 1.0 mm DIA (10) (20-24 AWG) –06 = 1.5 mm DIA (2) (14-18 AWG) + 0.5 mm DIA (8) (26-30 AWG)	–G = 10 µ" (0.25 µm) Gold over 50 µ" (1.27 µm) Ni on contact	–T = Terminal –S = Socket	–C = Solder Cup –B1 = (1.60 mm) .062" Board Mount	–P = Plastic –M = Metal	–1 = Orange, 45°



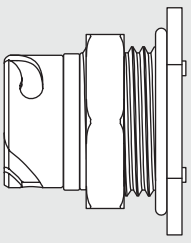
–01



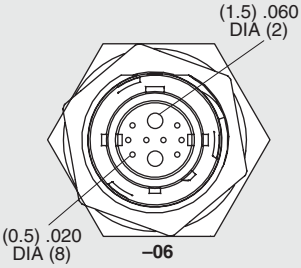
–02



–B1 END SHOWN



–C END SHOWN



–06

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ACCLIMATE™



ACP-22 SERIES

IP68 SEALED 22 mm CABLE ASSEMBLY

SPECIFICATIONS

For complete specifications see www.samtec.com?ACP-22

Insulator Material:
Thermoplastic
Terminal Material:
Brass
Contact Material:
Brass/BeCu
Operating Temp Range:
-40 °C to +105 °C
Housing:
–P: Thermoplastic
–M: Zinc Alloy
Cable Jacket:
TPU
RoHS Compliant:
Yes

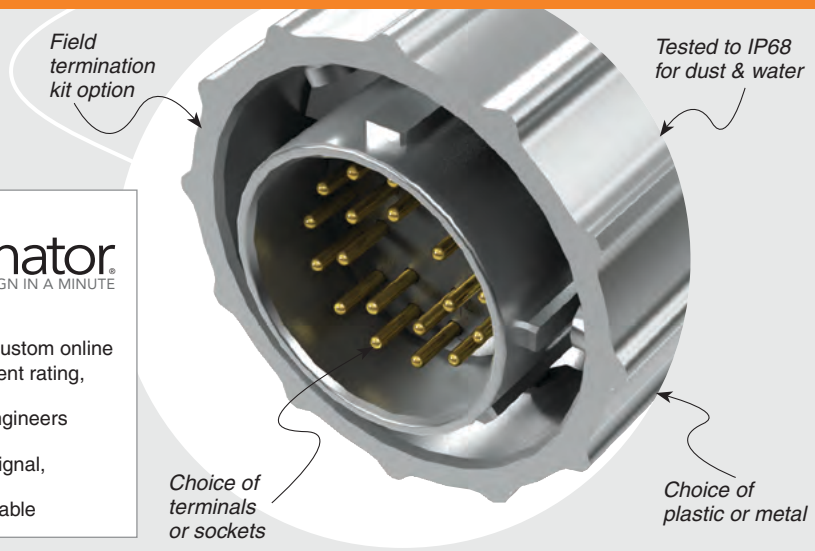
CURRENT RATING		
LEAD STYLE	PINS POWERED	CCC per PIN
–01	30	2.0 A
–02	20	2.3 A
–03	8	8.3 A

For general reference only. See www.samtec.com?ACP-22 for complete test data or contact AccliMate@samtec.com for applications requiring higher current carrying capacity.

Mates with:
ACR-22, ACRK-22

Solutionator®
DESIGN IN A MINUTE

- Easy sealed cable solutions
- Build a standard or flexible custom online
- Calculate performance, current rating, voltage drop
- Live chat with AccliMate™ engineers for custom options
- Variety of shells, pin sizes, signal, power, I/O interfaces
- Assembly and field kits available



DUST CAPS

- DCA-ACP-22-M-X (Metal)
- DCA-ACP-22-P-X (Plastic)



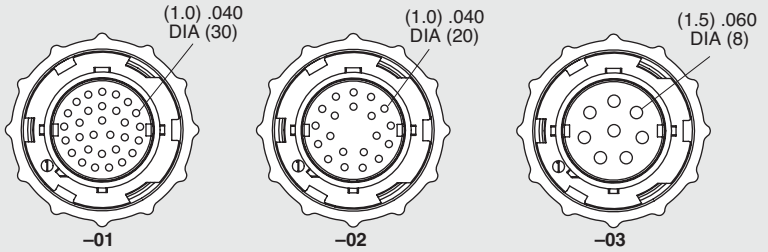
- Visit sealedio.samtec.com for a complete list of sealed systems

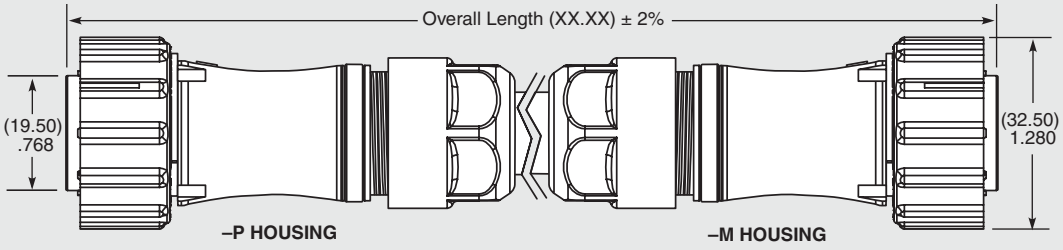
ALSO AVAILABLE
(MOQ Required)

- Other assembly lengths

Note: Some lengths, styles and options are non-standard, non-returnable.

ACP	22	LEAD STYLE	PLATING	LENGTH	END 1	END 2	HOUSING MATERIAL	KEYING OPTIONS
		–01 = 1.0 mm DIA (30) terminals or sockets (24 AWG) –02 = 1.0 mm DIA (20) terminals or sockets (24 AWG) –03 = 1.5 mm DIA (8) terminals or sockets (16 AWG)	–G = 10 µ" (0.25 µm) Gold over 50 µ" (1.27 µm) Ni on contact	–"XX.XX" = Length in meters (00.25 m min. to 50.00 m max.) Standard lengths	–T = Terminal –S = Socket	–T = Terminal –S = Socket –BC = Blunt Cut	–P = Plastic –M = Metal	–1 = Orange, 45°





Due to technical progress, all designs, specifications and components are subject to change without notice.

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ACCLIMATE™



ACPK–22–02–G–T–P–1

ACPK-22 SERIES

22 mm IP68 FIELD TERMINATION KIT

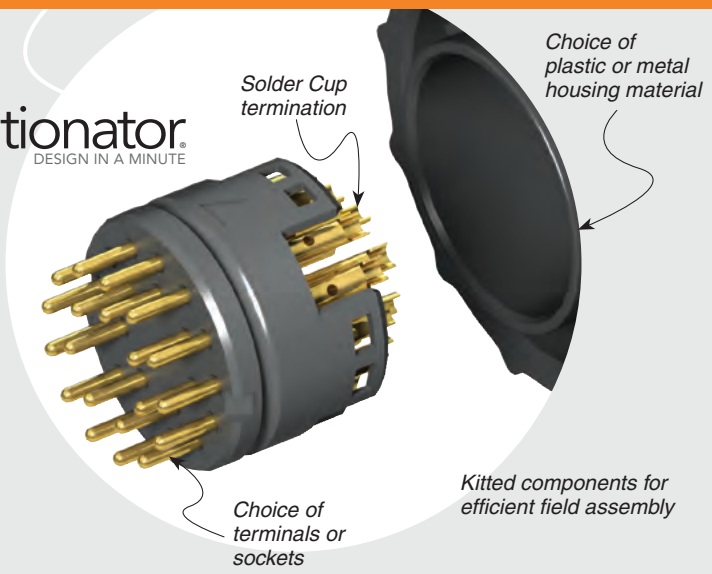
SPECIFICATIONS

For complete specifications and processing guidelines see www.samtec.com?ACPK-22

Terminal Material:
Brass
Contact Material:
Brass/BeCu
Operating Temp Range:
-40 °C to +105 °C
Housing:
–P: Thermoplastic
–M: Zinc Alloy
RoHS Compliant:
Yes

Mates with:
ACR-22, ACRK-22

Solutionator
DESIGN IN A MINUTE



CURRENT RATING		
LEAD STYLE	PINS POWERED	CCC per PIN
–01	30	2.0 A
–02	20	2.3 A
–03	8	8.3 A

For general reference only. See www.samtec.com?ACPK-22 for complete test data or contact AccliMate@samtec.com for applications requiring higher current carrying capacity.

DUST CAP

- DCA-ACP-22-M-X (Metal)
- DCA-ACP-22-P-X (Plastic)



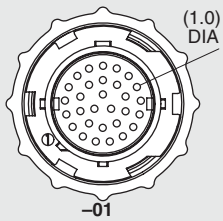
- Visit sealedio.samtec.com for a complete list of sealed systems

NOTE

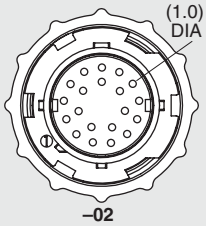
For complete specifications and processing guidelines see www.samtec.com?ACPK-22

Note: Some lengths, styles and options are non-standard, non-returnable.

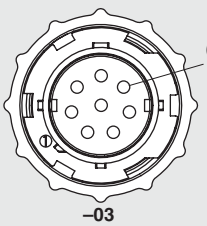
ACPK	22	LEAD STYLE	PLATING	GENDER	HOUSING MATERIAL	KEYING OPTIONS
		–01 = 1.0 mm DIA (30) (20-24 AWG) –02 = 1.0 mm DIA (20) (20-24 AWG) –03 = 1.5 mm DIA (8) (14-18 AWG)	–G = 10 µ" (0.25 µm) Gold over 50 µ" (1.27 µm) Ni on contact	–T = Terminal –S = Socket	–P = Plastic –M = Metal	–1 = Orange, 45°



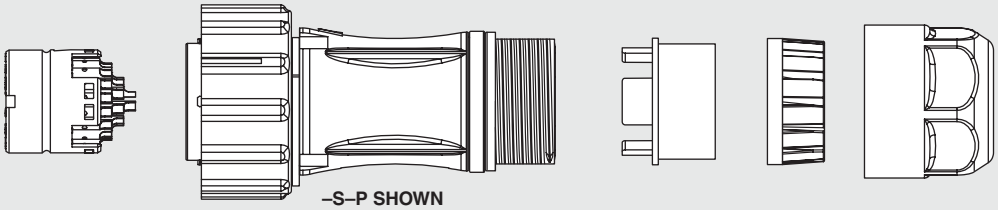
–01



–02



–03



–S–P SHOWN

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ACCLIMATE™



ACR–22–03–G–00.25–S–S1–P–1

ACR-22 SERIES

IP68 SEALED 22 mm PANEL ASSEMBLY

SPECIFICATIONS

For complete specifications see www.samtec.com?ACR-22

Terminal Material:
Brass
Contact Material:
Brass/BeCu
Operating Temp Range:
-40 °C to +105 °C
Housing:
–P: Thermoplastic
–M: Zinc Alloy
RoHS Compliant:
Yes

CURRENT RATING		
LEAD STYLE	PINS POWERED	CCC per PIN
–01	30	2.0 A
–02	20	2.3 A
–03	8	8.3 A

For general reference only. See www.samtec.com?ACR-22 for complete test data or contact AccliMate@samtec.com for applications requiring higher current carrying capacity.

Mates with:
ACP-22, ACPK-22

Solutionator
DESIGN IN A MINUTE

- Easy sealed cable solutions
- Build a standard or flexible custom online
- Calculate performance, current rating, voltage drop
- Live chat with AccliMate™ engineers for custom options
- Variety of shells, pin sizes, signal, power, I/O interfaces
- Assembly and field kits available



Choice of terminal or sockets

Tested to IP68 for dust & water

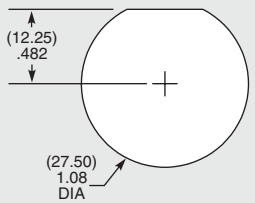
DUST CAPS

- DCA-ACR-22-M-X (Metal)
- DCA-ACR-22-P-X (Plastic)



- Visit sealedio.samtec.com for a complete list of sealed systems

PANEL OPENING



ALSO AVAILABLE
(MOQ Required)

- Other assembly lengths

Note: Some lengths, styles and options are non-standard, non-returnable.

ACR	22	LEAD STYLE	PLATING	LENGTH	END 1	END 2	HOUSING MATERIAL	KEYING OPTIONS

LEAD STYLE
–01 = 1.0 mm DIA (30) terminals or sockets (24 AWG)
–02 = 1.0 mm DIA (20) terminals or sockets (24 AWG)
–03 = 1.5 mm DIA (8) terminals or sockets (16 AWG)

PLATING
–G = 10 µ" (0.25 µm) Gold over 50 µ" (1.27 µm) Ni on contact

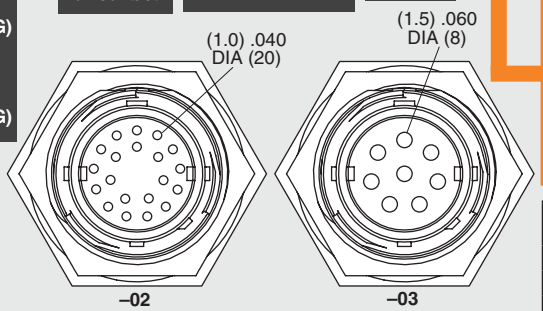
LENGTH
–"XX.XX" = Length in meters (00.25 m min. to 50.00 m max.)
Standard lengths

END 1
–T = Terminal
–S = Socket

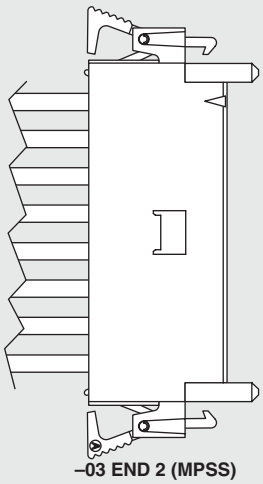
END 2
–BC = Blunt Cut
–S1 = Connector determined by lead style. (Specify LEAD STYLE from chart)

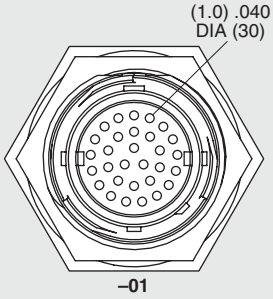
HOUSING MATERIAL
–P = Plastic
–M = Metal

KEYING OPTIONS
–1 = Orange, 45°

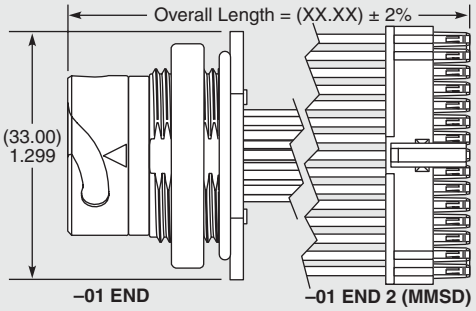


LEAD STYLE	-S1 END 2	MATES WITH -S1
–01	MMSD (24 AWG)	IPL1
–02		
–03	MPSS (16 AWG)	MPT


–03 END 2 (MPSS)



–01



–01 END

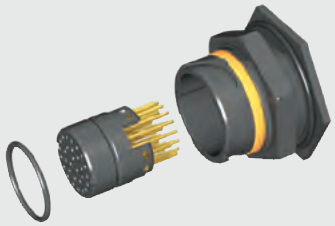
–01 END 2 (MMSD)

Due to technical progress, all designs, specifications and components are subject to change without notice.

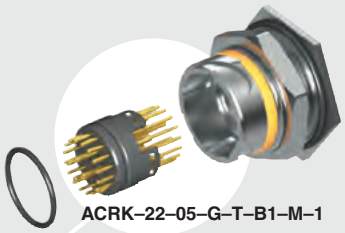
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ACCLIMATE™



ACRK–22–01–G–T–B1–P–1



ACRK–22–05–G–T–B1–M–1

ACRK-22 SERIES

22 mm IP68 FIELD TERMINATION KIT

SPECIFICATIONS

Mates with:
ACP-22, ACPK-22

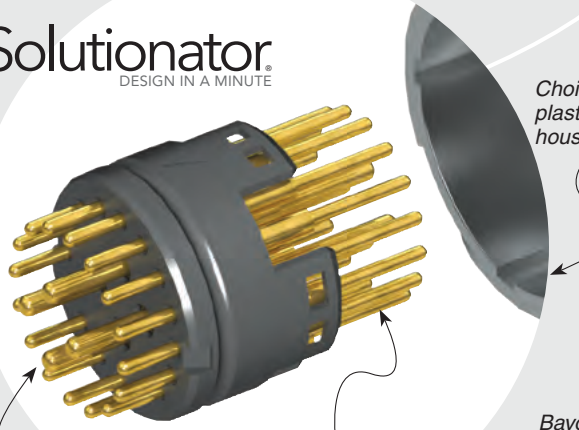
For complete specifications and processing guidelines see www.samtec.com?ACRK-22

Terminal Material:
Brass
Contact Material:
Brass/BeCu
Operating Temp Range:
-40 °C to +105 °C
Housing:
–P: Thermoplastic
–M: Zinc Alloy
RoHS Compliant:
Yes

CURRENT RATING		
LEAD STYLE	PINS POWERED	CCC per PIN
–01	30	2.0 A
–02	20	2.3 A
–03	8	8.3 A

For general reference only. See www.samtec.com?ACRK-22 for complete test data or contact AccliMate@samtec.com for applications requiring higher current carrying capacity.

Solutionator
DESIGN IN A MINUTE



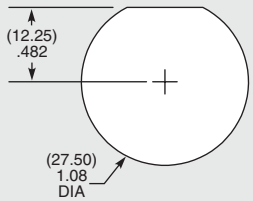
DUST CAPS

- DCA-ACR-22-M-X (Metal)
- DCA-ACR-22-P-X (Plastic)



- Visit sealedio.samtec.com for a complete list of sealed systems

PANEL OPENING

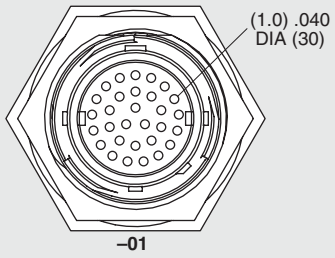


NOTE

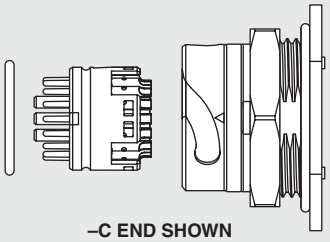
For complete specifications and processing guidelines see www.samtec.com?ACRK-22

Note: Some lengths, styles and options are non-standard, non-returnable.

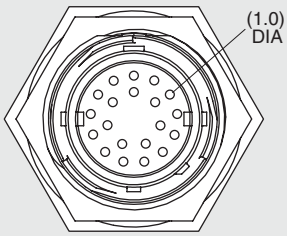
ACRK	22	LEAD STYLE	PLATING	END 1	END 2	HOUSING MATERIAL	KEYING OPTIONS
		–01 = 1.0 mm DIA (30) (20-24 AWG) –02 = 1.0 mm DIA (20) (20-24 AWG) –03 = 1.5 mm DIA (8) (14-18 AWG)	–G = 10 µ" (0.25 µm) Gold over 50 µ" (1.27 µm) Ni on contact	–T = Terminal –S = Socket	–C = Solder Cup –B1 = (1.60 mm) .062" Board Mount	–P = Plastic –M = Metal	–1 = Orange, 45°



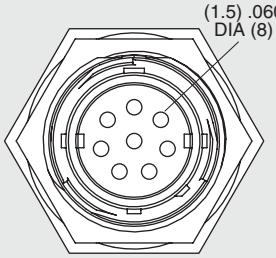
–01



–C END SHOWN



–02



–03

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ACCLIMATE™



CCP–12–1–L–00.3–T–S–M



CCP–12–1–L–00.3–S–S–P

COST-EFFECTIVE

CCP-12 SERIES

IP68 12 mm CRIMP CABLE ASSEMBLY

SPECIFICATIONS

For complete specifications see www.samtec.com?CCP-12

Insulator Material:
PBT
Terminal Material:
Phosphor Bronze
Contact Material:
BeCu
Housing:
–P: Black Nylon
–M: Zinc Alloy
Cable Jacket:
TPU
RoHS Compliant:
Yes

COMPONENTS

- For body, see www.samtec.com?CCPK-12
- For contacts, see www.samtec.com?T1M82-L www.samtec.com?T1M82-R www.samtec.com?CC81L www.samtec.com?CC81R

DUST CAPS

- DCA-ACP-12-M-X (Metal)
- DCA-ACP-12-P-X (Plastic)



- Visit sealedio.samtec.com for a complete list of sealed systems

ALSO AVAILABLE (MOQ Required)

- Other assembly lengths

OTHER SOLUTIONS

- Solder cup version available

For specifications, see www.samtec.com?ACP-12

Note: Some lengths, styles and options are non-standard, non-returnable.

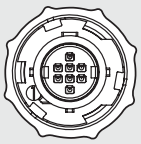
Mates with:
CCR-12, CCRK-12, CCRB-12

Solutionator®
DESIGN IN A MINUTE

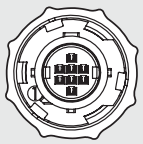
- Easy sealed cable solutions
- Build a standard or flexible custom online
- Calculate performance, current rating, voltage drop
- Live chat with AccliMate™ engineers for custom options
- Variety of shells, pin sizes, signal, power, I/O interfaces
- Assembly and field kits available



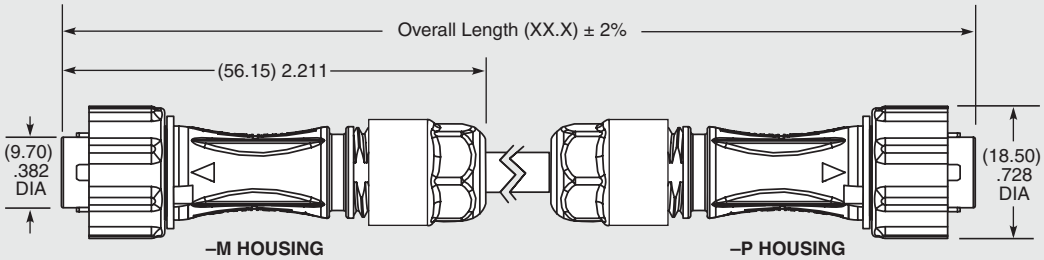
CCP	12	LEAD STYLE	PLATING	LENGTH	END 1	END 2	HOUSING MATERIAL
		–1 = 8 Positions, 28 AWG	–L = 10 µ" (0.25 µm) Gold in contact area, Matte Tin on tail	–"XX.X" = Length in meters (00.3 m min. to 50.0 m max.) Standard lengths	–T = Terminal –S = Socket (Not available with End 2 -T)	–T = Terminal –S = Socket –B = Blunt Cut	–P = Plastic –M = Metal



–T END



–S END



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CCRB–12–1–L–T–B1–P



CCR–12–1–L–00.3–S–B–M

COST-EFFECTIVE

CCR-12, CCRB-12 SERIES

IP68 12 mm CRIMP CABLE ASSEMBLY

Mates with:
CCP-12, CCPK-12

SPECIFICATIONS

For complete specifications see www.samtec.com?CCR-12

Insulator Material:
PBT
Terminal Material:
Phosphor Bronze
Contact Material:
BeCu
Housing:
–P: Black Nylon
–M: Zinc Alloy
RoHS Compliant:
Yes

COMPONENTS

- For body, see www.samtec.com?CCRK-12
- For contacts, see www.samtec.com?T1M82-L www.samtec.com?T1M82-R www.samtec.com?CC81L www.samtec.com?CC81R

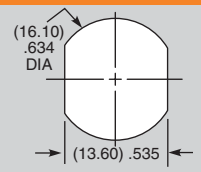
DUST CAPS

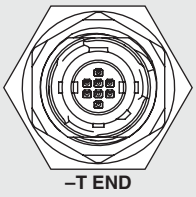
- DCA-ACR-12-M-X (Metal)
- DCA-ACR-12-P-X (Plastic)

Visit sealedio.samtec.com for a complete list of sealed systems

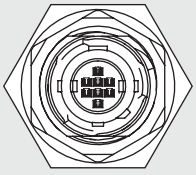
CCR	12	LEAD STYLE	PLATING	LENGTH	END 1	END 2	HOUSING MATERIAL
		–1 = 8 Positions, 28 AWG	–L = 10 µ" (0.25 µm) Gold in contact area, Matte Tin on tail	–"XX.X" = Length in meters (00.1 m min. to 50.0 m max.) Standard lengths	–T = Terminal –S = Socket	–B = Blunt Cut –S1 = Connector	–P = Plastic –M = Metal

PANEL OPENING

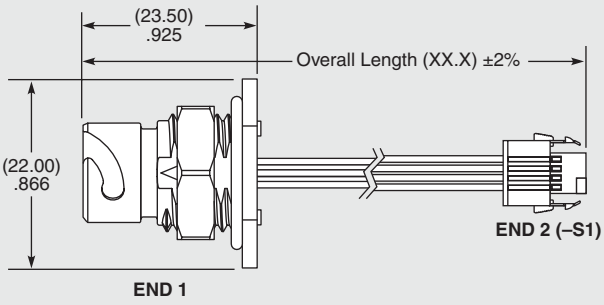




–T END



–S END



ALSO AVAILABLE
(MOQ Required)

- Other assembly lengths

Mates with:
CCP-12

SPECIFICATIONS

For complete specifications see www.samtec.com?CCRB-12

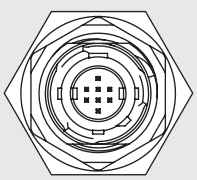
Insulator Material:
PBT
Terminal Material:
Phosphor Bronze
Housing:
–P: Black Nylon
–M: Zinc Alloy
RoHS Compliant:
Yes

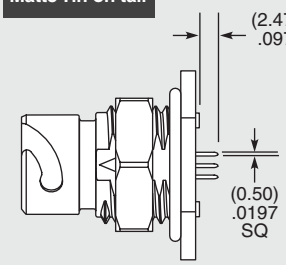
OTHER SOLUTIONS

- Solder cup version available

For specifications, see www.samtec.com?ACR-12

CCRB	12	LEAD STYLE	PLATING	END 1	END 2	HOUSING MATERIAL
		–1 = 8 Positions	–L = 10 µ" (0.25 µm) Gold in contact area, Matte Tin on tail	–T = Terminal	–B1 = (1.60 mm) .062" Board Mount	–P = Plastic –M = Metal





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MCR, MCP SERIES

IP67 SEALED 8 SERIES PANEL ASSEMBLY

FEATURES

- IP67 dust and water protected when submerged 1 m deep for 30 minutes
- Lightweight plastic shell
- Push-pull latching system
- 11.05 mm (.435") DIA panel opening
- Polarizing keys protect from misalignment
- Visual alignment indicators
- Cable-to-cable or cable-to-panel solutions

SPECIFICATIONS

For complete specifications see www.samtec.com?MCR or www.samtec.com?MCP

Insulator Material: PPS
Terminal Material (MCP): Phosphor Bronze
Contact Material: Phosphor Bronze
Operating Temp Range: -20 °C to +80 °C
Gasket Material: Neoprene Rubber (MCR) Silicone (MCP)
Lock Washer (MCR): Phosphor Bronze, Ni plated
Hex Nut (MCR): Brass, Ni plated
Spring Material (MCP): Stainless Steel
Coupling Ring Spacer (MCP): PBT
Cable Clamp (MCP): POM
RoHS Compliant: Yes

COMPONENTS

- For body, see www.samtec.com?MCRK or www.samtec.com?MCPK
- For contacts, see www.samtec.com?CC393 or www.samtec.com?TC114

DUST CAPS

- -S (Socket) = DCA-MCR-8
- -T (Terminal) = DCA-MCP-8

Visit sealedio.samtec.com for a complete list of sealed systems

ALSO AVAILABLE (MOQ Required)

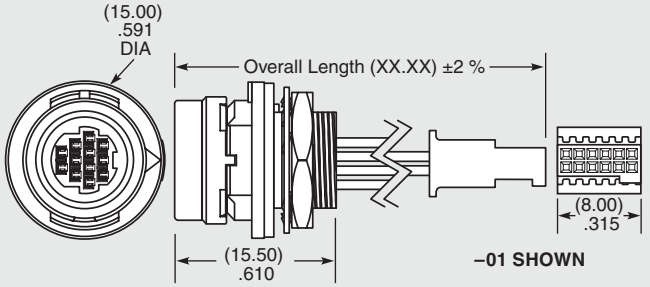
- Other lengths

Note: Samtec's MCR, MCP Series is dual sourced by Hirose Electric Co., LTD.

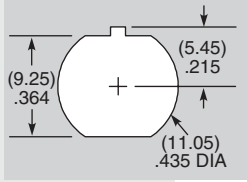
MCR	8	LEAD STYLE	PLATING	LENGTH	END 1 OPTION	END 2 OPTION
Mates with: MCP(K)		–02 = 12 positions, 28 AWG	–L = 10 µ" (0.25 µm) Gold on contact area	–00.25 = 0.25 meter –00.50 = 0.50 meter Standard lengths	–S = Socket	–BC = Blunt Cut (Color wire only, see chart) –01 = 2x6 SFSD (Pin1 to Pin1) (Black wire only)

APPLICATION

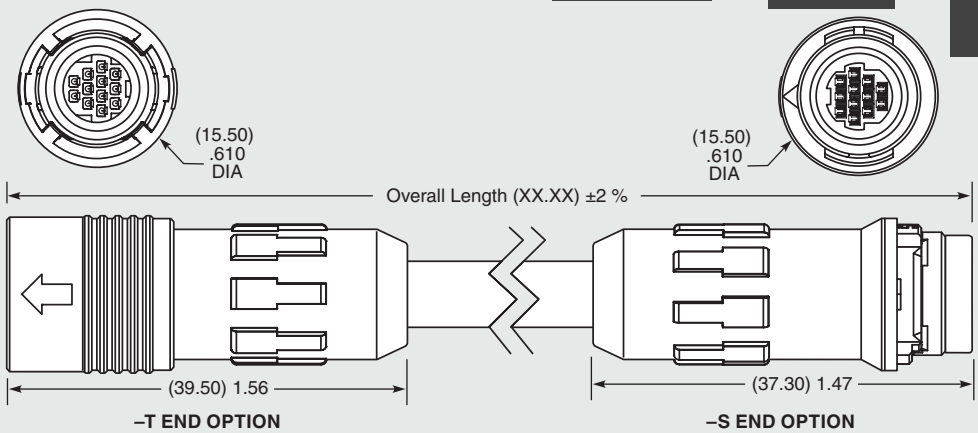
–BC CABLE COLOR CODING	
PIN	COLOR
1	BROWN
2	RED
3	ORANGE
4	YELLOW
5	GREEN
6	DARK BLUE
7	VIOLET
8	GRAY
9	WHITE
10	BLACK
11	GREEN/BLACK
12	TAN



PANEL OPENING



MCP	8	LEAD STYLE	PLATING	LENGTH	END 1 OPTION	END 2 OPTION
Mates with: MCR(K), MCP(K)		–02 = 12 positions, 28 AWG	–L = 10 µ" (0.25 µm) Gold on contact area	–01.00 = 1 meter –02.00 = 2 meters Standard lengths	–T = Terminal –S = Socket (Not available with End 2 -T)	–T = Terminal –S = Socket –BC = Blunt Cut



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SCRES–G–00.25–D–C5E



SCRUS–17–G–00.25–AMS–BC

SCRUS, SCRES SERIES

IP68 SEALED USB & ETHERNET

Mates with:
SCPU

SPECIFICATIONS

For complete specifications and recommended panel hole layout see www.samtec.com?SCRUS

Insulator Material:
PBT
Contact Material:
Phosphor Bronze
Wire:
20 AWG (Power)
25 AWG (Signal)
28 AWG (Drain)
O-Ring:
Silicone
Operating Temp Range:
-20 °C to +75 °C
RoHS Compliant:
Yes

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

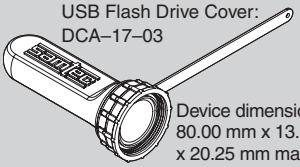
FILE NO. E71636

Note:
Some lengths, styles and options are non-standard, non-returnable.

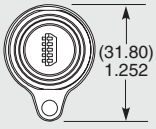
TYPE	SHELL SIZE	PLATING	WIRE LENGTH	END 1 OPTION	END 2 OPTION
SCRUS = Sealed Circular USB Receptacle Cable Assembly	**–17** (Standard USB only) **–10** (Mini USB only)	**–G** = 30 µ" (0.76 µm) Gold on Contact, Nickel on Shell	**–00.25** = (0.25 m) 9.84" Cable **–00.50** = (0.50 m) 19.68" Cable Standard lengths (Assembled Length = Wire Length + (37.9 mm) 1.50")	**–AMS** = USB A Type, Sealed **–BMS** = USB B Type, Sealed **–MBS** = Mini USB B Type, Sealed	**–AM** = USB A Type, Not Sealed **–BM** = USB B Type, Not Sealed **–MB** = Mini USB B Type, Not Sealed **–BC** = Blunt Cut

DUST CAP

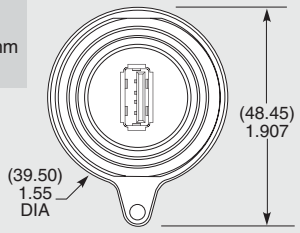
USB Flash Drive Cover:
DCA–17–03



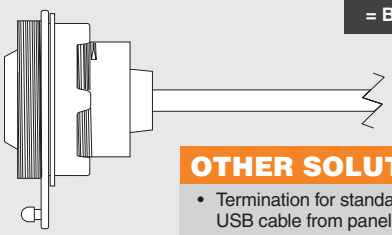
Device dimensions:
80.00 mm x 13.30 mm x 20.25 mm max.



–MBS



–AMS



–AMS

OTHER SOLUTIONS

- Termination for standard USB cable from panel-to-board

See SCRU Series.

Mates with:
SCPE

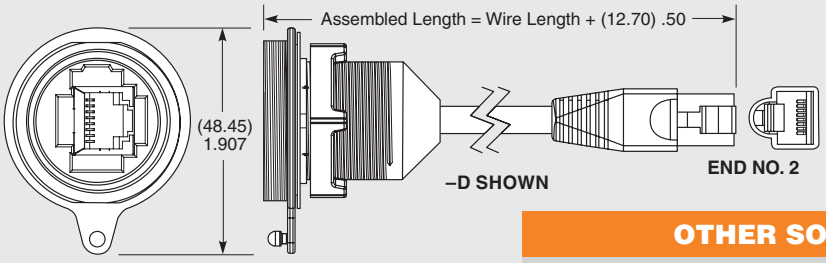
SPECIFICATIONS

For complete specifications and recommended panel hole layout see www.samtec.com?SCRES

Insulator Material:
PBT
Contact Material:
Phosphor Bronze
Shield Material:
Phosphor Bronze
Wire:
24 AWG
O-Ring:
Silicone
Overmold:
PA66
Current Rating:
3.8 A per pin
(1 pin powered)
Operating Temp Range:
-40 °C to +70 °C
RoHS Compliant:
Yes

Note:
Some lengths, styles and options are non-standard, non-returnable.

TYPE	PLATING	WIRE LENGTH	END OPTION	C5E
SCRES = Sealed Circular Ethernet Receptacle Cable Assembly	**–G** = 50 µ" (1.27 µm) Gold on Contact, Nickel on Shell	**–00.25** = (0.25 m) 9.84" Cable **–00.50** = (0.50 m) 19.68" Cable Standard lengths	**–D** = Double Ended **–BC** = Blunt Cut	**–C5E** = Cat 5e rating



DUST CAP & PANEL PLUG

- Dust Cap: DCA-17-01
- Panel Plug: SCPPA-17-01

OTHER SOLUTIONS

- Termination for standard ethernet cable from panel to board

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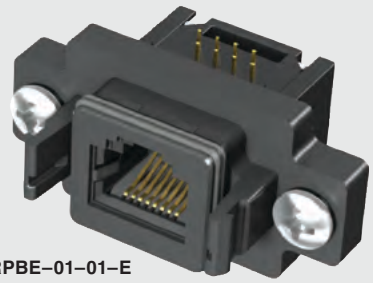
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RPCE–01–E–00.25–D–C5E



RPBE–01–01–E

RPBE, RPCE SERIES

IP68 SEALED ETHERNET SOCKET

Mates with:
RCE

SPECIFICATIONS

For complete specifications see www.samtec.com?RPBE

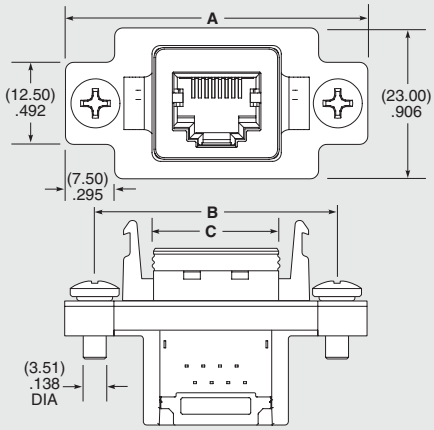
Insulator Material:
Black Liquid Crystal Polymer
Contact:
Phosphor Bronze
Operating Temp Range:
-40 °C to +75 °C
Seal:
Rubber
Screw:
Stainless Steel
Nut:
Stainless Steel
Sealing Washer:
Rubber

DUST CAPS

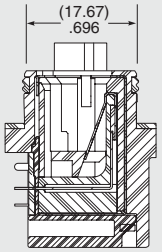
PORT	PART NO.	TYPE
–01	DCA-RPBE-01-01-P	Push-On/ No Latch
–01	DCA-RPBE-01-01-L	Latching
–02	DCA-RPBE-02-01-L	

Note: Meets IP68 requirements for dust and waterproof sealing when mated or with dust cap.

RPBE	NO. OF PORTS	LEAD STYLE	PLATING
	–01, –02	–01 = Right-angle	–E = 50 µ" (1.27 µm) Gold on contact, Flash Gold on tail

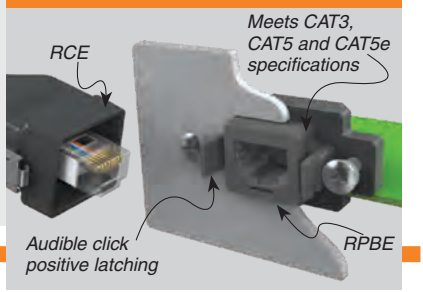


NO. OF PORTS	A	B	C
–01	(46.10) 1.815	(36.95) 1.455	(19.72) .776
–02	(67.10) 2.642	(57.95) 2.281	(40.72) 1.603



Some components removed for clarity

APPLICATION



Mates with:
RCE

SPECIFICATIONS

For complete specifications see www.samtec.com?RPCE

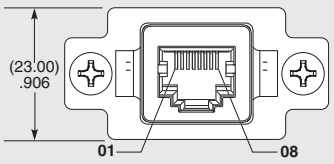
Insulator Material:
Glass Filled Thermoplastic
Contact:
Phosphor Bronze
Shield:
Phosphor Bronze
Operating Temp Range:
-40 °C to +75 °C
Overmold:
Rite Flex 640F
Seal: Rubber
Screw: Stainless Steel
Nut: Stainless Steel
Sealing Washer: Rubber
Wire: 24 AWG

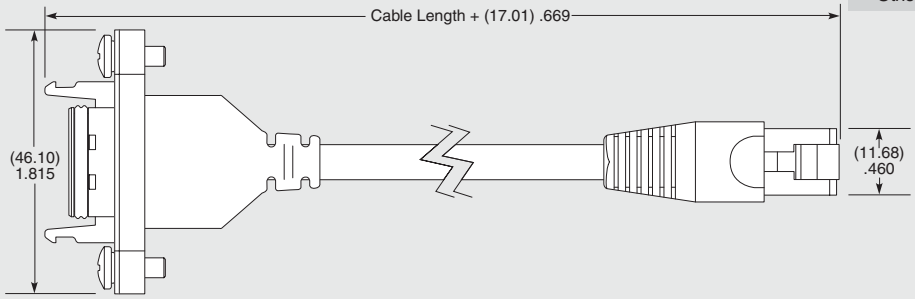
DUST CAPS

PORT	PART NO.	TYPE
–01	DCA-RPBE-01-01-P	Push-On/ No Latch
–01	DCA-RPBE-01-01-L	Latching
–02	DCA-RPBE-02-01-L	

Note: Meets IP68 requirements for dust and waterproof sealing when mated or with dust cap.

RPCE	01	PLATING	WIRE LENGTH	END OPTION	C5E
		–E = 50 µ" (1.27 µm) Gold on contact, Nickel on shell	–00.25 = (0.25 m) 9.84" –00.50 = (0.50 m) 19.69" Standard lengths	–D = Double Ended –BC = Blunt Cut	





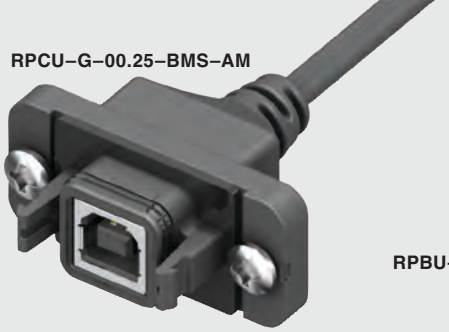
ALSO AVAILABLE (MOQ Required)
- Other wire lengths

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RPBU, RPCU SERIES

IP68 SEALED USB PANEL MOUNT

Mates with:
RCU (Single Port only)

SPECIFICATIONS

For complete specifications see www.samtec.com?RPBU

Insulator Material:
Black Liquid Crystal Polymer
Contact:
Phosphor Bronze
Current Rating:
4.2 A per pin
(1 pin powered)
Operating Temp Range:
-20 °C to +80 °C
Seal: Silicone
Lead-Free Solderable: Yes

RECOGNITIONS

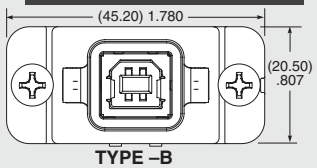
For complete scope of recognitions see www.samtec.com/quality

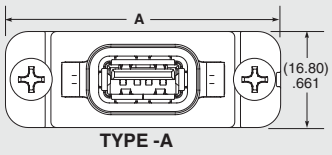
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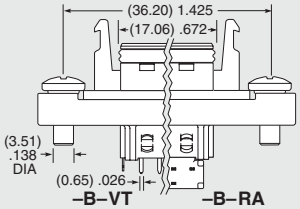
DUST CAPS

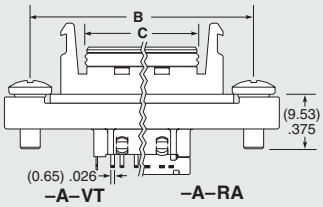
- DCA-RPBU-01-01-A
- DCA-RPBU-02-01-A
- DCA-RPBU-01-01-B

RPBU	NO. OF PORTS	PLATING	TYPE	LEAD STYLE	OPTION
	–01 = Single Port –02 = Dual Port (–A only)	–S = 30 µ" (0.76 µm) Gold on contact, Matte tin on tail	–A = USB A Type –B = USB B Type	–VT = Vertical Through-hole –RA = Right-angle	–LC = Locking Clip (–VT only)









NO. OF PORTS	A	B	C
–01	(48.15) 1.896	(39.10) 1.539	(20.01) .788
–02	(69.80) 2.748	(60.75) 2.392	(42.00) 1.654

Mates with:
RCU

SPECIFICATIONS

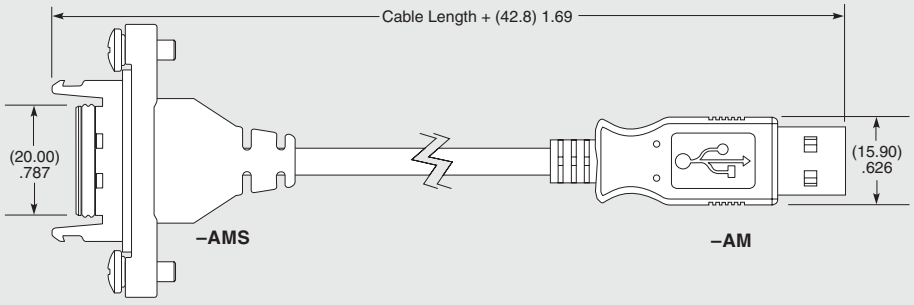
For complete specifications see www.samtec.com?RPCU

Insulator Material:
Black Liquid Crystal Polymer
Contact Material:
Phosphor Bronze
Operating Temp Range:
-20 °C to +80 °C
Shield Material:
Phosphor Bronze
Wire:
20 AWG (Power)
25 AWG (Signal)
28 AWG (Drain)

DUST CAPS

- DCA-RPBU-01-01-A
- DCA-RPBU-01-01-B

RPCU	PLATING	CABLE LENGTH	END 1 OPTION	END 2 OPTION
	–G = 30 µ" (0.76 µm) Gold on contact, Nickel on shell	–00.25 = (0.25 m) 9.84" Cable –00.50 = (0.50 m) 19.68" Cable Standard lengths (Assembled Length = Cable Length + (42.8 mm) 1.69")	–AMS = USB A Type, Sealed –BMS = USB B Type, Sealed	–AM = USB A Type, Not Sealed –BM = USB B Type, Not Sealed –BC = Blunt Cut



ALSO AVAILABLE (MOQ Required)

- Other wire lengths

Due to technical progress, all designs, specifications and components are subject to change without notice.

All parts within this catalog are built to Samtec's specifications.
Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.

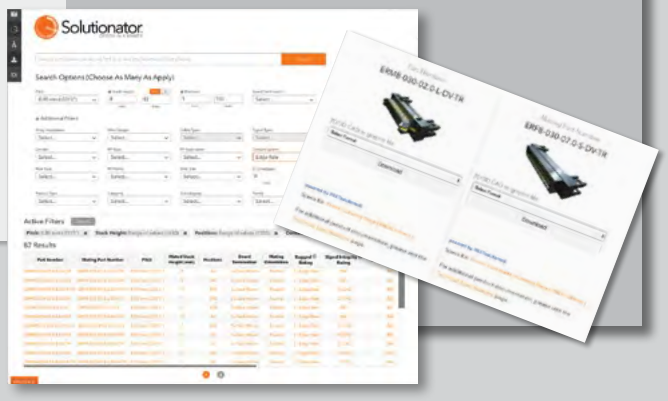
ONLINE TOOLS

Innovative design tools, resources and support make the design and implementation of your specific high-speed, rugged or ultra micro application simple.

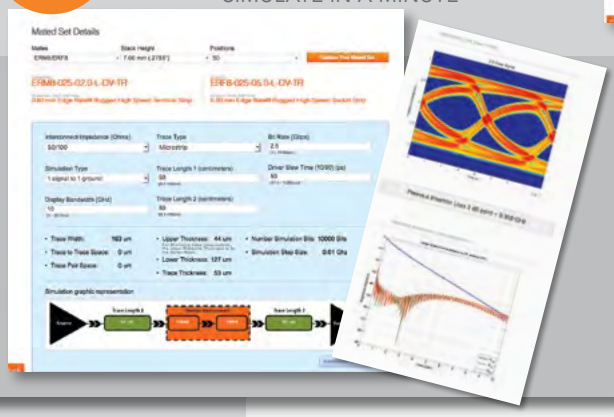
Solutionator®
DESIGN IN A MINUTE

Quickly Build Mated Connector Sets Online

- Wide variety of search parameters and filters: pitch, signaling, stack height, pin count, creepage and clearance, etc.
- Easily sort search results to find the right mated set
- Live chat with engineers for custom options
- Immediately download models and open Specs Kit
- **samtec.com/solutionator**



Simulator™
SIMULATE IN A MINUTE



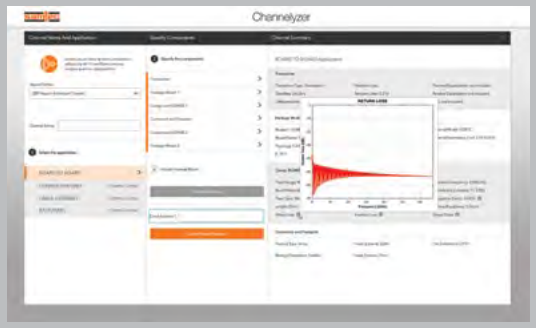
Real-time High-Speed Performance Simulations

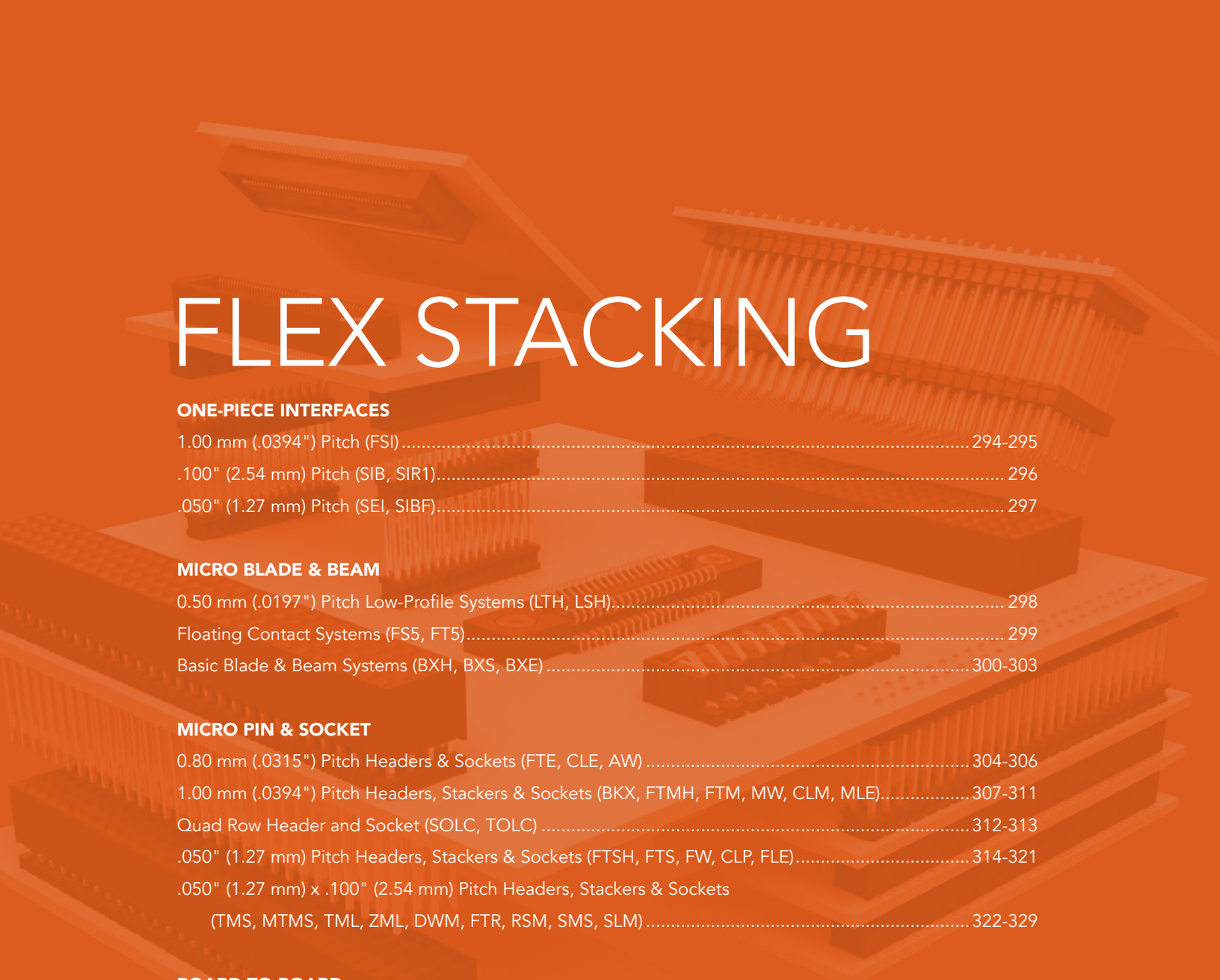
- Integrates and blends data from models to project performance in the user-defined system
- Outputs include:
  - — Insertion and return loss
  - — Crosstalk (NEXT and FEXT)
  - — Eye diagrams
- **samtec.com/simulator**

Channelyzer®

Online Full Channel Simulation & Analysis

- Channel modeling based on inputs provided by the user
- Produces results for standards and transceivers at varying equalization levels and data rates
- Generates individual receiver performance data per user-defined Tx/Rx assignments
- Channel overview and strategies for improved performance
- **samtec.com/channelyzer**





FLEX STACKING

ONE-PIECE INTERFACES

1.00 mm (.0394") Pitch (FSI) 294-295
.100" (2.54 mm) Pitch (SIB, SIR1) 296
.050" (1.27 mm) Pitch (SEI, SIBF) 297

MICRO BLADE & BEAM

0.50 mm (.0197") Pitch Low-Profile Systems (LTH, LSH) 298
Floating Contact Systems (FS5, FT5) 299
Basic Blade & Beam Systems (BXH, BXS, BXE) 300-303

MICRO PIN & SOCKET

0.80 mm (.0315") Pitch Headers & Sockets (FTE, CLE, AW) 304-306
1.00 mm (.0394") Pitch Headers, Stackers & Sockets (BKX, FTMH, FTM, MW, CLM, MLE) 307-311
Quad Row Header and Socket (SOLC, TOLC) 312-313
.050" (1.27 mm) Pitch Headers, Stackers & Sockets (FTSH, FTS, FW, CLP, FLE) 314-321
.050" (1.27 mm) x .100" (2.54 mm) Pitch Headers, Stackers & Sockets
(TMS, MTMS, TML, ZML, DWM, FTR, RSM, SMS, SLM) 322-329

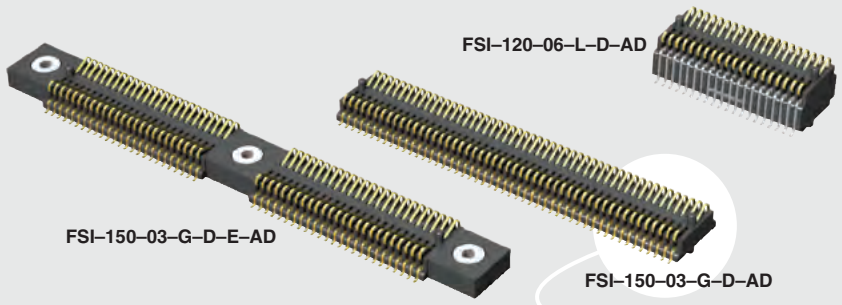
BOARD-TO-BOARD

2.00 mm (.0787") Pitch Headers and Stackers
(TMM, MTMM, MMT, TMMH, TSH, TW, TMMS, LTMM, ZLTMM) 330-341
2.00 mm (.0787") Pitch Press-Fit & PC/104-*Plus*™ Headers & Sockets (PTT, PTF, PTHF, ESQT-368) ... 342-343
2.00 mm (.0787") Pitch Sockets (ESQT, SQW, SQT, TLE, CLT, MMS, SMM) 344-350
2.00 mm (.0787") Pitch Self Mating Hermaphroditic Strip (LS2) 351
.100" (2.54 mm) Pitch Square Post Headers & Stackers
(TSW, TSM, MTSW, PHT, PHF, TLW, MTLW, TSSH, TSS, ZSS, DW, EW, ZW, HW) 352-363
.100" (2.54 mm) Pitch Square Post Sockets
(SSW, SSQ, SSM, HLE, BCS, ESW, ESQ, BSW, SLW, CES, SMH) 364-373
Machined Sockets & Terminals (SL, SDL, SS, SD, HSS, ESS, ESD, BBS, BBD, TS, TD) 374-377
Shunts & Jumpers (SNT, MNT, 2SN, SNM, JL) 378

APPLICATIONS

Flexible Stacking 40-45

samtec



(1.00 mm) .0394"

LOW-PROFILE & ELEVATED ONE-PIECE

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?FSI

Insulator Material:
Liquid Crystal Polymer
Contact Material:
BeCu
Current Rating:
2.8 A per pin
(2 pins powered)
Operating Temp Range:
-55 °C to +125 °C
Plating:
Au over 50 µ" (1.27 µm) Ni
RoHS Compliant:
Yes

PROCESSING

Lead-Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (05-30)
(0.15 mm) .006" max (50)*
*(.004" stencil solution may be available; contact IPG@samtec.com)
Compression Board:
Gold Pads required

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

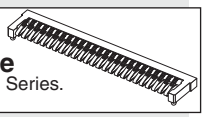
FILE NO. E111594

Notes:
Applications requiring 40-50 positions without threaded inserts, please contact Samtec Interconnect Processing Group.

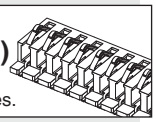
Some lengths, styles and options are non-standard, non-returnable.

Other Solutions

Low Profile
See SEI Series.

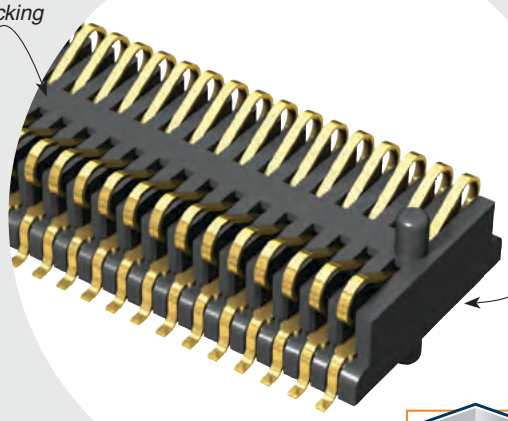


.100" (2.54 mm) Pitch
See SIB Series.



Choice of board stacking profiles

Short version or optional threaded inserts



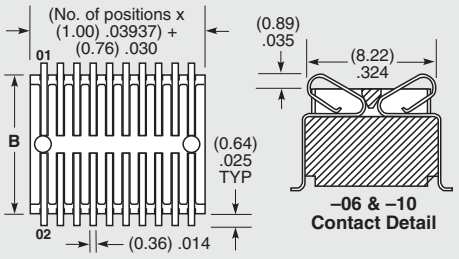
ALSO AVAILABLE
(MOQ Required)

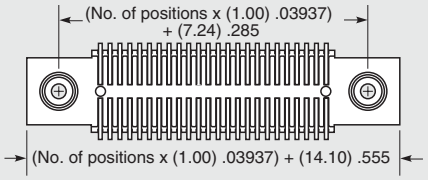
- No alignment pin
- Top side alignment pin
- Bottom side alignment pin
- Other platings

RUGGEDIZED BY SAMTEC

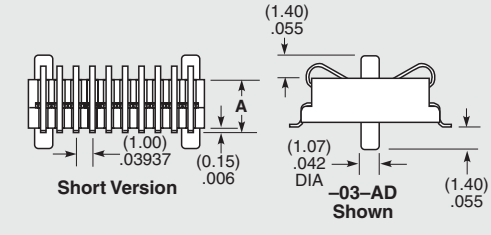
- Threaded insert option

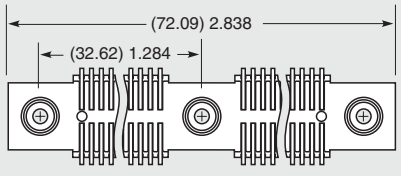
FSI	–	1	PINS PER ROW	–	BODY HEIGHT	–	PLATING OPTION
			10, 20, 30 & 50 (Insert/Screw Option) 05, 10, 20, 30, 50 (Short Version)		–03 = 3.00 mm –06 = 6.00 mm –10 = 10.00 mm		–G = 10 µ" (0.25 µm) Gold (–03 only) –L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail (Not available with –03 body height)





BODY HEIGHT	A	B
–03	(3.00) .118	(8.76) .345
–06	(6.00) .236	(9.02) .355
–10	(10.00) .394	(9.02) .355



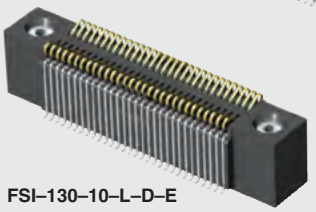




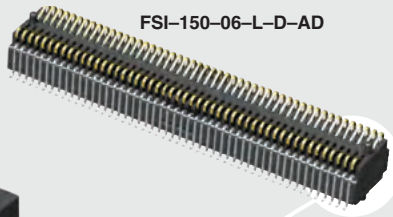
FSI–120–06–L–S–AD



FSI–120–03–G–S–AD

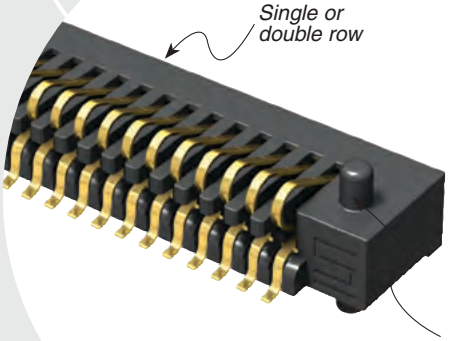


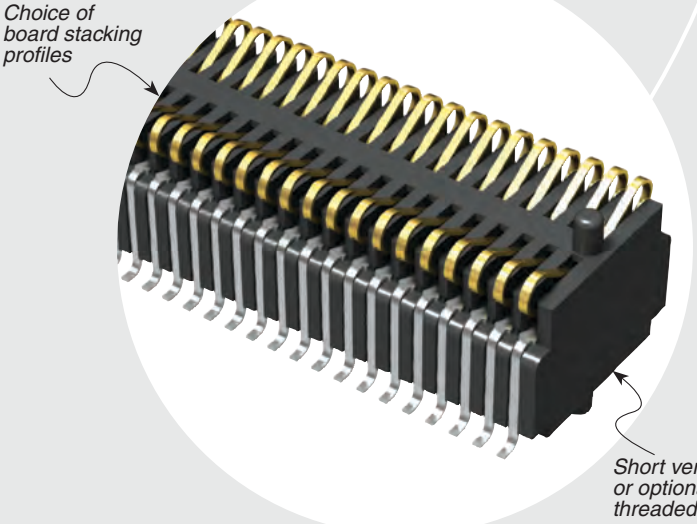
FSI–130–10–L–D–E



FSI–150–06–L–D–AD

FSI SERIES





ROW OPTION

–S
= Single Row
(Available with 5, 10 & 20 pins with –AD alignment pin)

–D
= Double Row

INSERT OPTION

Leave blank for Short Version
(No screw down inserts or holes)

–E
= #2-56 x 1/16" screw thread

–M
= 2.00 mm x 0.40 mm screw thread

ALIGNMENT OPTION

Leave blank for
no Alignment Pin

–AD
= Alignment Pin
Top & Bottom

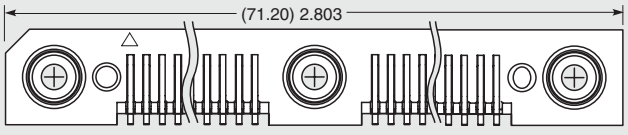
OTHER OPTION

–WT
= Weld Tab
(Available with –S row option &
–06 & –10 body height only)

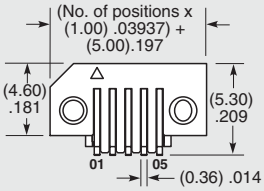
–K
= Polyimide Film Pick & Place Pad
(50 position with threaded insert option only)

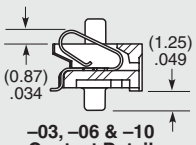
–P
= Plastic Pick & Place Pad
(5.08 mm) .200" x (12.45 mm) .490"
(50 not available with –E)
(Not available with –S row option
or –03 body height)

–TR
= Tape & Reel Packaging

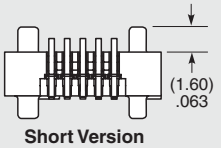


Insert Option (50 pins/row)

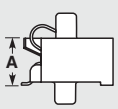




–03, –06 & –10
Contact Detail

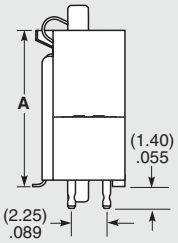


Short Version

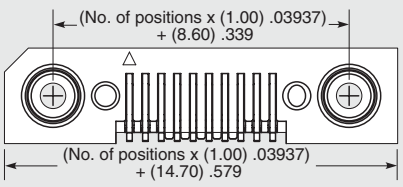


–03–AD Shown

Single Row Version –03, –06, –10



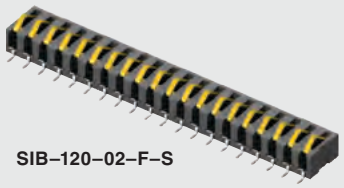
–WT Option
(–06 & –10 Body only)



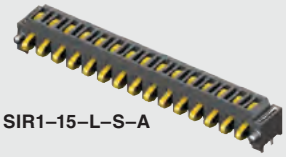
Insert Option (10, 20 & 30 pins/row)

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SIB–120–02–F–S



SIR1–15–L–S–A

(2.54 mm) .100"

SIB, SIR1 SERIES

ONE-PIECE INTERFACES

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?SIB

Insulator Material: Black Liquid Crystal Polymer
Contact Material: Phosphor Bronze
Plating: Au or Sn over 50 µ" (1.27 µm) Ni
Current Rating: 2.6 A per pin (1 pin powered)
Operating Temp Range: -55 °C to +125 °C
RoHS Compliant: Yes

PROCESSING

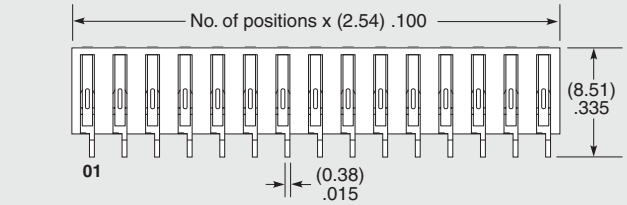
Lead-Free Solderable: Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (02-19)
(0.15 mm) .005" max (20-30)*
*(.004" stencil solution may be available; contact IPG@samtec.com)

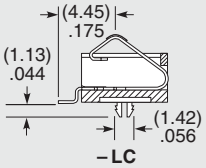
RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

SIB	–	1	NO. OF POSITIONS	–	02	–	PLATING OPTION	–	S	–	OPTION
			02 thru 30 (Per Row)				–F = Gold flash on contact, Matte Tin on tail				–LC = Locking Clip (Manual placement required)





Note: The SIB Series is intended for vertical mating only.

Note: Some sizes, styles and options are non-standard, non-returnable.

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?SIR1

Insulator Material: Black LCP
Contact Material: Phosphor Bronze
Plating: Au or Sn over 50 µ" (1.27 µm) Ni
Current Rating: 2.8 A per pin (1 pin powered)
Weld Tab: Phosphor Bronze
RoHS Compliant: Yes

PROCESSING

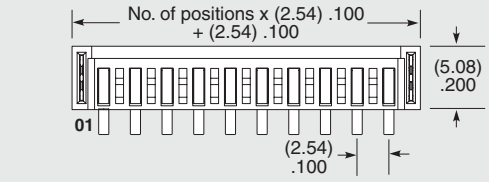
Lead-Free Solderable: Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max

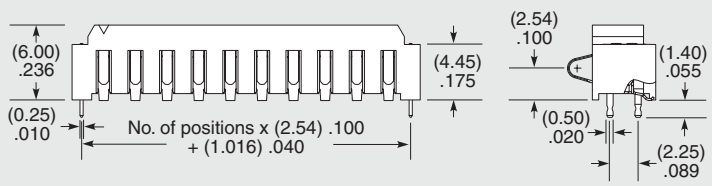
RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

SIR1	–	NO. OF POSITIONS	–	PLATING OPTION	–	S	–	OPTION
		–03, –05, –10, –15 (Per Row)		–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail –S = 30 µ" (0.76 µm) Gold on contact, Matte Tin on tail				–A = Alignment Pin –K = (4.00 mm) .157" DIA Polyimide Film Pick & Place Pad –TR = Tape & Reel



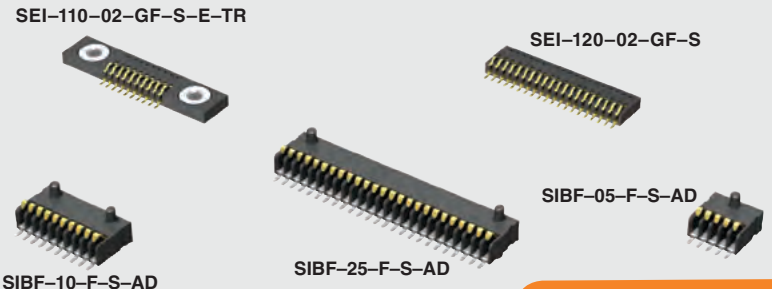


Note: Some sizes, styles and options are non-standard, non-returnable.

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All parts within this catalog are built to Samtec's specifications.
Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.

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(1.00 mm) .0394"(SEI) (1.27 mm) .050"(SIBF)

SEI, SIBF SERIES

ONE-PIECE INTERFACE

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?SEI or see www.samtec.com?SIBF

Insulator Material:
SEI = Liquid Crystal Polymer
SIBF = Black Liquid Crystal Polymer
Contact Material:
Phosphor Bronze
Plating:
SEI = Au over 50 µ" (1.27 µm) Ni
SIBF = Au or Sn over 50 µ" (1.27 µm) Ni
Current Rating:
SEI = 2.3 A per pin (1 pin powered)
SIBF = 2.5 A per pin (1 pin powered)
Operating Temp Range:
-55 °C to +125 °C
Mating Force:
SEI = 50 g (0.49 N) per contact
Voltage Rating:
SEI = 250 VAC
SIBF = 155 VAC
Cycles:
SEI = 100 min
Contact Deflection:
SEI = (0.46 mm) .018" nominal
RoHS Compliant:
Yes

PROCESSING

Lead-Free Solderable:
Yes
SMT Lead Coplanarity (SEI):
(0.10 mm) .004" max (05-25)
(0.15 mm) .006" max (30)*
*(.004" stencil solution may be available; contact IPG@samtec.com)
SMT Lead Coplanarity (SIBF):
(0.10 mm) .004" max (05-20)
(0.15 mm) .006" max (25)*
*(.004" stencil solution may be available; contact IPG@samtec.com)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

SEI – 1 NO. OF POSITIONS – 02 – PLATING OPTION – S – INSERT OPTION – ALIGNMENT OPTION – OTHER OPTION

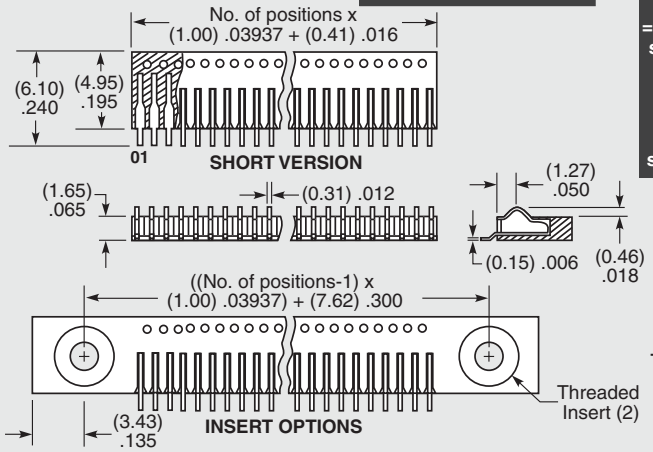
05, 10, 15, 20, 25, 30
(Standard sizes)

–G
= 10 µ" (0.25 µm) Gold
–GF
= 3 µ" (0.08 µm) Gold flash

Leave blank for Short Version (No screw down inserts or holes)
–E
= #2-56 x 1/16" screw thread
–M
= 2.00 mm x 0.40 mm screw thread

Leave blank for no Alignment Pin
–AT
= Alignment Pin Top Side
–AB
= Alignment Pin Bottom Side

–TR
= Tape & Reel



RUGGEDIZED BY SAMTEC

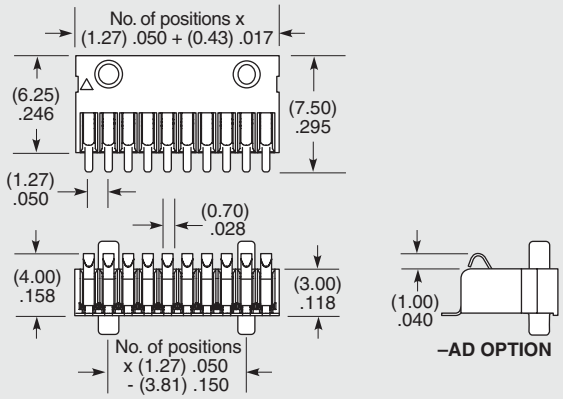
• Threaded insert option

SIBF – NO. OF POSITIONS – PLATING OPTION – S – OPTION

–05, –10, –20, –25

–F
= Flash Gold, Matte Tin on tail

–AD
= Top & Bottom Alignment Pin



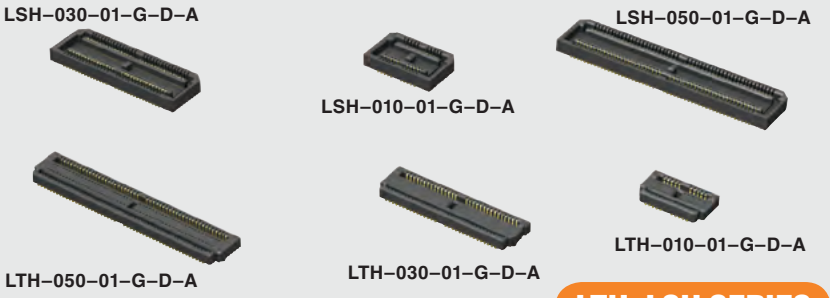
ALSO AVAILABLE
(MOQ Required)

- Additional positions
- Top or bottom side only alignment pin

Due to technical progress, all designs, specifications and components are subject to change without notice.

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(0.50 mm) .0197"

LTH, LSH SERIES

LOW-PROFILE BLADE AND BEAM

LTH Mates with:
LSH

LSH Mates with:
LTH

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?LTH or www.samtec.com?LSH

Insulator Material:
Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Contact Material:
BeCu
Plating:
Au over 50 µ" (1.27 µm) Ni
Current Rating:
2.6 A per pin
(2 pins powered)
Operating Temp Range:
-55 °C to +125 °C
RoHS Compliant:
Yes

PROCESSING

Lead-Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max
Board Stacking:
For applications requiring more than two connectors per board, contact ipg@samtec.com

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

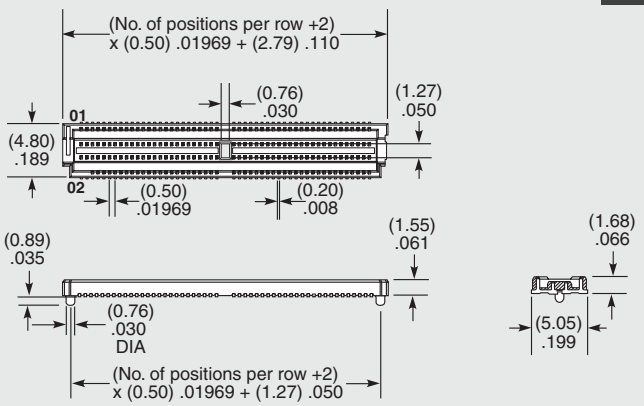
MATED HEIGHT

LEAD STYLE	MATED HEIGHT*
–01	(2.31) .091

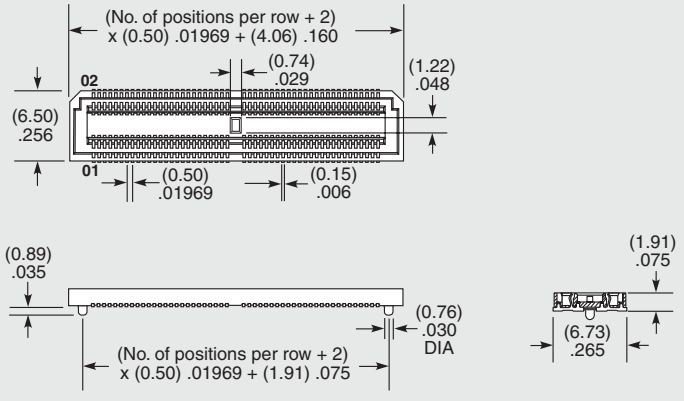
*Processing conditions will affect mated height.

Note: Some lengths, styles and options are non-standard, non-returnable.

LTH	–	NO. OF POSITIONS PER ROW	–	01	–	PLATING OPTION	–	D	–	A	–	OTHER OPTION
		–010, –020, –030, –040, –050				–G = 10 µ" (0.25 µm) Gold						–K = (5.50 mm) .217" DIA Polyimide Film Pick & Place Pad –TR = Tape and Reel



LSH	–	NO. OF POSITIONS PER ROW	–	01	–	PLATING OPTION	–	D	–	A	–	OTHER OPTION
		–010, –020, –030, –040, –050				–G = 10 µ" (0.25 µm) Gold						–K = (7.50 mm) .295" DIA Polyimide Film Pick & Place Pad –TR = Tape and Reel



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FT5–15–03.0–L–DV–TH


FT5–15–01.0–L–DV–TH


FT5–30–01–L–RA


FS5–15–04.0–L–DV–TH


FS5–30–04.0–L–DV–TH

(0.50 mm) .0197"

FT5, FS5 SERIES

HIGH-SPEED FLOATING CONTACT SYSTEM

FT5 Mates with:
FS5

FS5 Mates with:
FT5

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?FT5 or www.samtec.com?FS5

Insulator Material:
Black Liquid Crystal Polymer
Contact Material:
Phosphor Bronze (FT5)
BeCu (FS5)
Weld Tab:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Current Rating:
1.8 A per pin
(2 pins powered)
Operating Temp Range:
-55 °C to +125 °C
RoHS Compliant:
Yes
Lead-Free Solderable:
Yes

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

MATED HEIGHT

MATED HEIGHT*		
FS5 LEAD STYLE	FT5 LEAD STYLE	
	–01.0	–03.0
–04.0	(5.00) .197	(7.00) .276

*Processing conditions will affect mated height.

Note: Floating contact system provides 0.50 mm float in X and Y directions.

Note: Some lengths, styles and options are non-standard, non-returnable.

FT5 – NO. OF POSITIONS – LEAD STYLE – PLATING OPTION – ROW OPTION – TH – OPTION

NO. OF POSITIONS: –15, –30 (Per Row)

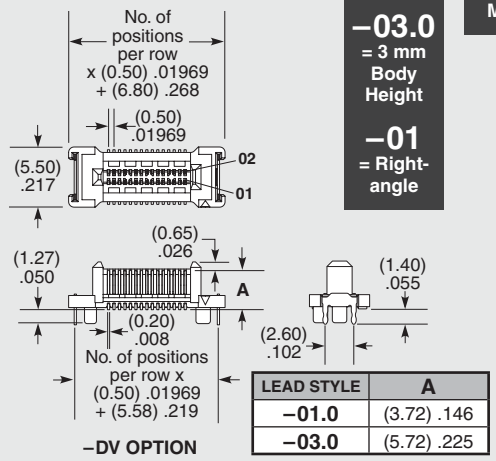
LEAD STYLE:
- –01.0 = 1 mm Body Height
- –03.0 = 3 mm Body Height
- –01 = Right-angle

PLATING OPTION: –L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

ROW OPTION:
- –DV = Vertical
- –RA = Right-angle

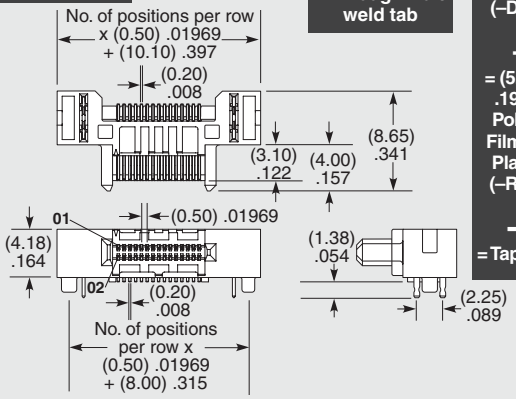
TH: Leave blank for –RA; –TH = Through-hole weld tab

OPTION: Required callouts
- –P = Pick & Place Pad (–DV only)
- –K = (5.00 mm) .197" DIA Polyimide Film Pick & Place Pad (–RA only)
- -TR = Tape & Reel



–DV OPTION

LEAD STYLE	A
–01.0	(3.72) .146
–03.0	(5.72) .225



–RA OPTION

FS5 – NO. OF POSITIONS – LEAD STYLE – PLATING OPTION – DV – TH – K – TR

NO. OF POSITIONS: –15, –30 (Per Row)

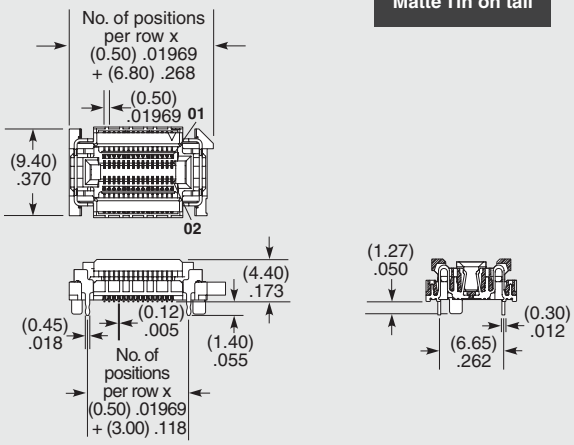
LEAD STYLE: –04.0 = 4 mm Body Height

PLATING OPTION: –L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

TH: –TH = Through-hole weld tab

K: –K = (8.25 mm) .325" DIA Polyimide Film Pick & Place Pad

TR: –TR = Tape & Reel



ALSO AVAILABLE (MOQ Required)

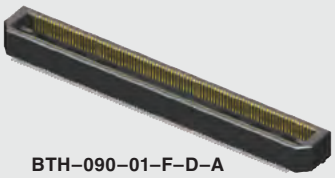
- Other lead counts
- Surface mount weld tab

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samtec

10 YEAR MFG WITH 50 µ" GOLD
EXTENDED LIFE PRODUCT
HIGH MATING CYCLES


BTH–090–01–F–D–A

BTH–030–01–L–D–RA–WT


(0.50 mm) .0197"

BTH SERIES

BASIC BLADE & BEAM HEADER

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?BTH

Insulator Material: Black LCP
Contact Material: Phosphor Bronze
Plating: Au or Sn over 50 µ" (1.27 µm) Ni
Current Rating: 2.0 A per pin (2 pins powered)
Flammability Rating: UL 94 VO
Operating Temp Range: -55 °C to +125 °C
Voltage Rating: 175 VAC
Max Cycles: 100
RoHS Compliant: Yes

PROCESSING

Lead-Free Solderable: Yes
SMT Lead Coplanarity:
Vertical= (0.10 mm) .004" max (030-090)
Vertical= (0.15 mm) .006" max (120-150)*
Right-angle= (0.15 mm) .006" max (030-090)*
*(.004" stencil solution may be available; contact IPG@samtec.com)
Board Stacking: For applications requiring more than two connectors per board or 90 positions or higher, contact ipg@samtec.com

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

ALSO AVAILABLE (MOQ Required)

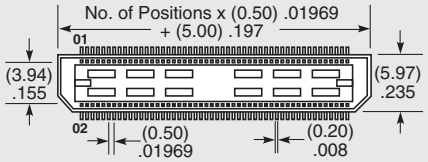
- 30 µ" (0.76 µm) Gold
- Edge Mount Capability
- 8 mm, 11 mm, 16 mm, 19 mm and 22 mm Stack Height (Caution: Some automatic placement/ inspection machines may have component height restrictions. Please consult machinery specifications.) (11 mm, 16 mm, 19 mm and 22 mm not available with 50 positions)

Note: Some lengths, styles and options are non-standard, non-returnable.

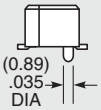
BTH – NO. OF POSITIONS PER ROW – 01 – PLATING OPTION – D – A – OTHER OPTION

Mates with: BSH

–030, –050, –060, –090, –120, –150







–F
= Gold Flash on contact, Matte Tin on tail

–L
= 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

–C*
= Electro-Polished Selective 50 µ" (1.27 µm) min Au over 150 µ" (3.81 µm) Ni on Signal Pins in contact area, Matte Tin over 50 µ" (1.27 µm) min Ni on all solder tails

***Note:** –C Plating passes 10 year MFG testing

–K
= (7.00 mm) .276" DIA Polyimide Film Pick & Place Pad

–TR
= Tape & Reel (120 positions maximum)

MATED HEIGHT

LEAD STYLE	MATED HEIGHT*
–01	(5.00) .197

*Processing conditions will affect mated height.

POWER/SIGNAL APPLICATION



Compatible with UMPT/UMPS for flexible two-piece power/signal solutions

BTH – NO. OF POSITIONS PER ROW – 01 – PLATING OPTION – D – RA – WT – OTHER OPTION

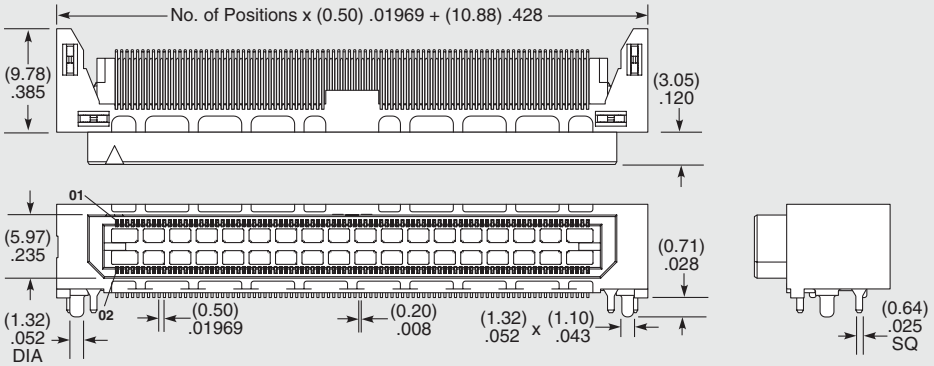
Mates with: BSH

–030, –060, –090

–F
= Gold Flash on contact, Matte Tin on tail

–L
= 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

–K
= (7.00 mm) .276" DIA Polyimide Film Pick & Place Pad

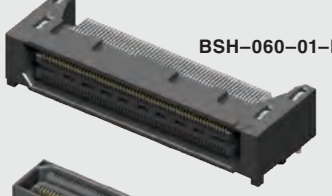


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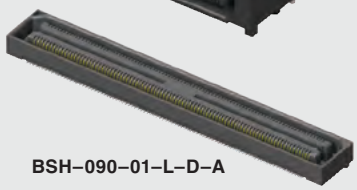
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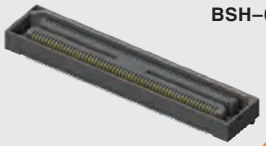
samtec

10 YEAR MFG WITH 50 µ" GOLD
EXTENDED LIFE PRODUCT
HIGH MATING CYCLES


BSH–060–01–F–D–RA–WT


BSH–030–01–L–D–RA–WT


BSH–090–01–L–D–A


BSH–060–01–F–D–A

(0.50 mm) .0197"

BSH SERIES

BASIC BLADE & BEAM SOCKET

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?BSH

Insulator Material:
Black LCP
Contact Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Current Rating:
2 A per pin
(2 pins powered)
Flammability Rating:
UL 94 VO
Operating Temp Range:
-55 °C to +125 °C
Voltage Rating:
175 VAC
Max Cycles:
100
RoHS Compliant:
Yes

PROCESSING

Lead-Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (030-090)
(0.15 mm) .006" max (120-150)*
*(.004" stencil solution may be available; contact IPG@samtec.com)
Board Stacking:
For applications requiring more than two connectors per board or 90 positions or higher, contact ipg@samtec.com

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

ALSO AVAILABLE (MOQ Required)

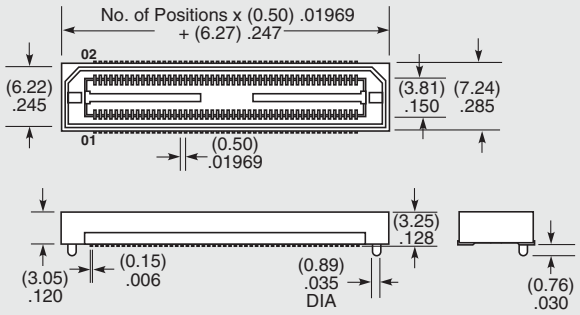
- 30 µ" (0.76 µm) Gold
- Edge Mount Capability
- 8 mm, 11 mm, 16 mm, 19 mm and 22 mm Stack Height (Caution: Some automatic placement/ inspection machines may have component height restrictions. Please consult machinery specifications.) (11 mm, 16 mm, 19 mm and 22 mm not available with 50 positions)

Note:
Some lengths, styles and options are non-standard, non-returnable.

BSH – NO. OF POSITIONS PER ROW – 01 – PLATING OPTION – D – A – OTHER OPTION

Mates with:
BTH

–030, –050, –060, –090, –120, –150



–F
= Gold Flash on contact, Matte Tin on tail

–L
= 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

–C*
= Electro-Polished Selective 50 µ" (1.27 µm) min Au over 150 µ" (3.81 µm) Ni on Signal Pins in contact area, Matte Tin over 50 µ" (1.27 µm) min Ni on all solder tails

***Note:** –C Plating passes 10 year MFG testing

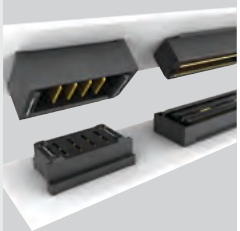
–TR
= Tape & Reel (120 positions maximum)

MATED HEIGHT

LEAD STYLE	MATED HEIGHT*
–01	(5.00) .197

*Processing conditions will affect mated height.

POWER/SIGNAL APPLICATION



Compatible with UMPT/UMPS for flexible two-piece power/signal solutions

BSH – NO. OF POSITIONS PER ROW – 01 – PLATING OPTION – D – RA – WT – OTHER OPTION

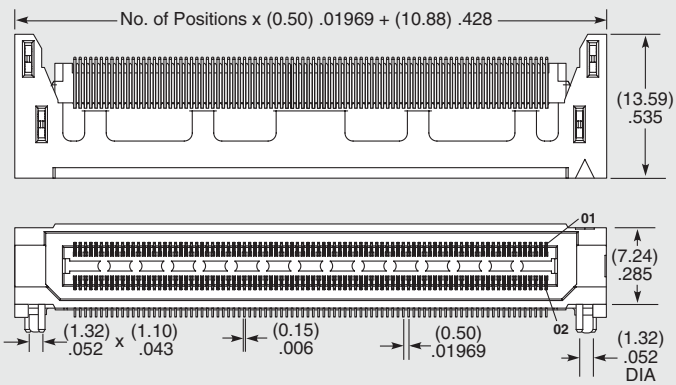
Mates with:
BTH

–030, –060, –090

–F
= Gold Flash on contact, Matte Tin on tail

–L
= 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

–GP
= Guide Post

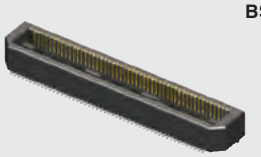


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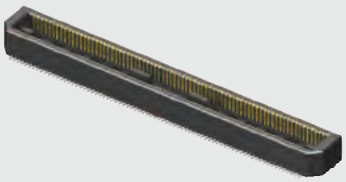
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samtec

10 YEAR MFG WITH 50 µ" GOLD
EXTENDED LIFE PRODUCT
HIGH MATING CYCLES


BTS–050–01–F–D–A


BSS–025–01–L–D–A


BTS–075–01–L–D–A

(0.635 mm) .025"

BTS, BSS SERIES

BASIC BLADE & BEAM HEADER & SOCKET

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?BTS or www.samtec.com?BSS

Insulator Material: Liquid Crystal Polymer
Terminal Material (BTS): Phosphor Bronze
Contact Material (BSS): Phosphor Bronze
Plating: Au or Sn over 50 µ" (1.27 µm) Ni
Current Rating: 1.8 A per pin (2 pins powered)
Operating Temp Range: -55 °C to +125 °C
RoHS Compliant: Yes

PROCESSING

Lead-Free Solderable: Yes
SMT Lead Coplanarity: (0.10 mm) .004" max
Board Stacking: For applications requiring more than two connectors per board or 100 positions or higher, contact ipg@samtec.com

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

MATED HEIGHT

LEAD STYLE	MATED HEIGHT*
–01	(5.00) .197

*Processing conditions will affect mated height.

ALSO AVAILABLE (MOQ Required)

- 30 µ" (0.76 µm) Gold
- Other platings
- Other positions

OTHER SOLUTIONS



Edge Mount capability. Call for availability.

Note: Some lengths, styles and options are non-standard, non-returnable.

BTS – NO. OF POSITIONS PER ROW – 01 – PLATING OPTION – D – A – OTHER OPTION

Mates with: BSS

–025, –050, –075, –100

PLATING OPTION

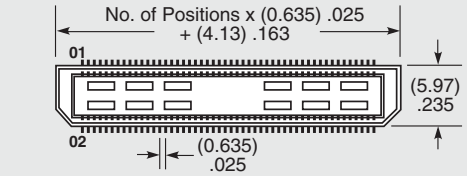
–F = Gold Flash on contact, Matte Tin on tail

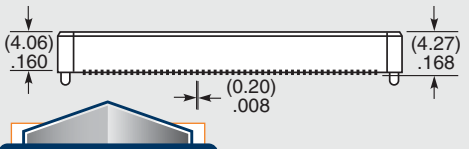
–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

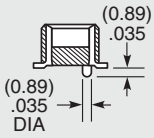
OTHER OPTION

–K = (7.00 mm) .275" DIA Polyimide Film Pick & Place Pad

–TR = Tape & Reel (–100 positions maximum)







RUGGEDIZED BY SAMTEC

• Passes 10 year MFG

POWER/SIGNAL APPLICATION



Compatible with UMPT/UMPS for flexible two-piece power/signal solutions

BSS – NO. OF POSITIONS PER ROW – 01 – PLATING OPTION – D – A – OTHER OPTION

Mates with: BTS

–025, –050, –075, –100

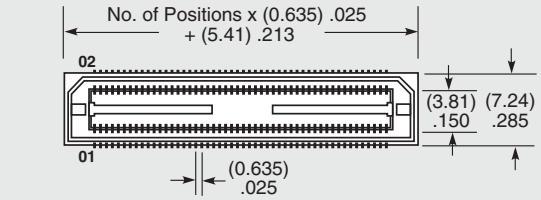
PLATING OPTION

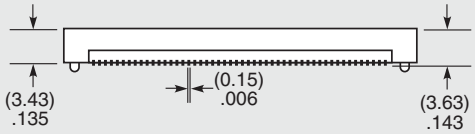
–F = Gold Flash on contact, Matte Tin on tail

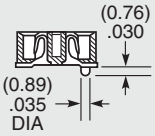
–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

OTHER OPTION

–TR = Tape & Reel (–100 positions maximum)

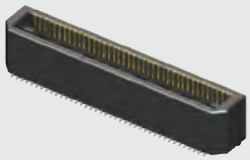




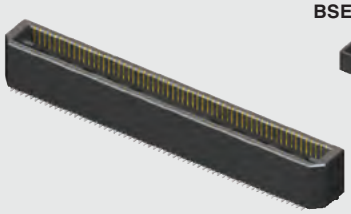


samtec

10 YEAR MFG WITH 50 µ" GOLD
EXTENDED LIFE PRODUCT
HIGH MATING CYCLES



BTE–040–02–L–D–A



BTE–060–02–F–D–A



BSE–020–01–F–D–A

(0.80 mm) .0315"

BTE, BSE SERIES

BASIC BLADE & BEAM HEADER & SOCKET

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?BTE or www.samtec.com?BSE

Insulator Material:
Liquid Crystal Polymer
Contact Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Current Rating:
2 A per pin
(2 pins powered)
Operating Temp Range:
-55 °C to +125 °C
Voltage Rating:
225 VAC with 5 mm Stack Height
Max Cycles:
100
RoHS Compliant:
Yes

PROCESSING

Lead-Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (020-080)
(0.15 mm) .006" max (100-120)*
*(.004" stencil solution may be available; contact IPG@samtec.com)
Board Stacking:
For applications requiring more than two connectors per board or 80 positions or higher, contact ipg@samtec.com

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

ALSO AVAILABLE (MOQ Required)

- 30 µ" (0.76 µm) Gold
- Edge Mount Capability
- Friction Lock option
- 11 mm, 14 mm, 16.10 mm, 19.10 mm, 22 mm, 25 mm and 30 mm Stack Height (Caution: Some automatic placement/inspection machines may have component height restrictions. Please consult machinery specifications.)

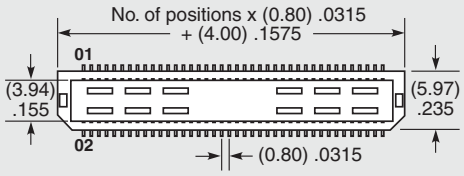
Note:
Some lengths, styles and options are non-standard, non-returnable.

BTE – NO. OF POSITIONS PER ROW – LEAD STYLE – PLATING OPTION – D – A – OTHER OPTION

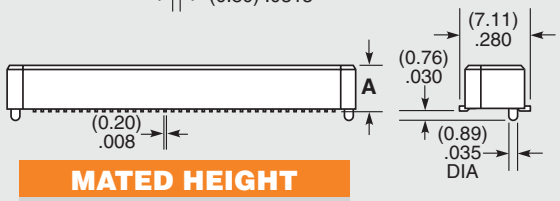
Mates with:
BSE

–020, –040, –060, –080, –100, –120

Specify LEAD STYLE from chart



LEAD STYLE	A
–01	(4.27) .168
–02	(7.21) .284



–F
= Gold Flash on contact, Matte Tin on tail

–L
= 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

–C*
= Electro-Polished Selective 50 µ" (1.27 µm) min Au over 150 µ" (3.81 µm) Ni on Signal Pins in contact area, Matte Tin over 50 µ" (1.27 µm) min Ni on all solder tails

***Note:** –C Plating passes 10 year MFG testing

–K
= (7.00 mm) .275" DIA Polyimide Film Pick & Place Pad

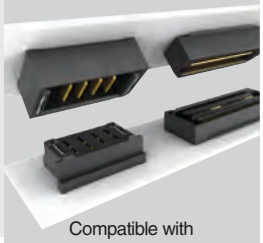
–TR
= Tape & Reel (80 positions maximum)

MATED HEIGHT

LEAD STYLE	MATED HEIGHT*
–01	(5.00) .197
–02	(8.00) .315

*Processing conditions will affect mated height.

POWER/SIGNAL APPLICATION

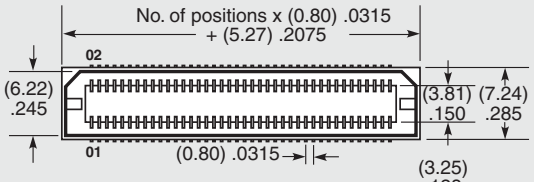


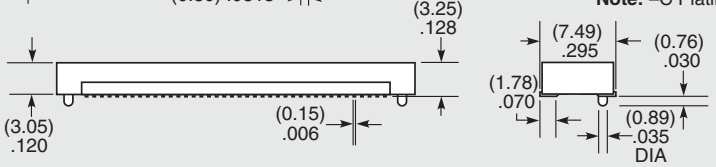
Compatible with UMPT/UMPS for flexible two-piece power/signal solutions

BSE – NO. OF POSITIONS PER ROW – 01 – PLATING OPTION – D – A – OTHER OPTION

Mates with:
BTE

–020, –040, –060, –080, –100, –120





–F
= Gold Flash on contact, Matte Tin on tail

–L
= 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

–C*
= Electro-Polished Selective 50 µ" (1.27 µm) min Au over 150 µ" (3.81 µm) Ni on Signal Pins in contact area, Matte Tin over 50 µ" (1.27 µm) min Ni on all solder tails

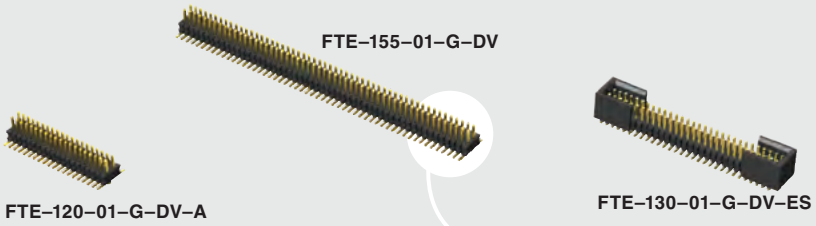
***Note:** –C Plating passes 10 year MFG testing

–TR
= Tape & Reel (80 positions maximum)

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(0.80 mm) .0315"

FTE SERIES

SMT MICRO HEADER

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?FTE

Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Plating:
Au over 50 µ" (1.27 µm) Ni
Current Rating (FTE/CLE):
2.7 A per pin
(2 pins powered)
Operating Temp Range:
-55 °C to +125 °C
RoHS Compliant:
Yes

PROCESSING

Lead-Free Solderable:
Yes
-DV Lead Coplanarity:
(0.10 mm) .004" max
-DH Lead Coplanarity:
(0.10 mm) .004" max (05-25)
(0.15 mm) .006" max (26-50)*
*(.004" stencil solution may be available; contact IPG@samtec.com)

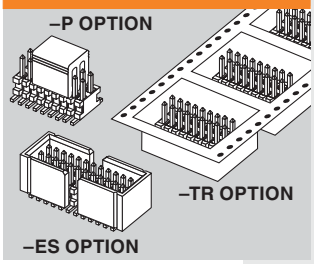
RECOGNITIONS

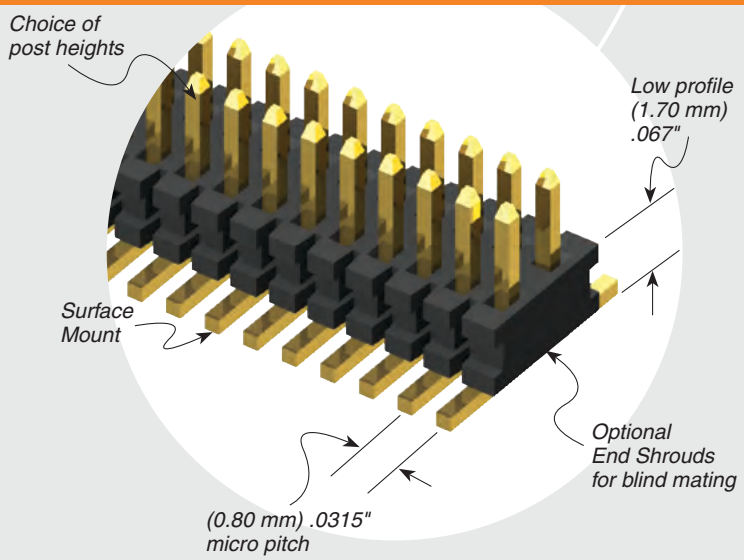
For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

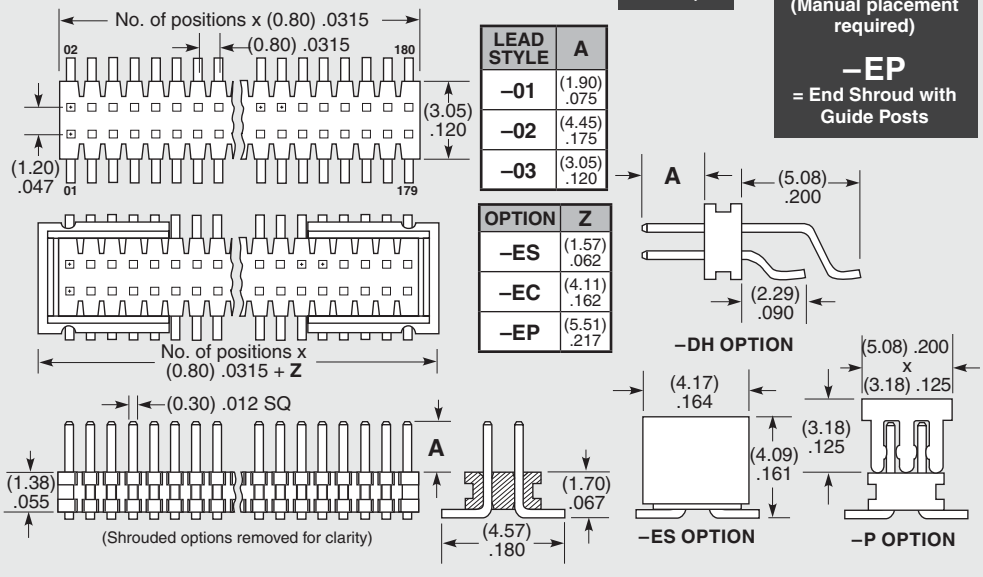
Mates with:
CLE

OPTIONS





FTE	1	NO. PINS PER ROW	LEAD STYLE	PLATING OPTION	TAIL OPTION	FLEX SHROUD OPTIONS	OTHER OPTION
		05 thru 90	Specify LEAD STYLE from chart	–G = 10 µ" (0.25 µm) Gold on post, Gold flash on balance	–DV = Dual Vertical –DH = Dual Horizontal (50 pos. max.)	Style –01 –DV only (11 pins/row min.) –ES = End Shroud –EC = End Shroud with Locking Clips (Manual placement required) –EP = End Shroud with Guide Posts	–A = Alignment Pin (5 pos. min.) Metal or plastic at Samtec discretion (–DV only) –K = (2.50 mm) .098" DIA Polyimide Film Pick & Place Pad (–DH only) –P = Plastic Pick & Place Pad (8 pos. min.) –DV only –TR = Tape & Reel Packaging



LEAD STYLE	A
–01	(1.90) .075
–02	(4.45) .175
–03	(3.05) .120

OPTION	Z
–ES	(1.57) .062
–EC	(4.11) .162
–EP	(5.51) .217

ALSO AVAILABLE (MOQ Required)

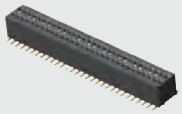
- End shrouds with board locks
- Gold flash plating

Note:
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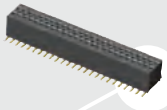


CLE–130–01–G–DV



CLE–108–01–G–DV

CLE–125–01–G–DV



(0.80 mm) .0315"

CLE SERIES

COST-EFFECTIVE MICRO SOCKET

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?CLE

Insulator Material:
Black Liquid Crystal Polymer
Contact Material:
BeCu
Plating:
Au over 50 µ" (1.27 µm) Ni
Current Rating (CLE/FTE):
2.7 A per pin
(2 pins powered)
Operating Temp Range:
-55 °C to +125 °C
Insertion Depth:
Top Entry = (1.73 mm) .068" to (3.18 mm) .125" with (0.38 mm) .015" wipe, or pass-through
Bottom Entry = (3.23 mm) .127" minimum plus board thickness
Normal Force:
75 grams (0.73 N)
Max Cycles:
100 with 10 µ" (0.25 µm) Au
RoHS Compliant:
Yes

PROCESSING

Lead-Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (04-65)
(0.15 mm) .006" max (66-90)*
*(.004" stencil solution may be available; contact IPG@samtec.com)

RECOGNITIONS

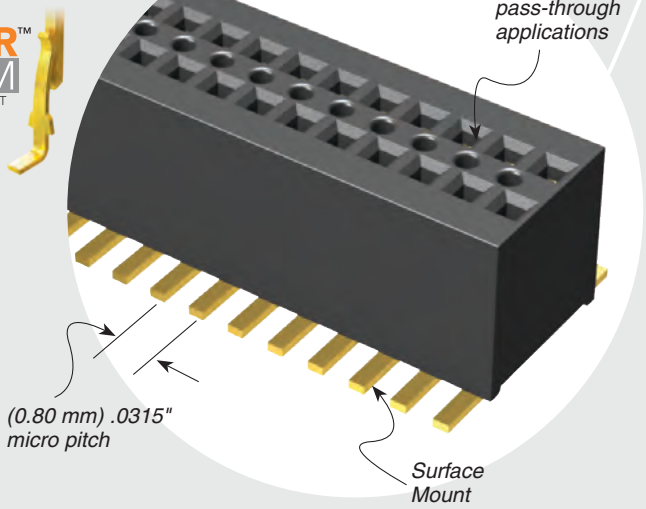
For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

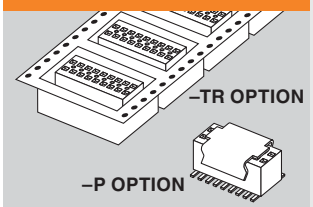
Note:
Some lengths, styles and options are non-standard, non-returnable.

Mates with:
FTE, AW

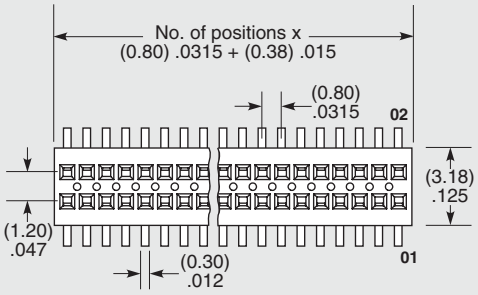
TIGER™ BEAM CONTACT

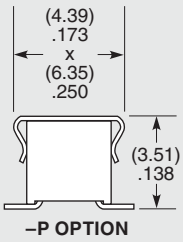


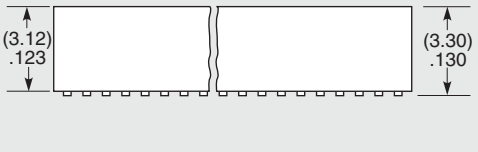
OPTIONS

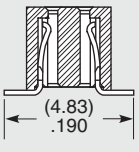


CLE	–	1	NO. PINS PER ROW	–	01	–	PLATING OPTION	–	DV	–	OPTIONS
			04 thru 90				–G = 10 µ" (0.25 µm) Gold				–A = Alignment Pin (4 positions minimum) Metal or plastic at Samtec discretion. –K = (3.50 mm) .138" DIA Polyimide film Pick & Place Pad (8 positions minimum) –P = Metal Pick & Place Pad (8 positions minimum) –TR = Tape & Reel Packaging







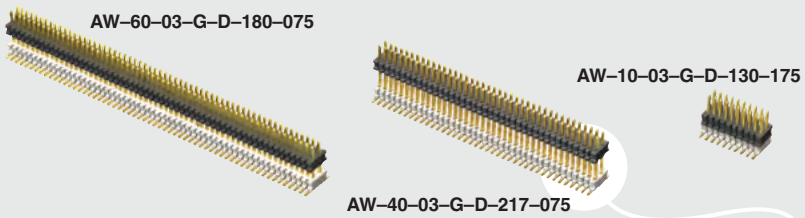


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FLEX STACK



(0.80 mm) .0315"

AW SERIES

SMT MICRO BOARD STACKER

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?AW

Insulator Material:
Top: Black LCP
Bottom: Natural LCP
Terminal Material:
Phosphor Bronze
Plating:
Au over 50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C
RoHS Compliant:
Yes

PROCESSING

Lead-Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (05-40)
(0.15 mm) .006" max (41-90)*
*(.004" stencil solution may be available; contact IPG@samtec.com)

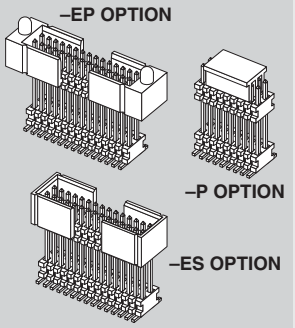
RECOGNITIONS

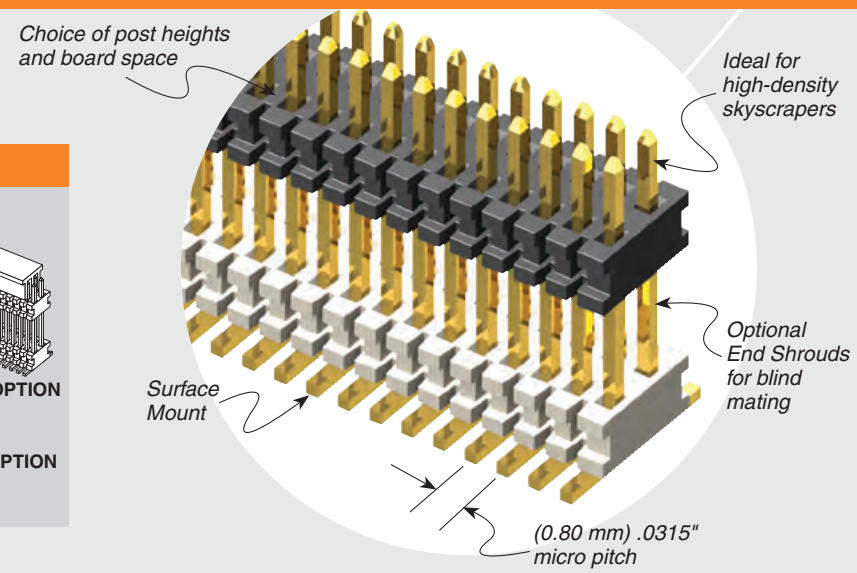
For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

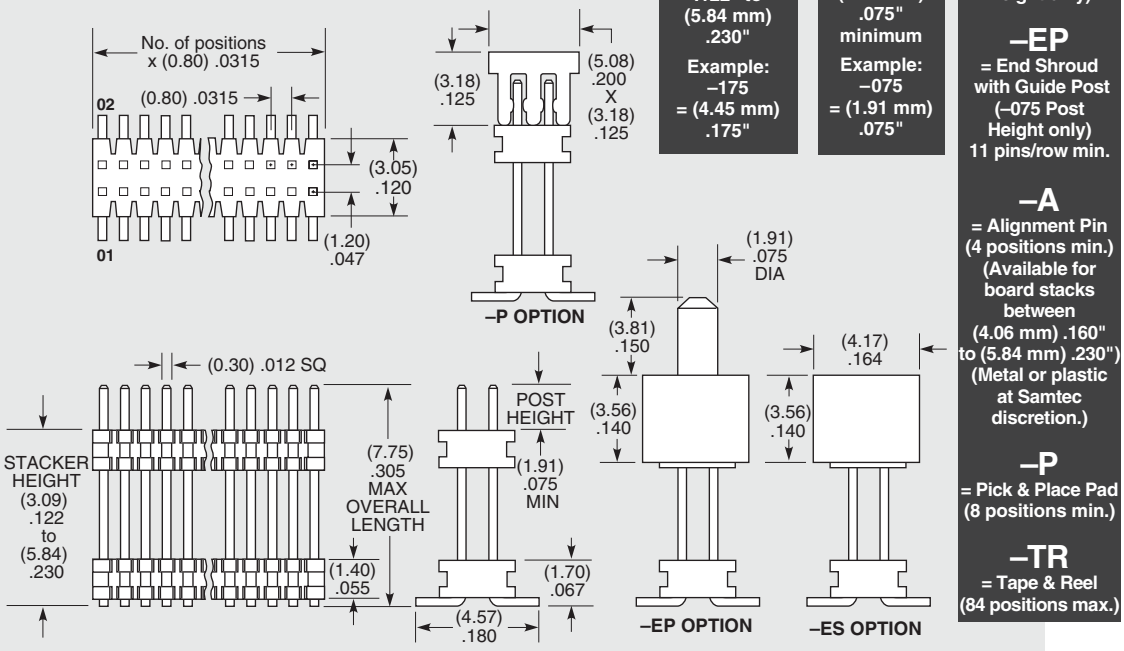
Mates with:
CLE

OPTIONS





AW	NO. PINS PER ROW	03	PLATING OPTION	D	STACKER HEIGHT	POST HEIGHT	OPTION
	05 thru 90		–G = 10 µ" (0.25 µm) Gold		–"XXX" = Stacker Height (in inches) (3.09 mm) .122" to (5.84 mm) .230" Example: –175 = (4.45 mm) .175"	–"XXX" = Post Height (in inches) (1.91 mm) .075" minimum Example: –075 = (1.91 mm) .075"	–ES = End Shroud 11 pins/row min. (–075 Post Height only) –EP = End Shroud with Guide Post (–075 Post Height only) 11 pins/row min. –A = Alignment Pin (4 positions min.) (Available for board stacks between (4.06 mm) .160" to (5.84 mm) .230") (Metal or plastic at Samtec discretion.) –P = Pick & Place Pad (8 positions min.) –TR = Tape & Reel (84 positions max.)



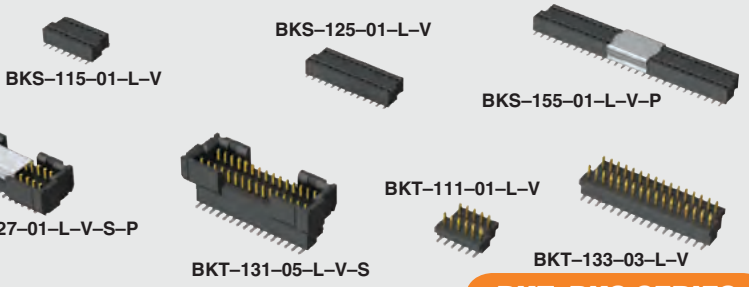
Notes:
For added mechanical stability, Samtec recommends mechanical board spacers be used in applications with gold or selective gold plated connectors. Contact ipg@samtec.com for more information.

Some lengths, styles and options are non-standard, non-returnable.

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(1.00 mm) .0394"

BKT, BKS SERIES

POLARIZED MICRO HEADER & SOCKET

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?BKT or www.samtec.com?BKS

Insulator Material:
Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Current Rating:
2.8 A per pin
(2 pins powered)
Operating Temp Range:
-55 °C to +125 °C
Insertion Depth:
(1.40 mm) .055" minimum
Normal Force:
40 grams (0.39 N) average
Max Cycles:
100 with 10 µ" (0.25 µm) Au
RoHS Compliant:
Yes

PROCESSING

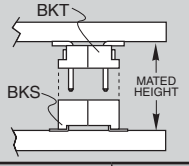
Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

APPLICATIONS



BKT LEAD STYLE	MATED HEIGHT*
–01	(4.14) .163
–02	(4.50) .177
–03	(5.00) .197
–04	(6.00) .236
–05	(7.00) .276

*Processing conditions will affect mated height.

TIGER™ CLAW CONTACT



Note:
Some sizes, styles and options are non-standard, non-returnable.

BKT – 1 – NO. OF POSITIONS – BODY STYLE – PLATING OPTION – V – OPTIONS

Mates with:
BKS

07 thru 69
(Odd lead counts only)

Specify BODY STYLE from chart

–F
= Gold flash on post, Matte Tin on tail

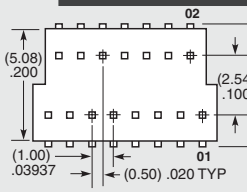
–L
= 10 µ" (0.25 µm) Gold on post, Matte Tin on tail

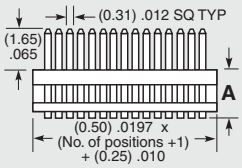
–S
= Shrouded (15 positions minimum)

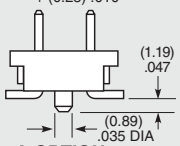
–A
= Alignment Pin (Metal or plastic at Samtec discretion) (13 positions minimum)

–P
= Pick & Place Pad (13 positions minimum)

–TR
= Tape & Reel Packaging

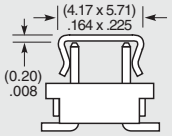




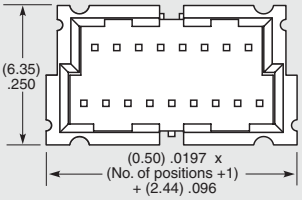


–A OPTION

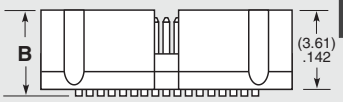
BODY STYLE	A	B	BOARD SPACE (Mated with BKS)
–01	(1.93) .076	(3.91) .154	(4.14) .163
–02	(2.29) .090	(4.27) .168	(4.50) .177
–03	(2.79) .110	(4.78) .188	(5.00) .197
–04	(3.78) .149	(5.77) .227	(6.00) .236
–05	(4.80) .189	(6.78) .267	(7.00) .276



–P OPTION



–S OPTION



BKS – 1 – NO. OF POSITIONS – 01 – PLATING OPTION – V – OPTIONS

Mates with:
BKT

07 thru 69
(Odd lead counts only)
(07 positions available with –TR only)

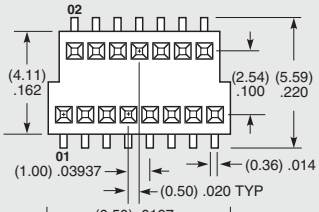
– F
= Pre-plated Gold flash on contact, Matte Tin on tail

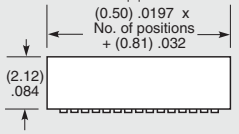
– L
= Pre-plated 10 µ"(0.25 µm) Gold contact, Matte Tin on tail

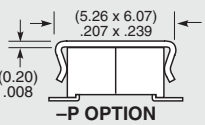
–A
= Alignment Pin (Metal or plastic at Samtec discretion) (11 positions minimum)

–P
= Pick & Place Pad (13 positions minimum) Not always necessary for auto placement.

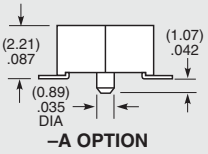
–TR
= Tape & Reel Packaging







–P OPTION



–A OPTION

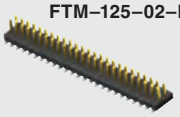
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samtec

10 YEAR MFG WITH 30 µ" GOLD
EXTENDED LIFE PRODUCT
HIGH MATING CYCLES

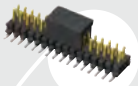
FTM–125–02–L–DV



FTMH–111–02–F–DV–ES–A



FTMH–116–02–L–DV–P



(1.00 mm) .0394"

SMT MICRO TERMINAL STRIPS

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?FTMH or www.samtec.com?FTM

Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Current Rating (FTMH/CLM):
2.8 A per pin
(2 pins powered)
Operating Temp Range:
-55 °C to +125 °C
Plating:
Sn or Au over
50 µ" (1.27 µm) Ni
RoHS Compliant:
Yes

PROCESSING

Lead-Free Solderable:
Yes
-DV Lead Coplanarity:
(0.10 mm) .004" max
-DH Lead Coplanarity:
(0.10 mm) .004" max (05-25)
(0.15 mm) .006" max (26-50)*
*(.004" stencil solution may be available; contact IPG@samtec.com)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

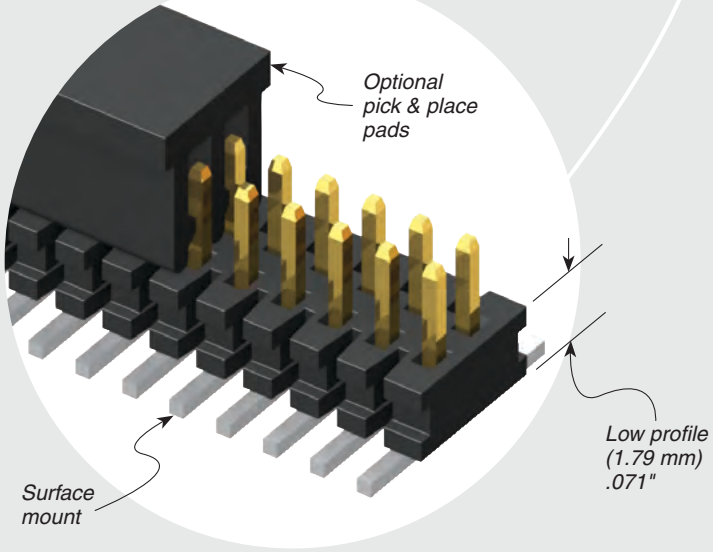
FILE NO. E111594

ALSO AVAILABLE (MOQ Required)

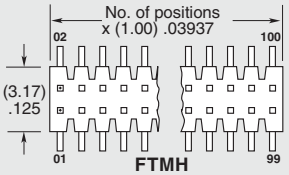
- End shrouds with board locks
- Molded end shrouds for 05 through 08 positions
- Other platings

Note:
Some sizes, styles and options are non-standard, non-returnable.

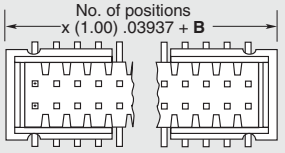
Mates with:
CLM, MLE



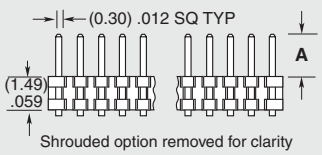
TYPE STRIP		NO. PINS PER ROW	LEAD STYLE	PLATING OPTION
	1			
FTMH = SMT Micro **FTM** = Micro Low Profile		**FTMH** = 05 thru 50 **FTM** = 02 thru 50 (unshrouded) = 05 thru 46 (shrouded)	**–02** = (1.91 mm) .075" Post (Mates with MLE) **–03** = (1.65 mm) .065" Post (Mates with CLM)	**–F** = Gold flash on post, Matte Tin on tail **–L** = 10 µ" (0.25 µm) Gold on post, Matte Tin on tail

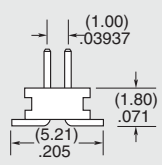


FTMH	
OPTION	B
–ES	(1.57) .062
–EC	(4.06) .160
–EP	(5.49) .216

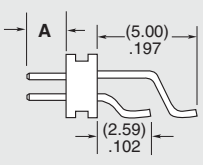


FTMH	
LEAD STYLE	A
–02	(1.91) .075
–03	(1.65) .065

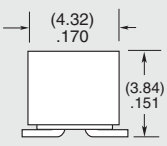




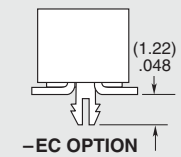
–DV OPTION



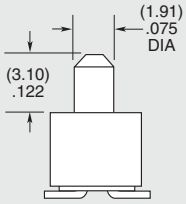
–DH OPTION



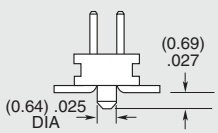
–ES OPTION



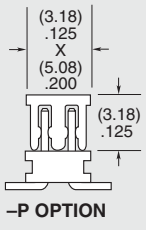
–EC OPTION



–EP OPTION



–A OPTION

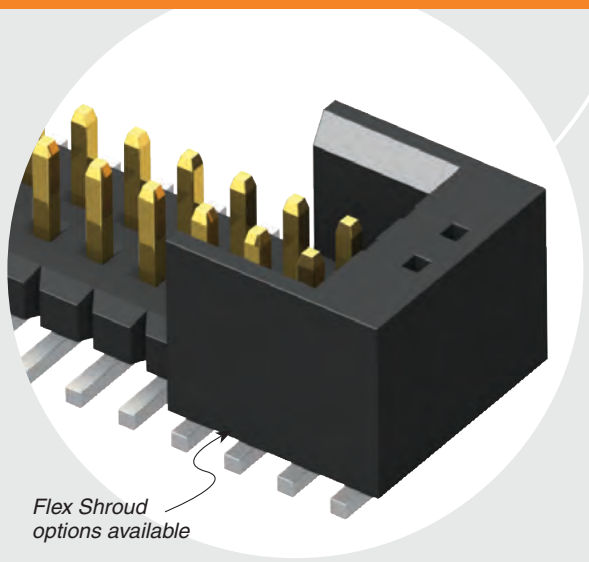


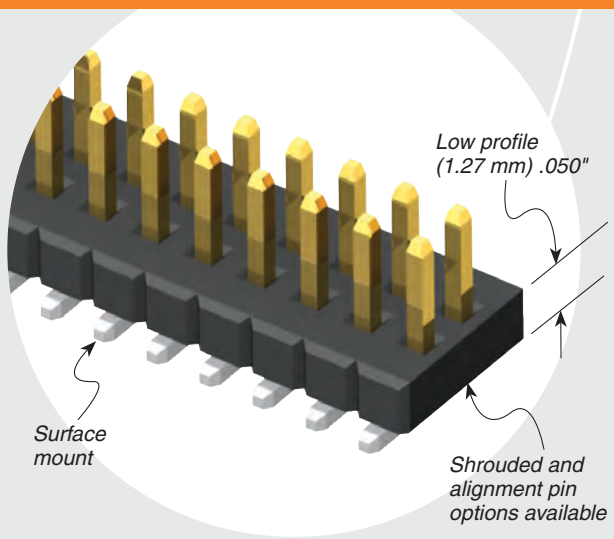
–P OPTION

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ROW OPTION

–DV
= Dual Vertical

–DH
= Dual Horizontal
(FTMH only)

FLEX SHROUD OPTIONS

(FTMH-DV only with
9 pins/row minimum)

–ES
= End Shroud

–EC
= End Shroud with Locking Clip
(Manual placement required)

–EP
= End Shroud with Guide Post
(Use only when mating with CLM)

(FTM only)

–S
= End Shroud
(05 positions minimum).
Molded or press-fit shroud at
Samtec's discretion
(See assembly print at
www.samtec.com?FTM
for dimensions)

–SA
= End Shroud with Alignment Pins
(05 through 46 positions)

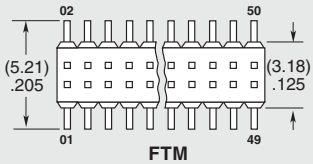
OTHER OPTIONS

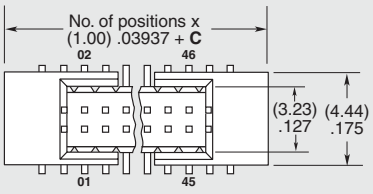
–A
= Alignment Pin
(3 positions minimum)
Metal or plastic at Samtec discretion
(FTMH–DV only)

–K
= (2.50 mm) .098" DIA Polyimide
Film Pick & Place Pad
(FTMH–DH only)

–P
= Plastic Pick & Place Pad
(–DV only)
(6 positions minimum FTMH)
(7 positions minimum FTM)

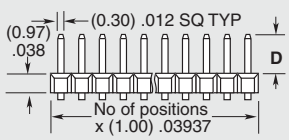
–TR
= Tape & Reel



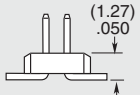


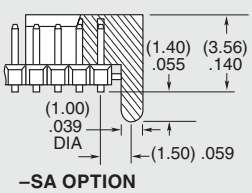
FTM	
OPTION	C
–S	(7.00) .276
–SA	(4.00) .157

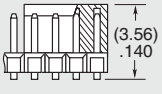
FTM	
LEAD STYLE	D
–02	(1.91) .075
–03	(1.65) .065

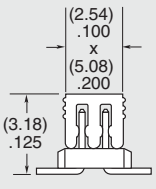


Shrouded options removed for clarity







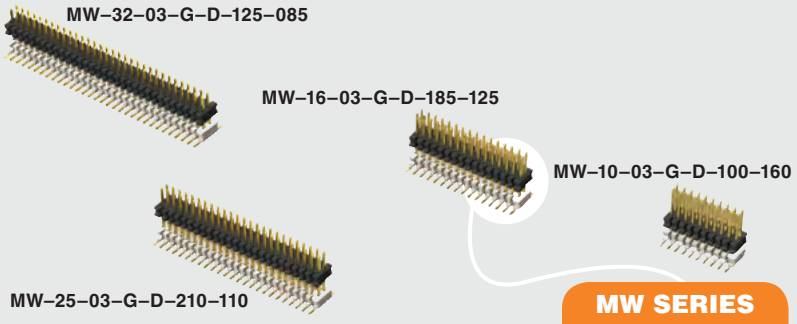


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FLEX STACK



(1.00 mm) .0394"

MW SERIES

SMT MICRO BOARD HEADER

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?MW

Insulator Material:
Top: Black LCP
Bottom: Natural LCP
Terminal Material:
Phosphor Bronze
Operating Temp Range:
-55 °C to +125 °C
Plating:
Au over 50 µ" (1.27 µm) Ni
RoHS Compliant:
Yes

PROCESSING

Lead-Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (02-30)
(0.15 mm) .006" max (31-50)*
*(.004" stencil solution may be available; contact IPG@samtec.com)

RECOGNITIONS

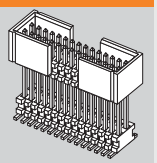
For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

Mates with:
CLM, MLE

ALSO AVAILABLE
(MOQ Required)

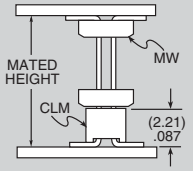
- End shrouds
- End shrouds with guide posts

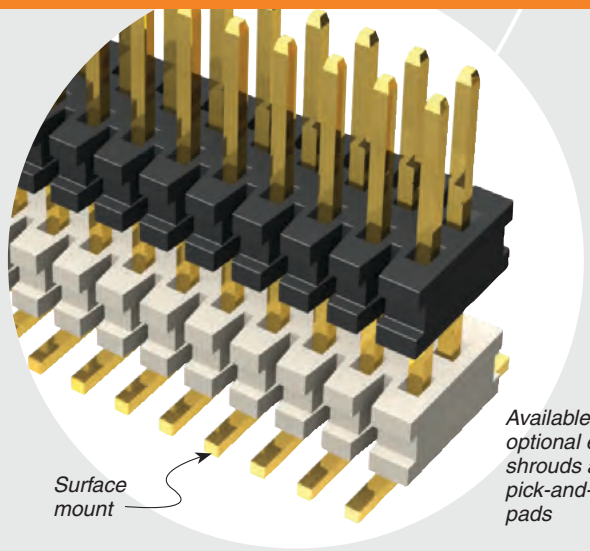


APPLICATIONS

EXAMPLES		
LEAD STYLE		MATED HEIGHT*
MW	CLM	
-163-065	–02	(6.35) .250
-233-065		(8.13) .320

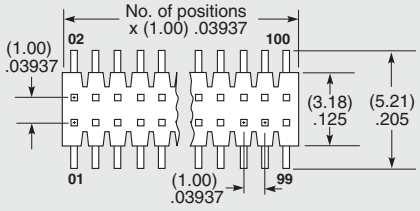
*Processing conditions will affect mated height.

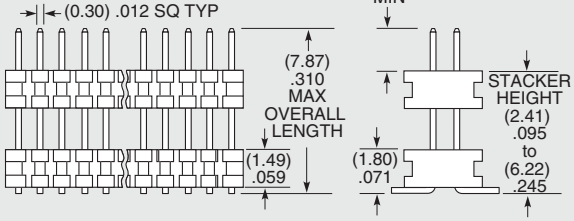


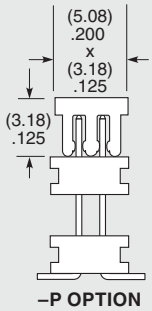


Available with optional end shrouds and pick-and-place pads

MW	–	NO. PINS PER ROW	–	03	–	PLATING OPTION	–	D	–	STACKER HEIGHT	–	POST HEIGHT	–	OPTION
		02 thru 50				–G = 10 µ" (0.25 µm) Gold				–"XXX" = Stacker Height (in inches) (2.41 mm) .095" to (6.22 mm) .245" Example: –245 = (6.22 mm) .245"		–"XXX" = Post Height (in inches) (1.65 mm) .065" minimum Example: –065 = (1.65 mm) .065"		–A = Alignment Pin (5 positions minimum) Metal or plastic at Samtec's discretion –P = Pick & Place Pad (7 positions minimum) –TR = Tape & Reel







–P OPTION

Notes:
For added mechanical stability, Samtec recommends mechanical board spacers be used in applications with gold or selective gold plated connectors. Contact ipg@samtec.com for more information.

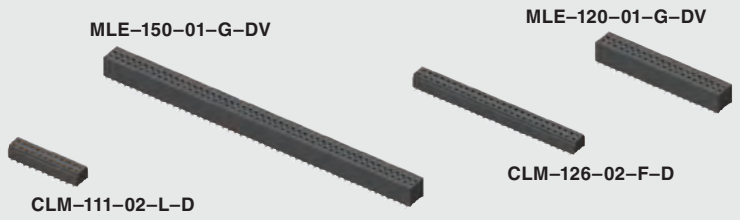
This Series is non-standard, non-returnable.

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samtec

10 YEAR MFG WITH 30 µ" GOLD
EXTENDED LIFE PRODUCT
HIGH MATING CYCLES



(1.00 mm) .0394"

CLM, MLE SERIES

RUGGED RELIABLE MICRO SOCKETS

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?CLM or www.samtec.com?MLE

Insulator Material:
Black LCP
Contact Material:
CLM: Phosphor Bronze
MLE: BeCu
Plating:
CLM: Au or Sn over 50 µ" (1.27 µm) Ni
MLE: Au over 10 µ" (0.25 µm) Ni
Current Rating (CLM/FTM):
2.8 A per pin (2 pins powered)
Current Rating (MLE/FTM):
2.9 A per pin (2 pins powered)
Operating Temp Range:
-55 °C to +125 °C
Max Cycles:
CLM: 100 with 10 µ" (0.25 µm) Au
Voltage Rating:
MLE: 310 VAC
Insertion Depth:
CLM: Top Entry = (1.40 mm) .055" min., Bottom Entry = (2.41 mm) .095" min. (Add board thickness for correct post OAL)
MLE: (1.63 mm) .064" to (3.18 mm) .125" with (0.38 mm) .015" wipe, pass-through, or (2.44 mm) .096" minimum for bottom entry
Normal Force:
CLM: 40 grams (0.39 N) average
RoHS Compliant:
Yes
Lead-Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (02-25)
(0.15 mm) .006" max (26-50)*
*(.004" stencil solution may be available; contact IPG@samtec.com)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

Note:
Some lengths, styles and options are non-standard, non-returnable.

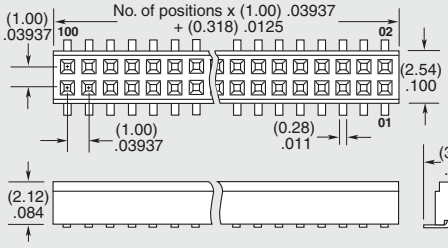
CLM – 1 – NO. PINS PER ROW – 02 – PLATING OPTION – D – OPTIONS

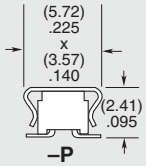
Mates with:
FTM, FTMH, MW

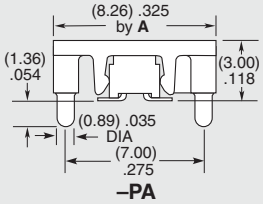
02 thru 50

TIGER™ CLAW CONTACT



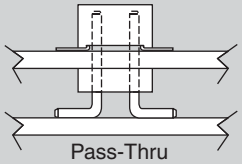






PIN/ROW	A
04-15	(3.56) .140
16-50	(7.11) .280

APPLICATION



–F
= Gold flash on contact, Matte Tin on tail

–L
= 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

–BE
= Bottom Entry (Required for bottom entry)

–K
= (3.50 mm) .138" DIA Polyimide film Pick & Place Pad (7 positions minimum)

–P
= Pick & Place Pad (7 positions minimum)

–PA
= Pick & Place Pad with integral Alignment Pin

–TR
= Tape & Reel Packaging

ALSO AVAILABLE (MOQ Required)

- Alignment pin
- Other Gold plating options

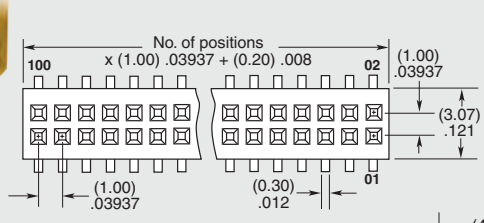
MLE – 1 – NO. PINS PER ROW – 01 – PLATING OPTION – DV – OPTIONS

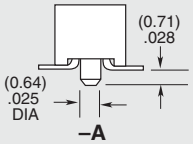
Mates with:
FTM, FTMH, MW

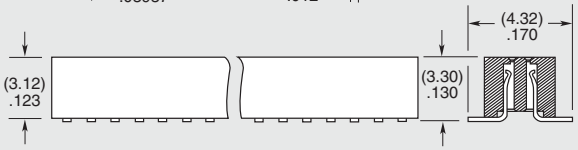
02 thru 50

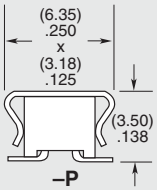
TIGER™ BEAM CONTACT











–G
= 10 µ" (0.25 µm) Gold

–A
= Alignment Pin (3 positions minimum) Metal or plastic at Samtec discretion

–K
= (4.00 mm) .1575" DIA Polyimide film Pick & Place Pad (5 positions minimum)

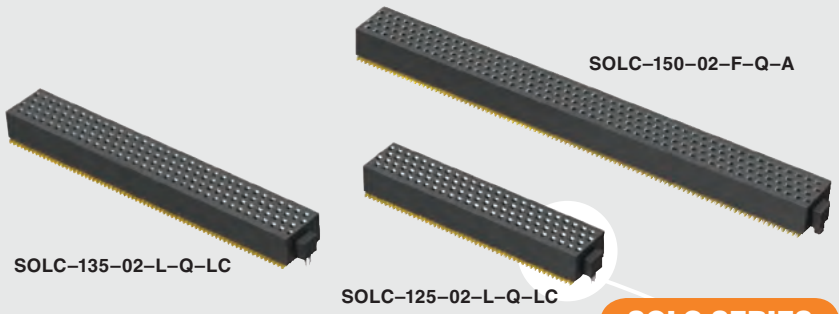
–P
= Metal Pick & Place Pad (5 positions minimum)

–TR
= Tape & Reel Packaging

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(1.27 mm) .050"

SOLC SERIES

QUAD ROW SMT SOCKET

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?SOLC

Insulator Material:
Black Liquid Crystal Polymer
Contact Material:
Phosphor Bronze
Plating:
Au over 50 µ" (1.27 µm) Ni
Current Rating:
2.4 A per pin
(6 adjacent pins powered)
Operating Temp Range:
-55 °C to +125 °C
Insertion Depth:
(1.68 mm) .066" to
(3.61 mm) .142" with
(0.38 mm) .015" wipe
Normal Force:
75 grams (0.74 N) average
Max Cycles:
100+
RoHS Compliant:
Yes

PROCESSING

Lead-Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (05-35)
(0.15 mm) .006" max (40-50)*
*(.004" stencil solution may be available; contact IPG@samtec.com)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

OTHER SOLUTIONS

- For Micro Rugged, see the MOLC/FOLC pages located in the Tiger Eye™ section.

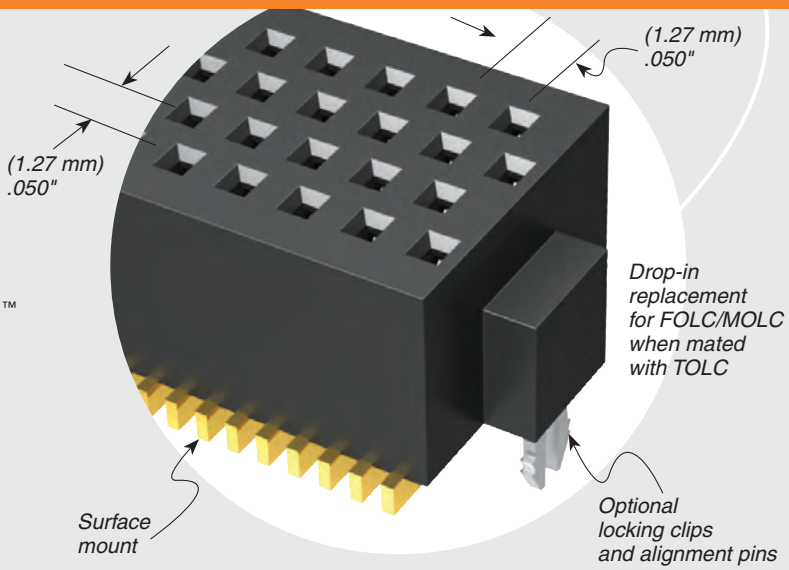
ALSO AVAILABLE (MOQ Required)

- Other sizes
- Other platings

Note:
Some sizes, styles and options are non-standard, non-returnable.

Mates with:
TOLC

TIGER BUY™ CONTACT



SOLC	–	1	NO. PINS PER ROW	–	02	PLATING OPTION	–	Q	OPTION

05, 10, 15, 20, 25, 30, 35, 40, 45, 50
(Standard sizes)

–F
= Gold flash on contact, Gold flash on tail

–L
= 10 µ" (0.25 µm) Gold on contact, Gold flash on tail

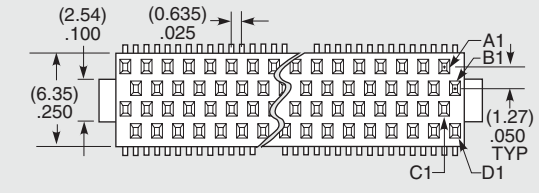
–A
= Alignment Pin (N/A with -LC)

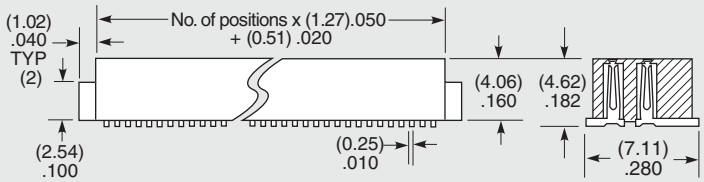
–LC
= Locking Clip (N/A with -A) (Manual placement required)

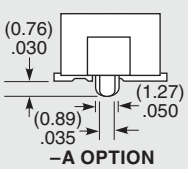
–K
= (7.00 mm) .276" DIA Polyimide film Pick & Place Pad

–P
= Pick & Place Pad

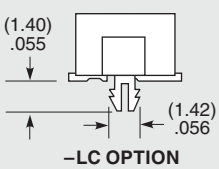
–TR
= Tape & Reel



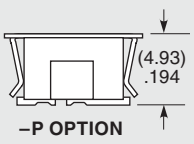




–A OPTION



–LC OPTION



–P OPTION

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(1.27 mm) .050"

TOLC SERIES

QUAD ROW SMT TERMINAL

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?TOLC

Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Plating:
Au over 50 µ" (1.27 µm) Ni
Current Rating:
2.4 A per pin
(6 adjacent pins powered)
Operating Temp Range:
-55 °C to +125 °C
RoHS Compliant:
Yes

PROCESSING

Lead-Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (05-30)
(0.15 mm) .006" max (35-50)*
*(.004" stencil solution may be available; contact IPG@samtec.com)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

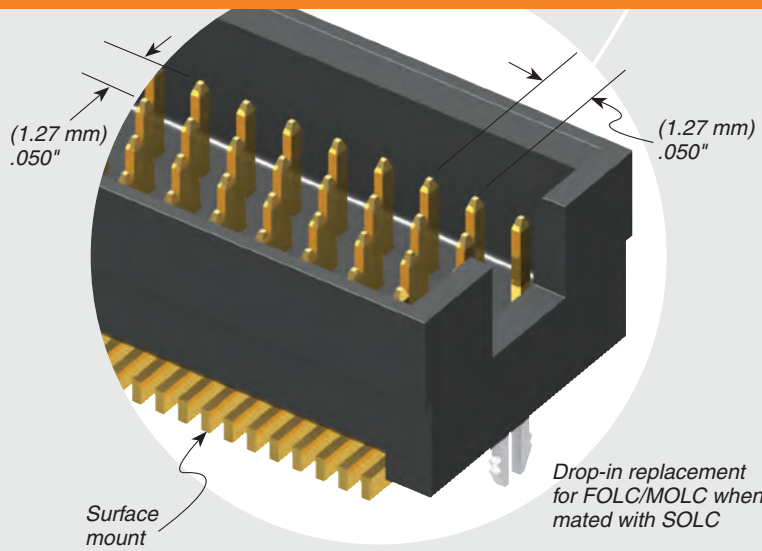
OTHER SOLUTIONS

- For Micro Rugged, see the MOLC/FOLC pages located in the Tiger Eye™ section.

ALSO AVAILABLE (MOQ Required)

- Other sizes
- Other platings

Mates with:
SOLC



TOLC	–	1	NO. PINS PER ROW	–	LEAD STYLE	–	PLATING OPTION	–	Q	–	OPTION

05, 10, 15, 20, 25, 30, 35, 40, 45, 50
(Standard sizes)

Specify LEAD STYLE from chart

–F
= Gold flash on post, Gold flash on tail

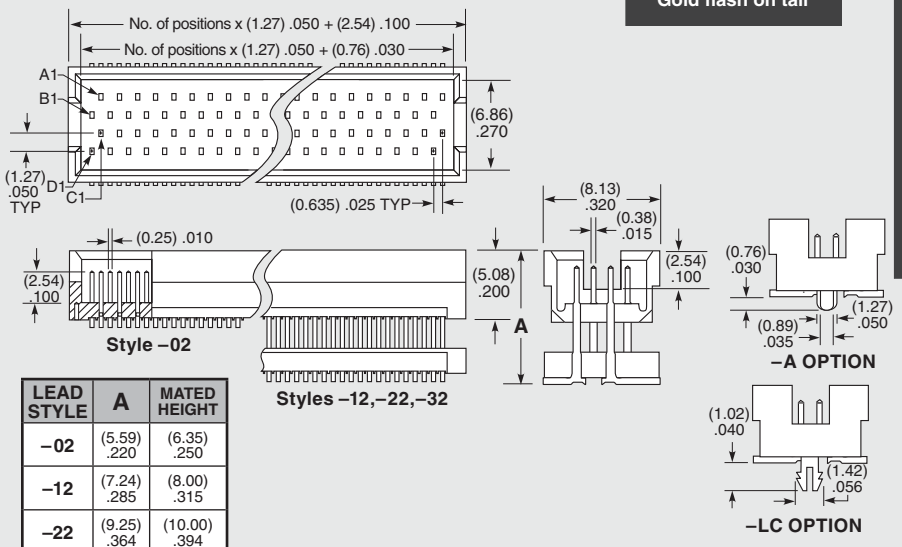
–L
= 10 µ" (0.25 µm) Gold on post, Gold flash on tail

–A
= Alignment Pin (Not available with -LC)

–LC
= Locking Clip (Not available with -A) (Manual placement required)

–K
= (9.00 mm) .354" DIA Polyimide film Pick & Place Pad

–TR
= Tape & Reel



LEAD STYLE	A	MATED HEIGHT
–02	(5.59) .220	(6.35) .250
–12	(7.24) .285	(8.00) .315
–22	(9.25) .364	(10.00) .394
–32	(11.23) .442	(12.00) .472

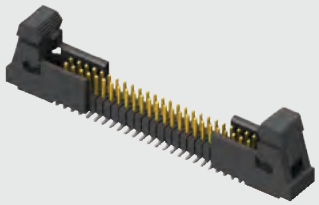
Note:
Some sizes, styles and options are non-standard, non-returnable.

Due to technical progress, all designs, specifications and components are subject to change without notice.

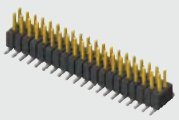
All parts within this catalog are built to Samtec's specifications.
Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.

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10 YEAR MFG WITH 30 µ" GOLD
EXTENDED LIFE PRODUCT
HIGH MATING CYCLES

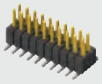


FTSH–125–01–L–DV–EJ



FTSH–120–01–F–DV

FTSH–110–01–L–DV



(1.27 mm) .050"

SMT MICRO HEADER

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?FTSH

Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Plating:
Sn or Au over 50 µ" (1.27 µm) Ni
Current Rating (FTSH/CLP):
3.4 A per pin
(2 pins powered)
Operating Temp Range:
-55 °C to +125 °C
RoHS Compliant:
Yes

PROCESSING

Lead-Free Solderable:
Yes
SMT Lead Coplanarity:
–MT & –DV Tail Option:
(0.10 mm) .004" max (02-25)
–MT & –DH Tail Option:
(0.15 mm) .006" max (26-50)*
*(.004" stencil solution may be available; contact IPG@samtec.com)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

ALSO AVAILABLE (MOQ Required)

- Molded Pick & Place pads
- Latches
- Other platings

Notes:
Some sizes, styles and options are non-standard, non-returnable.

See SFM/TFM for positive alignment feature.

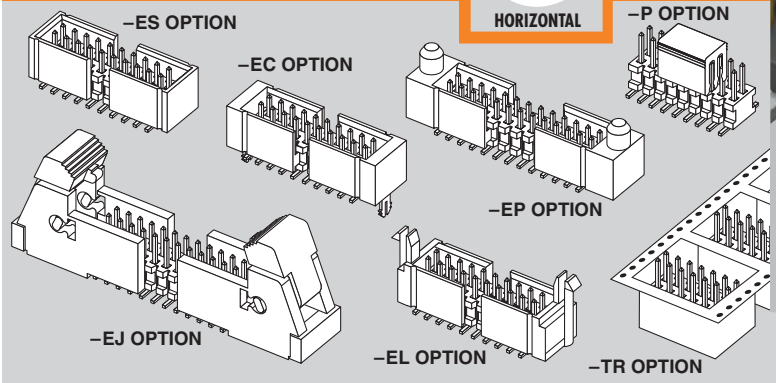
Board Mates:
CLP, FLE

Cable Mates:
FFSD, FFTP

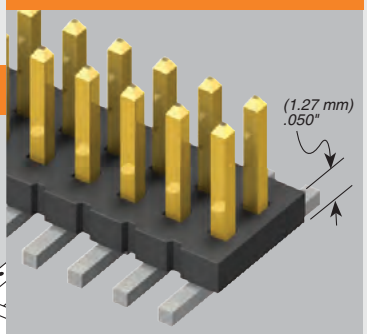
APPLICATIONS



OPTIONS



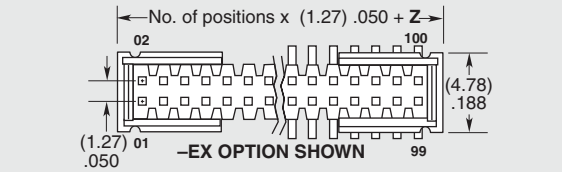
OTHER SOLUTIONS

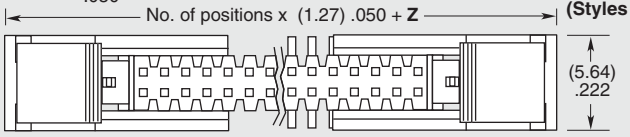


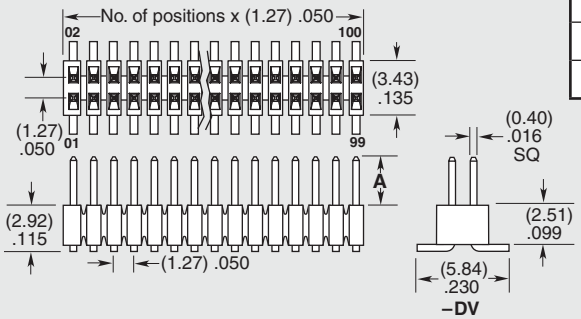
Ultra-low profile option available.
End Shrouds available.
Call for FTS Series specifications.

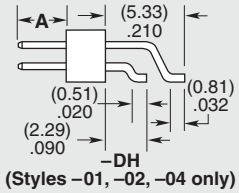
FTSH	–	1	NO. PINS PER ROW	–	LEAD STYLE

02 thru 50



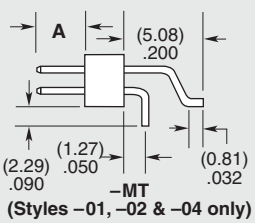






(Styles –01, –02, –04 only)

OPTION	Z
–ES	(2.57) .101
–EJ	(15.77) .621
–EC	(3.33) .131
–EP	(5.87) .231
–EL	(6.53) .257



(Styles –01, –02 & –04 only)

LEAD STYLE	A
–01	(3.05) .120
–02	(1.91) .075
–03	(1.65) .065
–04	(3.81) .150
–05	(4.32) .170

–01
= (3.05 mm) .120" Post
(Mates with FFSD, CLP–DH)

–02
= (1.91 mm) .075" Post
(Mates with FLE)

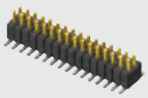
–03
= (1.65 mm) .065" Post
(Mates with CLP–D)

–04
= (3.81 mm) .150" Post

–05
= (4.32 mm) .170" Post
(Mates with CLP–BE)

Due to technical progress, all designs, specifications and components are subject to change without notice.

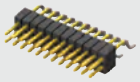
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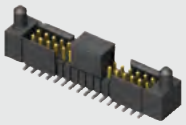
FTSH–116–02–L–DV



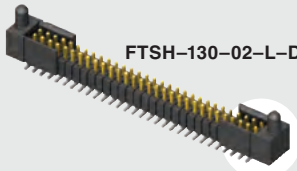
FTSH–110–01–F–DV



FTSH–112–02–L–DH

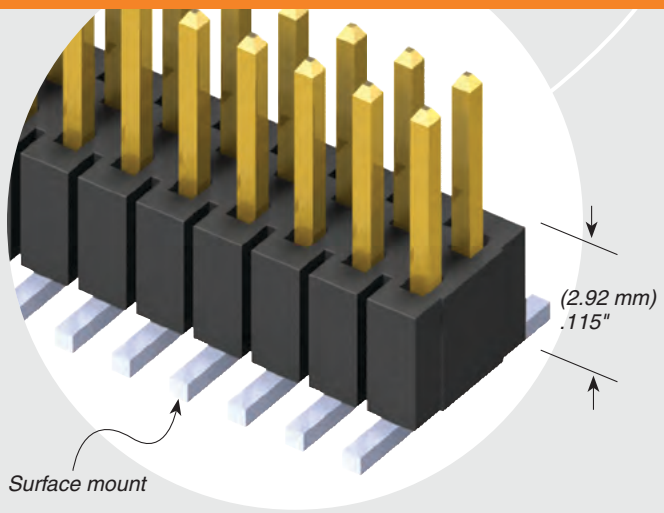


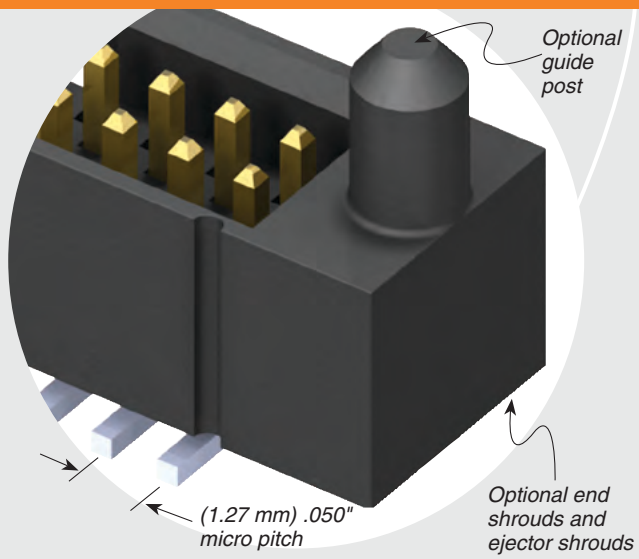
FTSH–116–03–L–DV–EP–P



FTSH–130–02–L–DV–EP

FTSH SERIES





PLATING OPTION

–F
= Gold flash on post, Matte Tin on tail

–L
= 10 µ" (0.25 µm) Gold on post, Matte Tin on tail

TAIL OPTION

–DV
= Double Vertical

–DH
= Double Horizontal (Styles –01, –02 & –04 only)

–MT
= Mixed Technology (Styles –01, –02 & –04 only)

OPTION

Leave Blank for -DH & -MT

–"XXX"
= Polarized Position (Specify position of omitted pin) (Not available with -EX options)

FLEX SHROUD OPTIONS

(Style –02 & –03 only, –DH & –MT not available)
9 pins/row minimum
(Other positions available. Call Samtec.)

–ES
= End Shroud

–EC
= End Shroud with Locking Clip (Manual placement required)

–EP
= End Shroud with Guide Post

–EL
= End Shroud with Board Lock (Boards are positively locked and cannot be unmated)

–EJ
= Ejector Shroud (Style –01 only)
–DH & –MT not available
10 pins/row minimum
25 pins/row maximum

OTHER OPTIONS

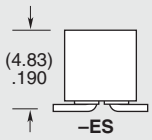
–K
= Keying Shroud (For mating with FFSD Style –01 only and 05, 08, 10, 13, 17, 20 & 25 pins/row only. 13, 17, 20 & 25 pins/row only with –EJ option) (–DV only)

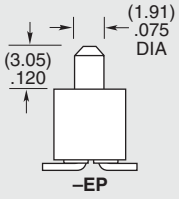
–A
= Alignment Pin (–DV 3 positions min.) (–DH 5 positions min.) (Metal or plastic at Samtec discretion)

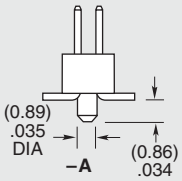
–C
= (5.00 mm) .197" DIA Polyimide film Pick & Place Pad (–DH only)

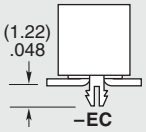
–P
= Pick & Place Pad (–DV 4 positions min.) (–DH & –MT not available)

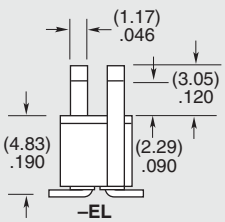
–TR
= Tape & Reel Packaging (Flex Shroud options not available except –ES & –EJ)

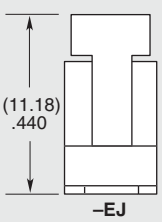


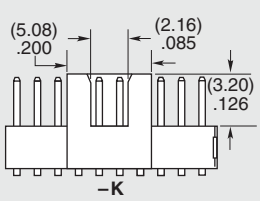


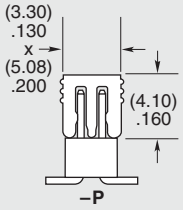








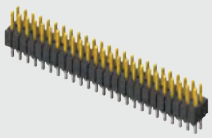




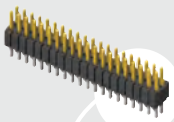
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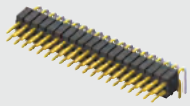
10 YEAR MFG WITH 30 µ" GOLD
EXTENDED LIFE PRODUCT
HIGH MATING CYCLES



FTSH–125–01–F–D



FTSH–120–02–L–D



FTSH–120–01–L–D–RA

(1.27 mm) .050"

FTSH SERIES

THROUGH-HOLE MICRO HEADER

SPECIFICATIONS

For complete specifications see www.samtec.com?FTSH

Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Plating:
Sn or Au over 50 µ" (1.27 µm) Ni
Current Rating (FTSH/CLP):
3.4 A per pin
(2 pins powered)
Operating Temp Range:
-55 °C to +125 °C
RoHS Compliant:
Yes

PROCESSING

Lead-Free Solderable:
Yes

RECOGNITIONS

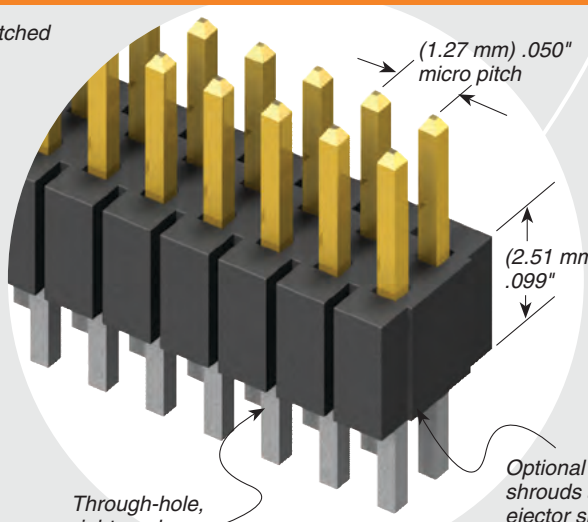
For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

Board Mates:
CLP, FLE

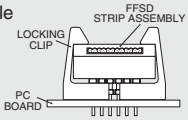
Cable Mates:
FFSD, FFTP

Impedance matched for high-speed applications (Mated with CLP Series)



LOCKING CLIP

For single mating cycle with the FFSD. Specify -LC after tail option. Lead Style -01 and 10 pins/row minimum. 5-9 pins/row not available in combination with keying shroud (-K).



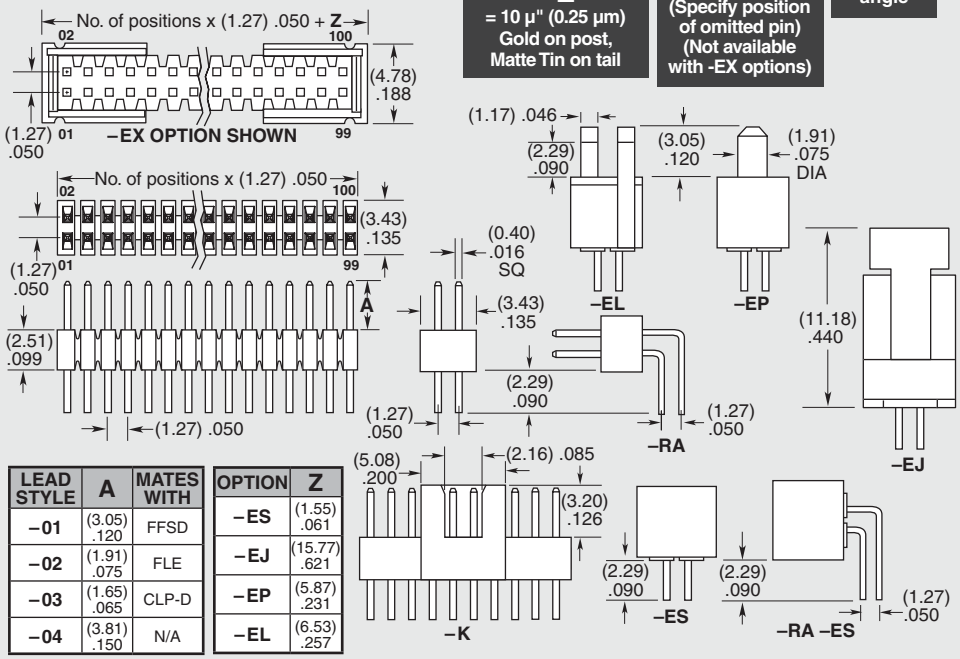
ALSO AVAILABLE (MOQ Required)

- Molded Pick & Place pads
- Other platings

Notes:
See SFM/TFM for positive alignment feature.

Some sizes, styles and options are non-standard, non-returnable.

FTSH	–	1	NO. PINS PER ROW	–	LEAD STYLE	–	PLATING OPTION	D	–	OPTION	–	TAIL OPTION	–	OTHER OPTIONS
			02 thru 50		Specify LEAD STYLE from chart		–F = Gold flash on post, Matte Tin on tail –L = 10 µ" (0.25 µm) Gold on post, Matte Tin on tail			Leave blank for RIght-angle –"XXX" = Polarized Position (Specify position of omitted pin) (Not available with -EX options)		Leave blank for straight tail –RA = Right-angle		–ES = End Shroud (Style –02 & –03) 9 pins/row min. –EP = End Shroud with Guide Post (Style –02 & –03) 9 pins/row min. –EL = End Shroud with Board Lock (Style –02 & –03) 9 pins/row min. –EJ = Ejector Shroud (Style –01 only) 10 pins/row min. 25 pins/row max. –RA not available –K = Keying Shroud for mating with FFSD (Style –01 only, 05, 08, 10, 13, 17, 20 & 25 pins/row only and 13, 17, 20 & 25 only with –EJ option)



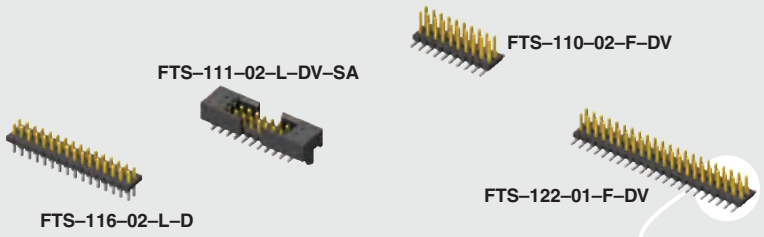
LEAD STYLE	A	MATES WITH
–01	(3.05) .120	FFSD
–02	(1.91) .075	FLE
–03	(1.65) .065	CLP-D
–04	(3.81) .150	N/A

OPTION	Z
–ES	(1.55) .061
–EJ	(15.77) .621
–EP	(5.87) .231
–EL	(6.53) .257

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(1.27 mm) .050"

FTS SERIES

MICRO LOW-PROFILE TERMINAL STRIPS

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?FTS

HI-TEMP

Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Operating Temp Range:
-55 °C to +125 °C
Plating:
Sn or Au over 50 µ" (1.27 µm) Ni
Current Rating:
3.4 A per pin
(2 pins powered)
RoHS Compliant:
Yes
Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
.004" (0.10 mm) max

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

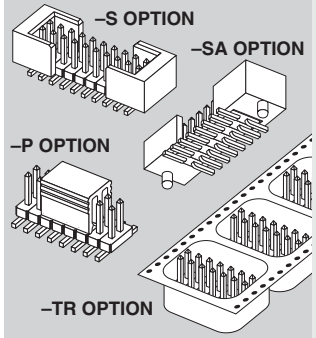
ALSO AVAILABLE
(MOQ Required)

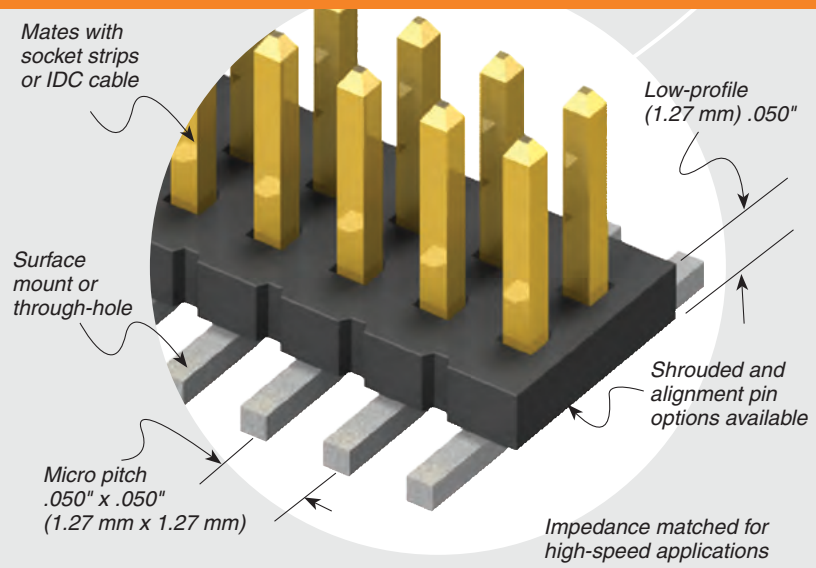
- Alignment pin

Board Mates:
CLP, FLE

Cable Mates:
FFSD

OPTIONS





FTS	–	1	NO. PINS PER ROW	–	LEAD STYLE	–	PLATING OPTION	–	ROW OPTION	–	OTHER OPTION

02 thru 50
(except –S & –SA option = 05 thru 46)

–01
= .120" (3.05 mm) Post (Mates with FFSD)

–02
= .075" (1.91 mm) Post (Mates with FLE)

–03
= .065" (1.65 mm) Post (Mates with CLP)

–04
= .150" (3.81 mm) Post

–F
= Gold flash on post, Matte Tin on tail

–L
= 10 µ" (0.25 µm) Gold on post, Matte Tin on tail

–D
= Double Through-hole

–DV
= Double Vertical SMT

–S
= Single Through-hole

–SV
= Single Vertical SMT

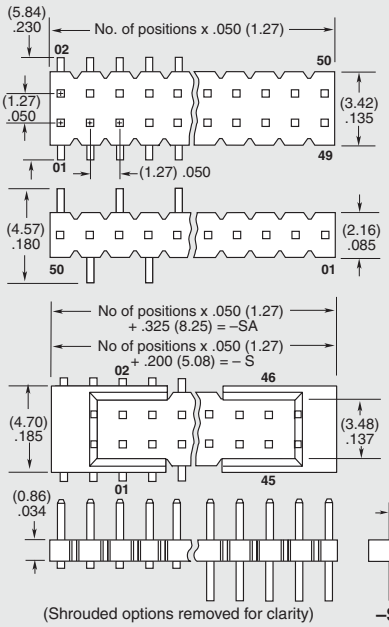
(–D & –DV only)

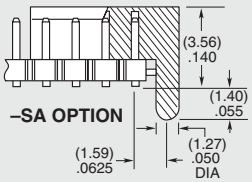
–SA
= End Shroud with Alignment Pin (05 thru 46 positions. Style -02 & -03 only)

–S
= End Shroud (05 thru 46 positions. Style -02 & -03 only)

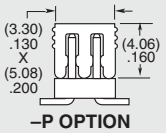
–P
= Pick & Place Pad (04 positions minimum)

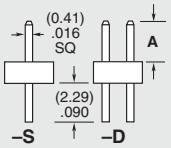
–TR
= Tape & Reel (-DV only) (Required callout for positions 2 thru 4)

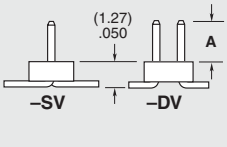


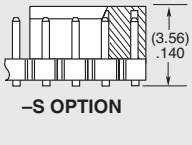


LEAD STYLE	A
–01	(3.05) .120
–02	(1.91) .075
–03	(1.65) .065
–04	(3.81) .150









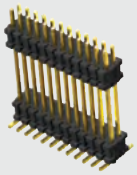
Note: Some lengths, styles and options are non-standard, non-returnable.

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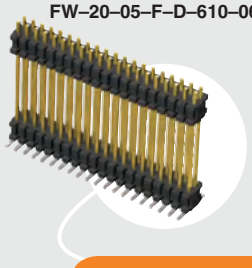
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FLEX STACK



FW–12–05–G–D–530–101



FW–20–05–F–D–610–065

(1.27 mm) .050"

FW-SM SERIES

SMT MICRO BOARD STACKER

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?FW-SM

Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Plating:
Sn or Au over 50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C
RoHS Compliant:
Yes

PROCESSING

Lead-Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (02-30)
(0.15 mm) .006" max (31-50)*
*(.004" stencil solution may be available; contact IPG@samtec.com)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

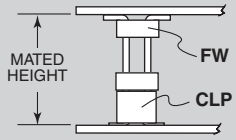
ALSO AVAILABLE (MOQ Required)

- Smaller stack heights

Board Mates:
CLP, FLE

Cable Mates:
FFSD

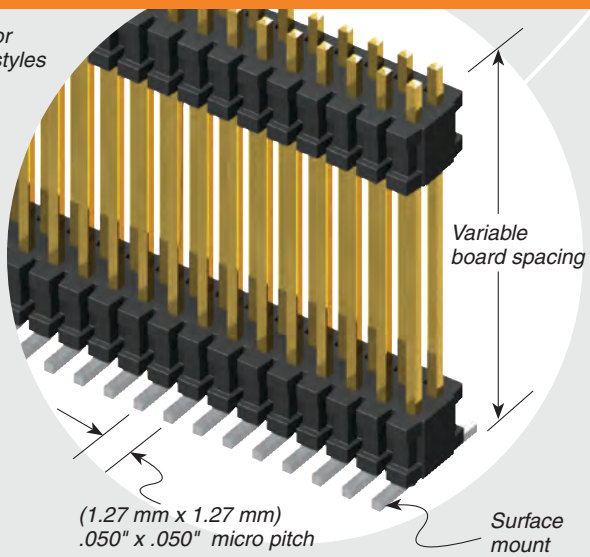
APPLICATIONS



LEAD STYLE		MATED HEIGHT*
FW	CLP	
FW-XX-03-X-X-233-065	–02	(8.13) .320
FW-XX-03-X-X-303-065		(9.91) .390

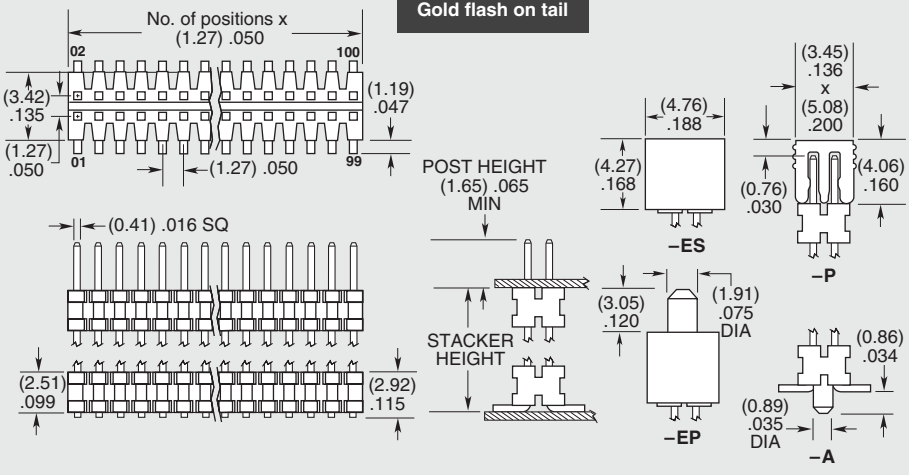
*Processing conditions will affect mated height.

Low-profile or skyscraper styles



FW	–	NO. PINS PER ROW	–	LEAD STYLE	–	PLATING OPTION	–	D	–	STACKER HEIGHT	–	POST HEIGHT	–	OPTION
		02 thru 50		Specify LEAD STYLE from chart		–F = Gold flash on post, Matte Tin on tail –L = 10 µ" (0.25 µm) Gold on post, Matte Tin on tail –G = 10 µ" (0.25 µm) Gold on post, Gold flash on tail				–"XXX" = Stacker Height (in inches) Example: –250 = (6.35 mm) .250"		–"XXX" = Post Height (in inches) (1.65 mm) .065" minimum Example: –065 = (1.65 mm) .065"		–ES = End Shroud (–075 post height only. Mate only with CLP) (5.46 mm) .215" to (15.49 mm) .610" stacker height only 9 pins/row min. –EP = End Shroud with Guide Post (–075 post height only. Mate only with CLP.) (5.46 mm) .215" to (15.49 mm) .610" stacker height only) 9 pins/row min. –A = Alignment Pin (3 positions min.) (5.46 mm) .215" to (15.75 mm) .620" stacker height only –P = Pick & Place Pad (5 positions min.) –TR = Tape & Reel (Max overall height = Post+Stacker Height+ Pad+Alignment Pin = .700 (17.78))

LEAD STYLE	STACKER HEIGHT	STACKER HEIGHT
–03	(5.46) .215 to (8.51) .335	(7.11) .280 to (10.16) .400
–05	(8.64) .340 to (15.49) .610	(10.29) .405 to (17.15) .675



Notes:
For added mechanical stability, Samtec recommends mechanical board spacers be used in applications with gold or selective gold plated connectors. Contact ipg@samtec.com for more information.

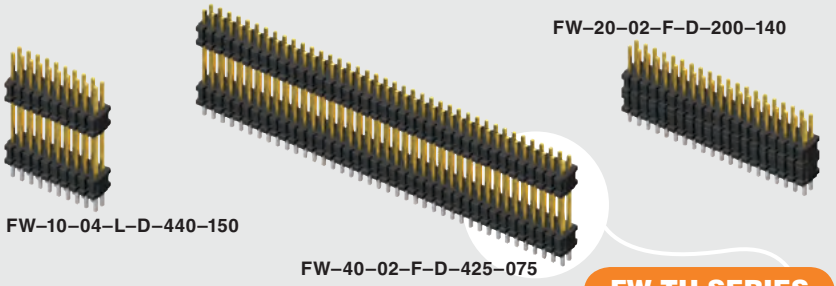
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FLEX STACK



(1.27 mm) .050"

FW-TH SERIES

THROUGH-HOLE MICRO BOARD STACKER

SPECIFICATIONS

For complete specifications see www.samtec.com?FW-TH

Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Plating:
Sn or Au over 50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C
RoHS Compliant:
Yes

PROCESSING

Lead-Free Solderable:
Yes

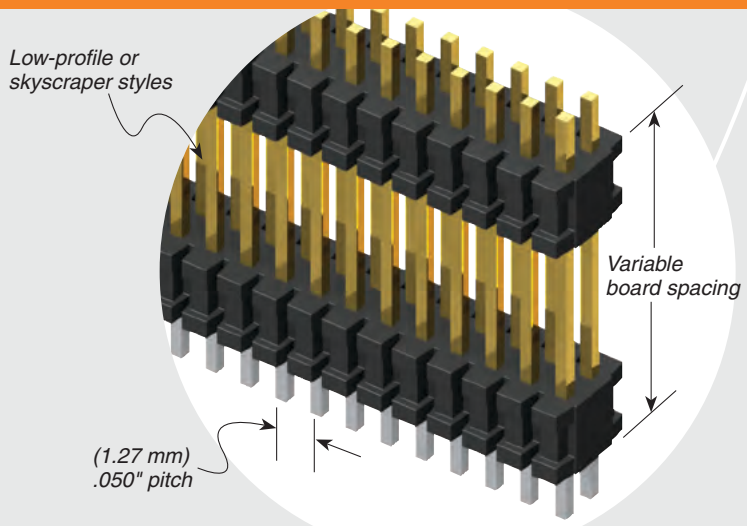
RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

Board Mates:
CLP, FLE

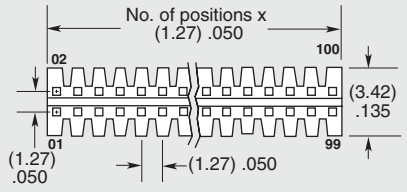
Cable Mates:
FFSD



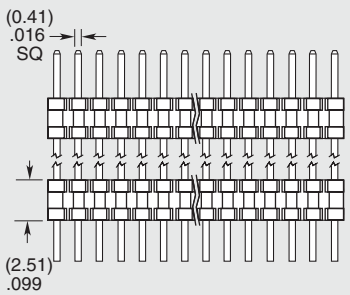
ALSO AVAILABLE (MOQ Required)

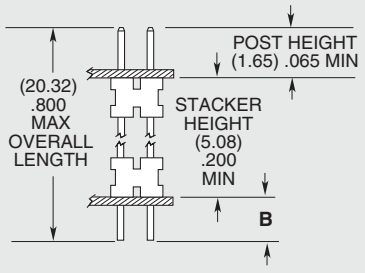
- Smaller stack heights

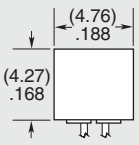
FW	–	NO. PINS PER ROW	–	LEAD STYLE	–	PLATING OPTION	D	STACKER HEIGHT	–	POST HEIGHT	–	OPTION
		02 thru 50		Specify LEAD STYLE from chart		–F = Gold flash on post, Matte Tin on tail –L = 10 µ" (0.25 µm) Gold on post, Matte Tin on tail –G = 10 µ" (0.25 µm) Gold on post, Gold flash on tail		–"XXX" = Stacker Height (in inches) Example: –250 = (6.35 mm) .250"		–"XXX" = Post Height (in inches) (1.65 mm) .065" minimum Example: –065 = (1.65 mm) .065"		–ES = End Shroud (–075 post height only. Mates only with CLP.) (5.46 mm) .215" to (15.49 mm) .610" stacker height only, 9 pins/row minimum –EP = End Shroud with Guide Post (–075 post height only. Mates only with CLP) (5.46 mm) .215" to (15.49 mm) .610" stacker height only, 9 pins/row minimum

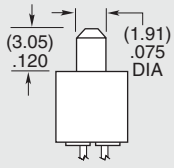


LEAD STYLE	TAIL (B)
–01	(1.14) .045
–02	(1.91) .075
–04	(2.29) .090









Notes:
For added mechanical stability, Samtec recommends mechanical board spacers be used in applications with gold or selective gold plated connectors. Contact ipg@samtec.com for more information.

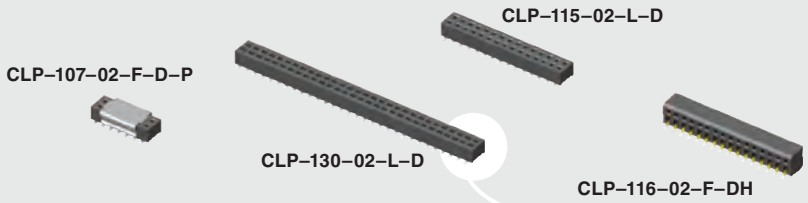
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10 YEAR MFG WITH 30 µ" GOLD
EXTENDED LIFE PRODUCT
HIGH MATING CYCLES



(1.27 mm) .050"

CLP SERIES

LOW-PROFILE DUAL WIPE SOCKET

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?CLP

Insulator Material:
Black Liquid Crystal Polymer
Contact Material:
Phosphor Bronze
Plating:
Sn or Au over
50 µ" (1.27 µm) Ni
Current Rating (CLP/FTSH):
3.4 A per pin
(2 pins powered)
Voltage Rating:
280 VAC/395 VDC
Operating Temp Range:
-55 °C to +125 °C
Insertion Depth:
Top Entry = (1.40 mm) .055" minimum, Bottom Entry = (2.41 mm) .095" minimum plus board thickness
DH Entry = (2.31 mm) .091" to (2.67 mm) .105"
Normal Force:
60 grams (0.59 N) average
Max Cycles:
100 with 10 µ" (0.25 µm) Au
RoHS Compliant:
Yes

PROCESSING

Lead-Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (02-35)
(0.15 mm) .006" max (36-50)*
*(.004" stencil solution may be available; contact IPG@samtec.com)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

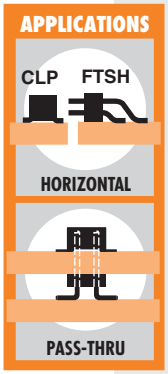
FILE NO. E111594

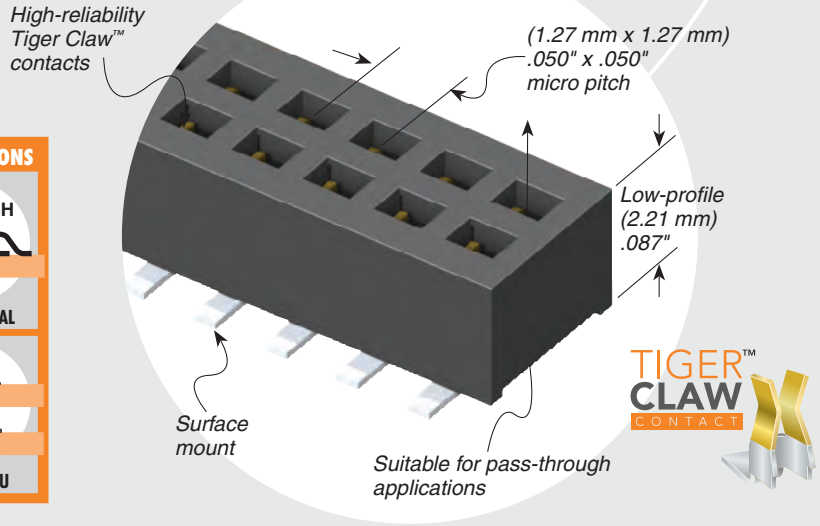
ALSO AVAILABLE
(MOQ Required)

- Single row
- Other platings

Note:
Some sizes, styles and options are non-standard, non-returnable.

Mates with:
FTSH, FTS, FW





CLP	–	1	NO. PINS PER ROW	–	02	–	PLATING OPTION	–	ROW OPTION	–	OTHER OPTION

02 thru 50

–F
= Gold flash on contact, Matte Tin on tail

–L
= 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

–G
= 10 µ" (0.25 µm) Gold (–D only)

–D
= Double Row

–DH
= Double Horizontal (Requires FTSH–01 and FTSH–04 lead styles)

–BE
= Bottom Entry (Required for bottom entry applications)

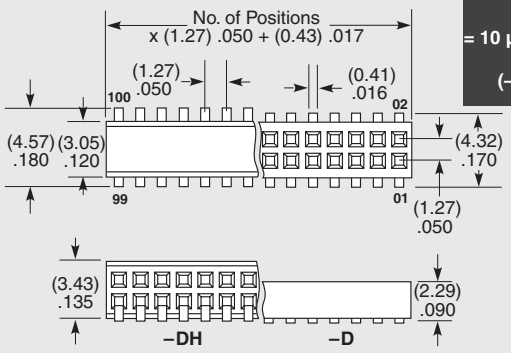
–A
= Alignment Pin (Not available with –PA option) (05, 06, 07, 08, 10, 12, 15, 20, 25, 30, 40 positions only) (–DH option and other sizes. Contact Samtec.)

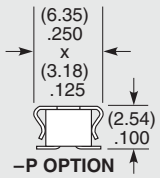
–K
= (4.00 mm) .157" DIA Polyimide film Pick & Place Pad (5 positions min.)

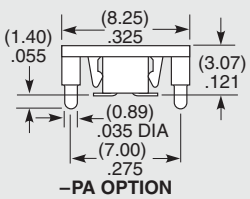
–P
= Pick & Place Pad (5 positions min. –D only) (Not always necessary for auto placement. See Flex Processing.)

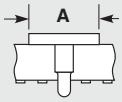
–PA
= Pick & Place Pad with Alignment Pin (–D only) (Not Available with –A option)

–TR
= Tape & Reel









If odd pins/row, alignment pins are on middle position on centerline of the part. If even pins/row, then alignment pins are between middle two positions.

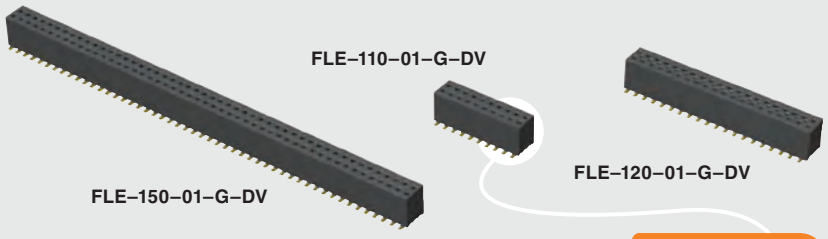
PIN/ROW	A
04-15	(3.56) .140
16-50	(7.11) .280

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10 YEAR MFG WITH 30 µ" GOLD
EXTENDED LIFE PRODUCT
HIGH MATING CYCLES



(1.27 mm) .050"

FLE SERIES

COST-EFFECTIVE RELIABLE SOCKET

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?FLE

Insulator Material:
Black Liquid Crystal Polymer
Contact Material:
Phosphor Bronze
Plating:
Au over 50 µ" (1.27 µm) Ni
Current Rating:
2.9 A per pin (2 pins powered)
Operating Temp Range:
-55 °C to +125 °C
Insertion Depth:
(1.83 mm) .072" to (4.37 mm) .172" or pass-through
Normal Force:
100 grams (0.98 N)
Max Cycles:
100+
RoHS Compliant:
Yes

PROCESSING

Lead-Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

ALSO AVAILABLE (MOQ Required)

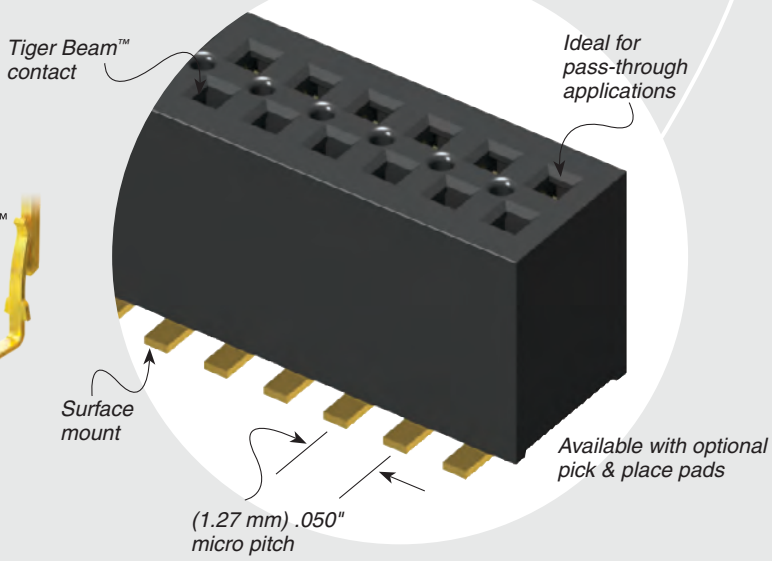
- Other platings

Note: Some lengths, styles and options are non-standard, non-returnable.

Board Mates:
FTSH, FTS, FW

Cable Mates:
FFMD*, FMTP

TIGER™ BEAM CONTACT



***Note:** Standard FFMD callout will not mate with FLE, SFMC. Must use gold plated callouts. (See drawing on web.)

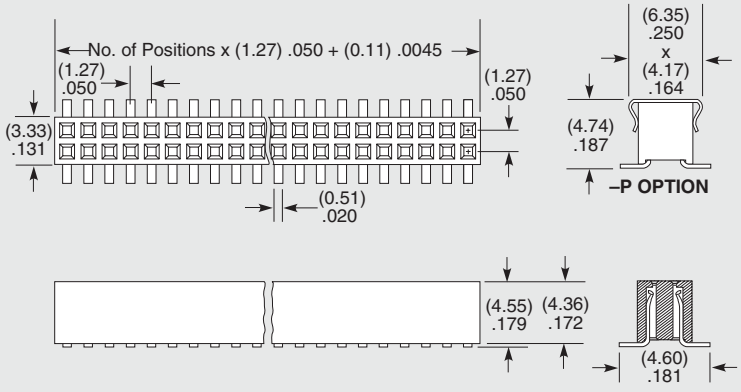
FLE	–	1	NO. PINS PER ROW	–	01	–	PLATING OPTION	–	DV	–	OPTIONS
			02 thru 50				–G = 10 µ" (0.25 µm) Gold				

–A
= Alignment Pin (Metal or plastic at Samtec discretion) (3 positions minimum)

–K
= (4.25 mm) .167" DIA Polyimide film Pick & Place Pad (5 positions minimum)

–P
= Metal Pick & Place Pad (5 positions minimum)

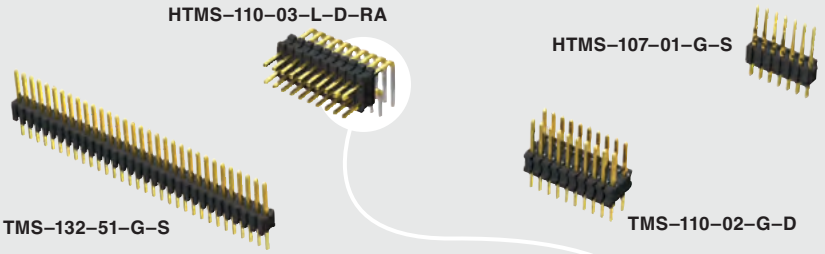
–TR
= Tape & Reel



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(1.27 mm) .050"

TMS, HTMS, SNM SERIES

THROUGH-HOLE MICRO HEADER

SPECIFICATIONS

For complete specifications see www.samtec.com?TMS, www.samtec.com?HTMS or www.samtec.com?SNM

Insulator Material (TMS): Black Liquid Crystal Polymer
Insulator Material (SNM): Black Glass Filled Polyester
Terminal Material: Phosphor Bronze
Plating: Au or Sn over 50 µ" (1.27 µm) Ni
Current Rating: 5 A per pin (2 pins powered) TMS mated with SMS
Operating Temp Range: -55 °C to +105 °C with Tin; -55 °C to +125 °C with Gold
Lead Size accepted (SNM): (0.46 mm) .018" SQ
Insertion Depth (SNM): (3.43 mm) .135" minimum
Max Processing Temp (SNM): Not recommended for IR/VP
RoHS Compliant: Yes

Important Note: Style -02 does not mate with SMS Series.

PROCESSING

Lead-Free Solderable: Yes

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

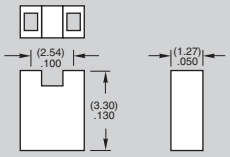
ALSO AVAILABLE (MOQ Required)

- Other platings

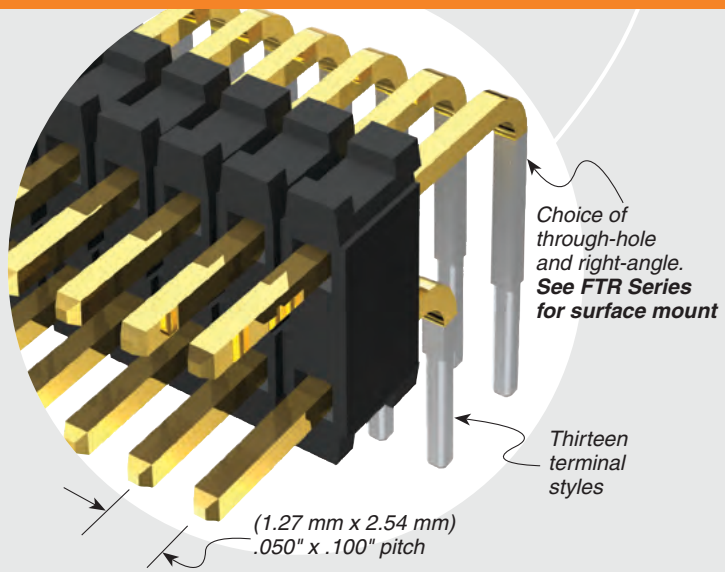
Note: Some lengths, styles and options are non-standard, non-returnable.

Mates with:
SMS, SLM, RSM

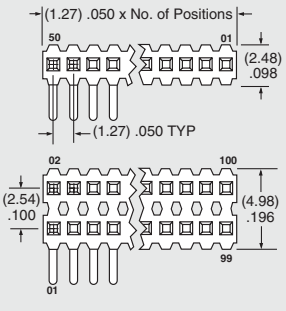
MICRO SHUNT
SNM SERIES



Part No.	Plating
SNM–100–BK–T	Tin
SNM–100–BK–G	10 µ" (0.25 µm) Gold

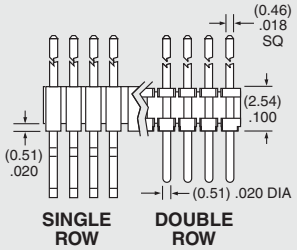


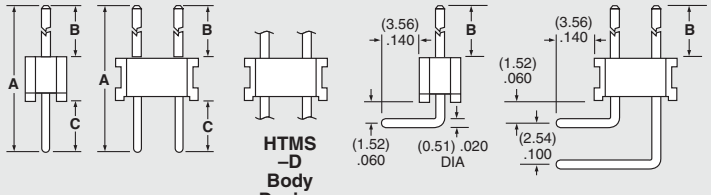
TYPE STRIP	1	NO. PINS PER ROW	LEAD STYLE	PLATING OPTION	ROW OPTION	OPTION
TMS = Standard HTMS = High Temp		01 thru 50	Specify LEAD STYLE from chart	–L = 10 µ" (0.25 µm) Gold on post, Matte Tin on tail –G = 10 µ" (0.25 µm) Gold on post, Gold flash on tail	–S = Single Row –D = Double Row	–RA = Right-angle –"XXX" = Polarized Position (Specify position of omitted pin)



T/H LEAD STYLE	A	B	C
–01	(11.43) .450	(5.84) .230	(3.05) .120
–02	(8.13) .320	(2.54) .100	
–21	(12.83) .505	(5.84) .230	(4.45) .175
–51	(10.41) .410	(4.83) .190	(3.05) .120
–52	(10.80) .425	(5.21) .205	
–53	(12.83) .505	(7.24) .285	
–54	(14.10) .555	(8.51) .335	
–55	(15.49) .610	(9.91) .390	
–56	(15.88) .625	(10.29) .405	
–57	(16.51) .650	(10.92) .430	
–58	(17.91) .705	(12.32) .485	
–59	(19.18) .755	(13.59) .535	
–60	(20.96) .825	(15.37) .605	

RA LEAD STYLE	B
–01	(5.84) .230
–02	(2.54) .100
–03	(3.18) .125



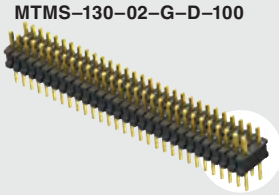


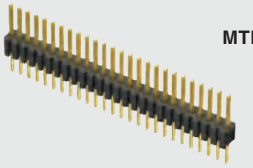
Due to technical progress, all designs, specifications and components are subject to change without notice.

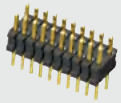
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FLEX STACK







(1.27 mm) .050"

MTMS, HMTMS SERIES

MODIFIED MICRO TERMINAL

SPECIFICATIONS

For complete specifications see www.samtec.com?MTMS or www.samtec.com?HMTMS

Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Plating:
Au or Sn over 50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +105 °C with Tin
-55 °C to +125 °C with Gold
RoHS Compliant:
Yes

PROCESSING

Lead-Free Solderable:
Yes

RECOGNITIONS

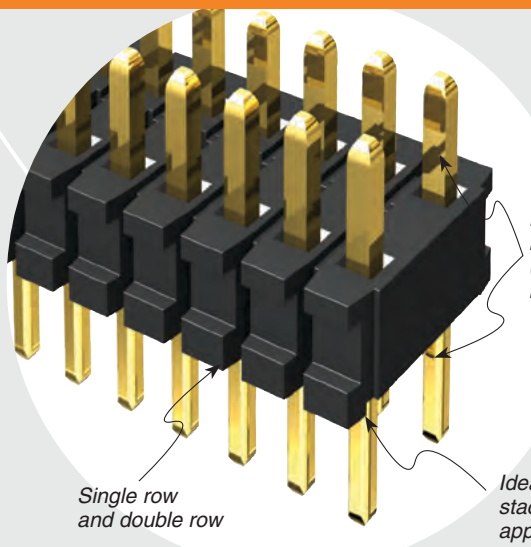
For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

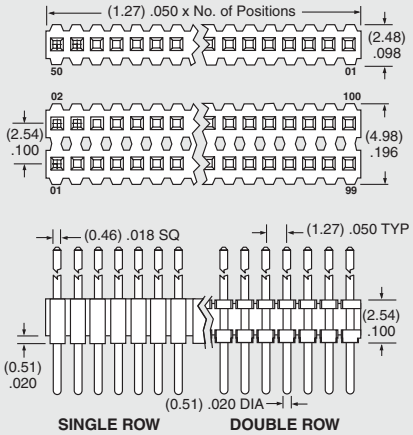
ALSO AVAILABLE (MOQ Required)

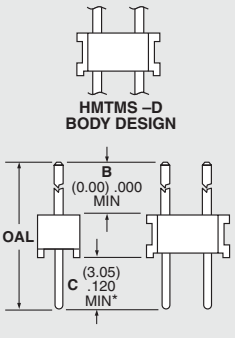
- Other platings

Mates with:
SMS, SLM, RSM



TYPE STRIP	1	NO. PINS PER ROW	LEAD STYLE	PLATING OPTION	ROW OPTION	POST HEIGHT	OPTION
		01 thru 50	Specify LEAD STYLE from chart	–L = 10 µ" (0.25 µm) Gold on post, Matte Tin on tail –G = 10 µ" (0.25 µm) Gold on post, Gold flash on tail	–S = Single Row –D = Double Row	–"XXX" = "B" Dimension (Specify Post Height in inches (0.13 mm) .005" increments)	–"XXX" = Polarized Position (Specify position of omitted pin)
	MTMS = Modified Standard HMTMS = Modified High Temp						





LEAD STYLE	OAL	B (Maximum when C = (3.05 mm) .120")
–01	(11.43) .450	(5.84) .230
–02	(8.13) .320	(2.54) .100
–25*	(8.38) .330	(3.18) .125
–51	(10.41) .410	(4.83) .190
–52	(10.80) .425	(5.21) .205
–53	(12.83) .505	(7.24) .285
–54	(14.10) .555	(8.51) .335
–55	(15.49) .610	(9.91) .390
–56	(15.88) .625	(10.29) .405
–57	(16.51) .650	(10.92) .430
–58	(17.91) .705	(12.32) .485
–59	(19.18) .755	(13.59) .535
–60	(20.96) .825	(15.37) .605

*Style -25 tail C = (2.67 mm) .105" min is available.

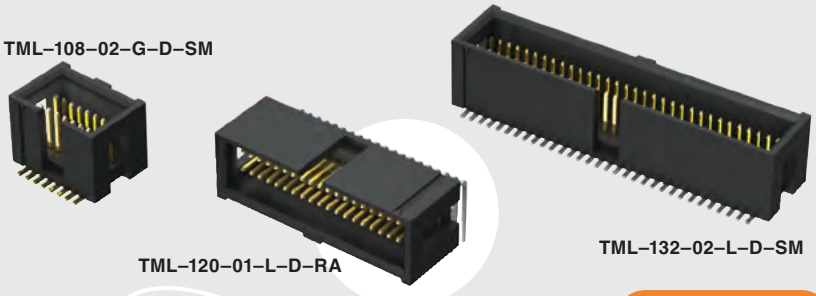
Tail DIA is .020" (0.51 mm) for min .120" (3.05 mm).
Balance of tail is .018" (0.46 mm) SQ.

Note: This Series is non-standard, non-returnable.

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(1.27 mm) .050"

TML SERIES

SHROUDED MICRO HEADER

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?TML

Insulator Material:
Black Liquid Crystal Polymer
Insulation Resistance:
5000 MΩ min
Terminal Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +105 °C with Tin;
-55 °C to +125 °C with Gold
RoHS Compliant:
Yes

PROCESSING

Lead-Free Solderable:
Yes
SMT Lead Coplanarity:
(0.15 mm) .006" max*
*(.004" stencil solution may be available; contact IPG@samtec.com)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

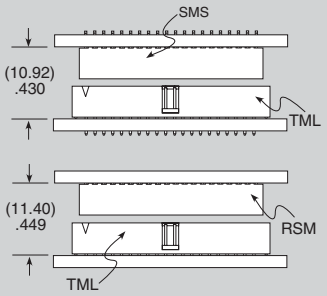
FILE NO. E111594

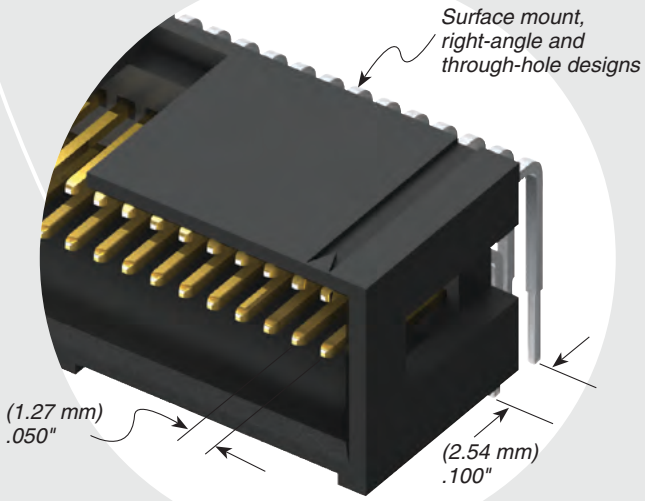
ALSO AVAILABLE
(MOQ Required)

- Other sizes
- Other platings

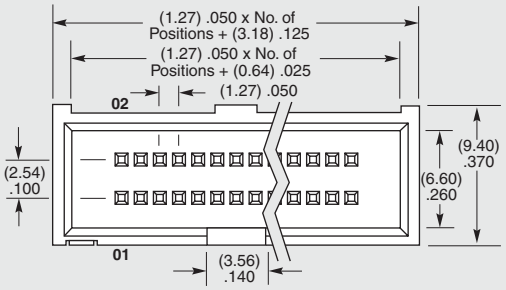
Mates with:
SMS, RSM

APPLICATIONS

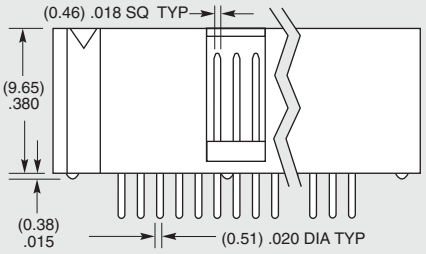


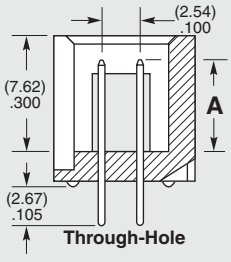


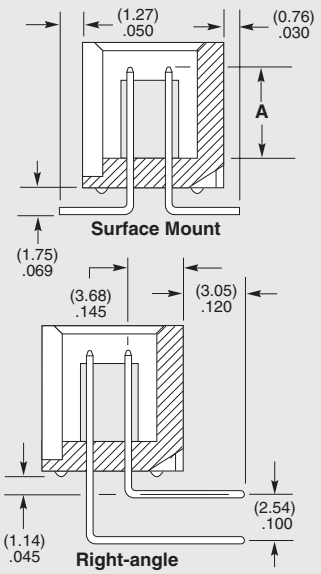
TML	–	1	NO. PINS PER ROW	–	LEAD STYLE	–	PLATING OPTION	D	–	TAIL OPTION	–	OTHER OPTION
			05, 08, 10, 20, 32 (Standard sizes)		Specify LEAD STYLE from chart		–L = 10 µ" (0.25 µm) Gold on post, Matte Tin on tail –G = 10 µ" (0.25 µm) Gold on post, Gold flash on tail			–RA = Right-angle –SM = Surface Mount (For locking clip add –LC)		–"XXX" = Polarized position (Specify position of omitted pin)



LEAD STYLE	POST HEIGHT (A)
–01	(3.05) .120
–02	(5.84) .230
–03	(4.32) .170







Note:
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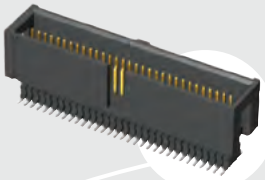
FLEX STACK



ZML–105–03–G–D



ZML–120–04–G–D



ZML–132–54–L–D–650–SM

ZML SERIES

(1.27 mm) .050"

SHROUDED ELEVATED STACKER

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?ZML

Insulator Material:
Black LCP
Terminal Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +105 °C with Tin;
-55 °C to +125 °C with Gold
RoHS Compliant:
Yes

PROCESSING

Lead-Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (05-20)
(0.15 mm) .006" max (32)*
*(.004" stencil solution may be available; contact IPG@samtec.com)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

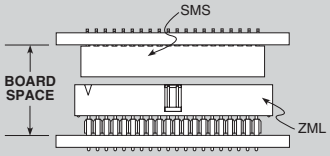
FILE NO. E111594

ALSO AVAILABLE
(MOQ Required)

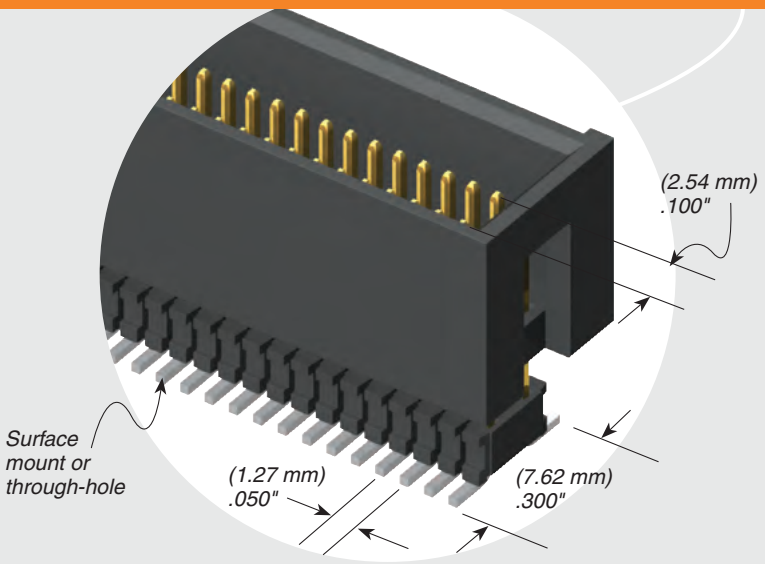
- Other sizes
- Other platings

Mates with:
SMS, RSM

APPLICATIONS



APPLICATIONS	BOARD SPACE
ZML Style -01 mated with SMS	(13.72) .540
ZML Style -02 mated with SMS	(15.11) .595
ZML Style -03 mated with SMS	(17.53) .690
ZML Style -04 mated with SMS	(20.57) .810



ZML	–	1	NO. PINS PER ROW	–	LEAD STYLE	–	PLATING OPTION	D	–	BODY HEIGHT	–	TAIL STYLE

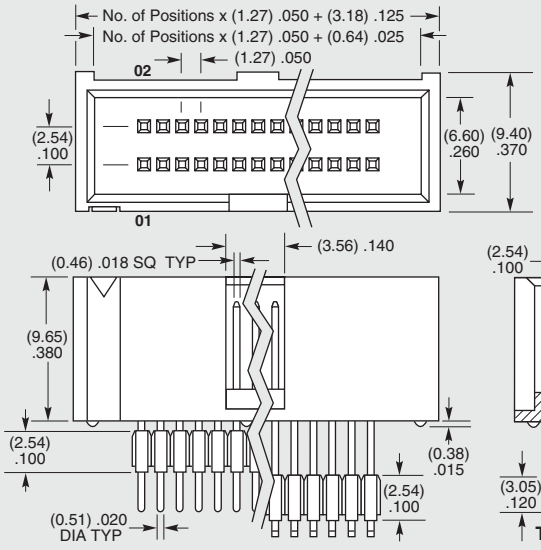
NO. PINS PER ROW: 05, 08, 10, 20, 32 (Standard sizes)

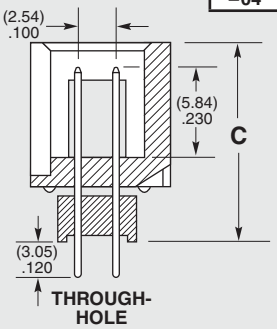
LEAD STYLE: Specify LEAD STYLE from chart

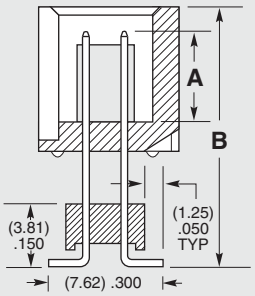
PLATING OPTION:
–L = 10 µ" (0.25 µm) Gold on post, Matte Tin on tail
–G = 10 µ" (0.25 µm) Gold on post, Gold flash on tail

BODY HEIGHT:
(Leave blank for Through-hole)
–"XXX" = –SM Body Height (Specify board space "B" in inches from lead style charts.)

TAIL STYLE:
(Leave blank for Through-hole)
–SM = Surface Mount







THROUGH-HOLE		SURFACE MOUNT		
LEAD STYLE	BODY HEIGHT (C)	LEAD STYLE	POST HEIGHT (A)	BODY HEIGHT (B)
–01	(12.83) .505	–53	(3.05) .120	(13.46) .530 to (20.19) .795
–02	(14.22) .560	–54	(5.84) .230	(13.46) .530 to (17.40) .685
–03	(16.64) .655			
–04	(19.69) .775			

Notes:
For added mechanical stability, Samtec recommends mechanical board spacers be used in applications with gold or selective gold plated connectors. Contact ipg@samtec.com for more information.

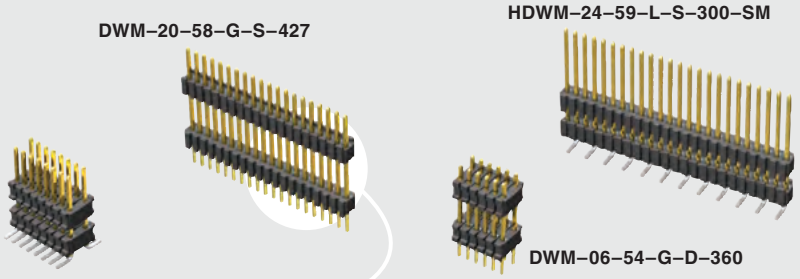
This Series is non-standard, non-returnable.

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FLEX STACK



(1.27 mm) .050"

DWM, HDWM SERIES

MICRO BOARD STACKER

SPECIFICATIONS

For complete specifications see www.samtec.com?DWM or www.samtec.com?HDWM

Insulator Material:
LCP
Terminal Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +105 °C with Tin
-55 °C to +125 °C with Gold
RoHS Compliant:
Yes

PROCESSING

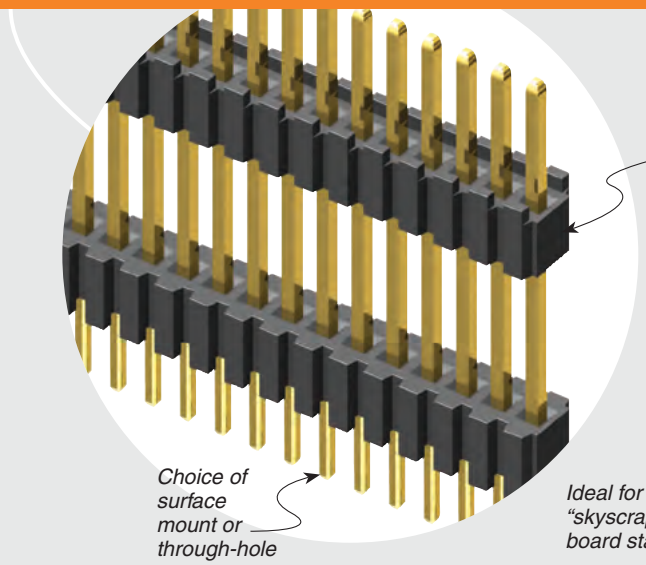
Lead-Free Solderable:
Yes
SMT Lead Coplanarity:
(0.15 mm) .006" max*
*(.004" stencil solution may be available; contact IPG@samtec.com)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

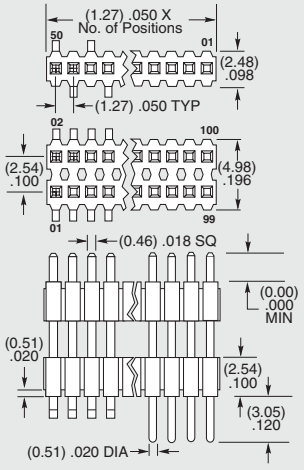
FILE NO. E111594

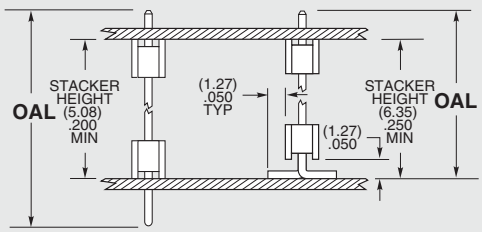
Mates with:
SMS, SLM, RSM



TYPE STRIP	NO. PINS PER ROW	LEAD STYLE	PLATING OPTION	ROW OPTION	STACKER HEIGHT	OTHER OPTION
DWM = Standard Board Spacer HDWM = High Temp Board Spacer	01 thru 50	Specify LEAD STYLE from chart	–L = 10 µ" (0.25 µm) Gold contact, Matte Tin on tail –G = 10 µ" (0.25 µm) Gold on post, Gold flash on tail	–S = Single Row –D = Double Row	–"XXX" = Stacker Height Example: –250 = (6.35 mm) .250"	–"XXX" = Polarized Position (Specify position of omitted pin) – SM = Surface Mount (Requires HDWM. 02 thru 40 positions only.) – A = Alignment Pin (Requires HDWM. 6 positions min –D only.) Metal or plastic at Samtec discretion (N/A with –LC) – LC = Locking Clip (Requires HDWM. (5 positions min. –D only) (N/A with –A) (Manual placement required) – P = Pick & Place Pad (Requires HDWM)

LEAD STYLE	OAL	
	THROUGH-HOLE	SURFACE MOUNT
–01	(11.43) .450	(8.38) .330
–51	(10.41) .410	—
–52	(10.80) .425	—
–53	(12.83) .505	(9.78) .385
–54	(14.10) .555	(11.05) .435
–55	(15.49) .610	(12.45) .490
–56	(15.88) .625	(12.83) .505
–57	(16.51) .650	(13.46) .530
–58	(17.91) .705	(14.86) .585
–59	(19.18) .755	(15.62) .615
–60	(20.96) .825	—
–61	(26.67) 1.050	—





ALSO AVAILABLE (MOQ Required)

- Other platings

Notes:
For added mechanical stability, Samtec recommends mechanical board spacers be used in applications with gold or selective gold plated connectors. Contact ipg@samtec.com for more information.

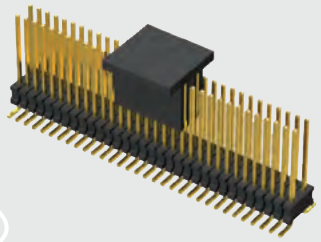
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FTR–107–02–G–D–A



FTR–132–52–G–D–P

FTR–110–52–G–S



(1.27 mm) .050"

FTR SERIES

SMT MICRO HEADER

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?FTR

Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Current Rating (FTR/RSM):
3.1 A per pin
(2 pins powered)
Operating Temp Range:
-55 °C to +105 °C with Tin;
-55 °C to +125 °C with Gold
RoHS Compliant:
Yes

PROCESSING

Lead-Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (02-20)
(0.15 mm) .006" max (21-40)*
*(.004" stencil solution may be available; contact IPG@samtec.com)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

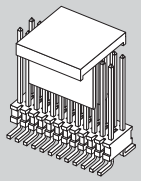
ALSO AVAILABLE
(MOQ Required)

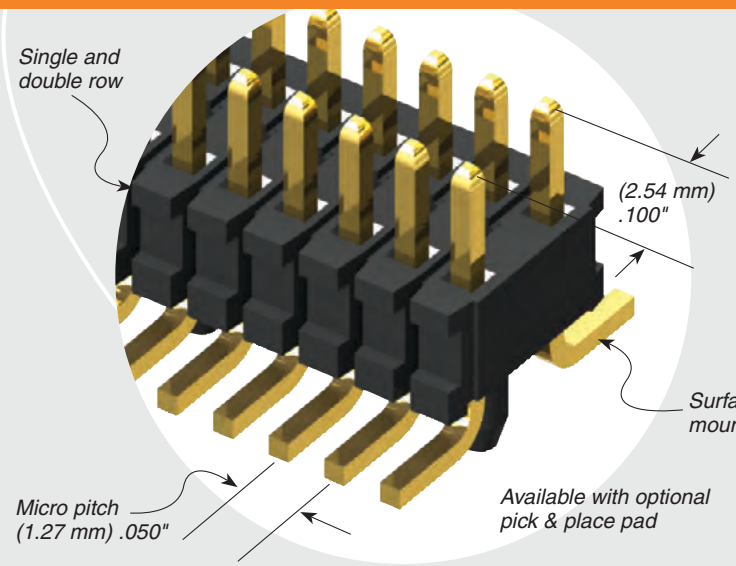
- Other platings

Mates with:
RSM, SMS, SLM

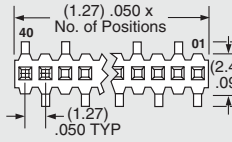
OPTIONS

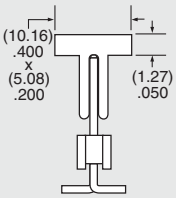
–P OPTION



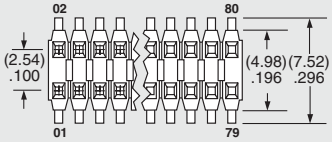


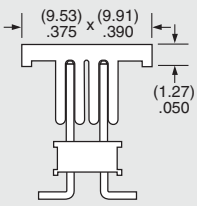
FTR	–	1	NO. PINS PER ROW	–	LEAD STYLE	–	PLATING OPTION	–	ROW OPTION	–	OPTION
			02 thru 40		Specify LEAD STYLE from chart		–L = 10 µ" (0.25 µm) Gold on post, Matte Tin on tail –G = 10 µ" (0.25 µm) Gold on post, Gold flash on tail		–S = Single Row –D = Double Row		–"XX" = Polarized –A = Alignment Pin (5 positions minimum –D only) (Metal or plastic at Samtec discretion) (N/A with -LC) –LC = Locking Clip (6 positions minimum –D only) (N/A with -A) (Manual placement required) –P = Plastic Pick & Place Pad (–D = 5 positions minimum) (–S = 8 positions minimum) –TR = Tape & Reel (–S = 4 positions minimum)





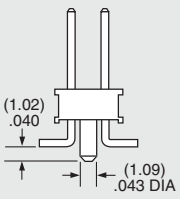
–P OPTION



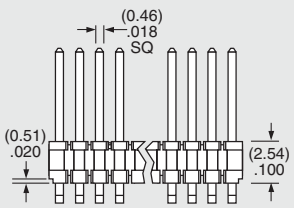


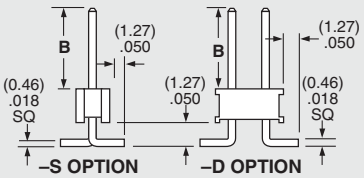
–P OPTION

LEAD STYLE	B
–01	(5.84) .230
–02	(2.54) .100
–03	(3.18) .125
–51	(4.83) .190
–52	(5.21) .205
–53	(7.24) .285
–54	(8.51) .335
–55	(9.91) .390
–56	(10.29) .405
–57	(10.92) .430

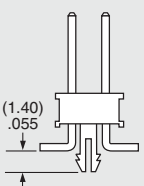


–A OPTION





–S OPTION –D OPTION



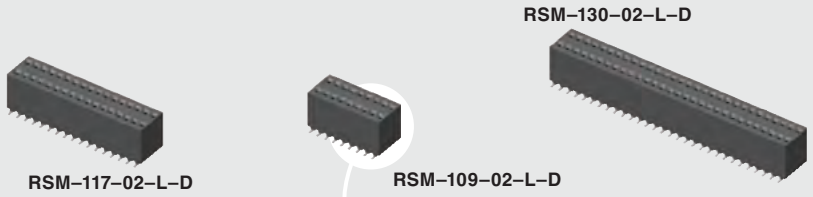
–LC OPTION

Note:
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(1.27 mm) .050"

RSM SERIES

SMT MICRO SOCKET

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?RSM

Insulator Material:
Black Liquid Crystal Polymer
Contact Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Current Rating (RSM/FTR):
3.1 A per pin
(2 pins powered)
Operating Temp Range:
-55 °C to +125 °C
Lead Size Accepted:
(0.46 mm) .018" SQ
Insertion Depth:
Top Entry = (2.64 mm) .104" to (5.84 mm) .230" with (0.38 mm) .015" wipe, or pass-through.
Bottom Entry = (5.49 mm) .216" minimum
(Add board thickness for correct post OAL)
RoHS Compliant:
Yes

PROCESSING

Lead-Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

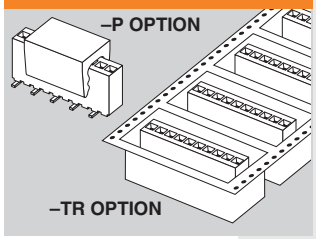
ALSO AVAILABLE
(MOQ Required)

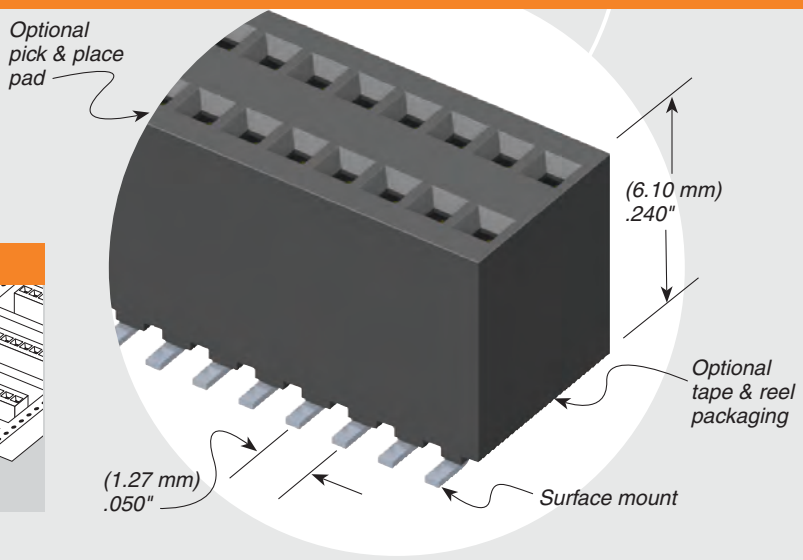
- Other platings
- Locking clips

Note: Some sizes, styles and options are non-standard, non-returnable.

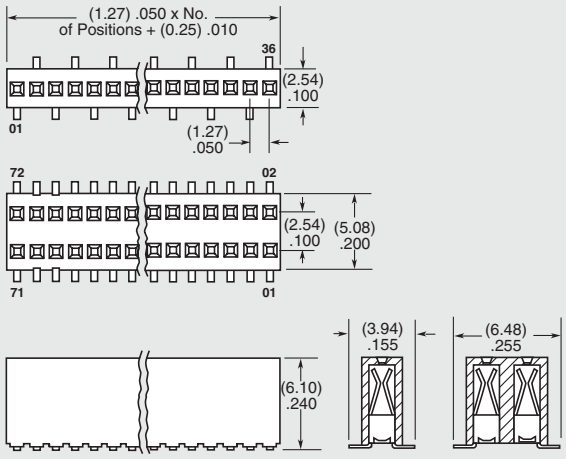
Mates with:
FTR, HTMS, HDWM, DWM, TML, ZML, TMS

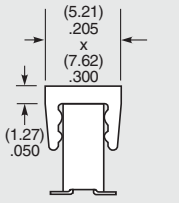
OPTIONS



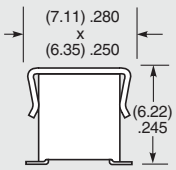


RSM	–	1	NO. PINS PER ROW	–	02	–	PLATING OPTION	–	ROW OPTION	–	OPTION
			02 thru 36				–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail		–S = Single Row –D = Double Row		–K = (6.25 mm) .246" DIA Polyimide film Pick & Place Pad (5 positions minimum for –D) (7 positions minimum for –S) –P = Plastic Pick & Place Pad (–D = 5 positions minimum –S = 6 positions minimum) –TR = Tape & Reel



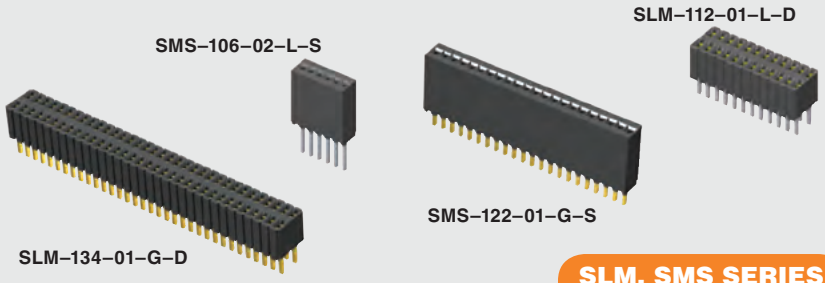


–S option
Pick & Place Pad



–D option
Pick & Place Pad

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(1.27 mm) .050"

SLM, SMS SERIES

THROUGH-HOLE MICRO SOCKETS

SPECIFICATIONS

For complete specifications see www.samtec.com?SLM or www.samtec.com?SMS

Insulator Material:
SLM: Black Glass Filled Polyester
SMS: Black LCP
Contact Material:
Phosphor Bronze
Plating:
Au or Sn over 50 µ" (1.27 µm) Ni
Current Rating (SLM/TMS):
5.2 A per pin (2 pins powered)
Current Rating (SMS/TMS):
5.0 A per pin (2 pins powered)
Operating Temp Range:
-55 °C to +125 °C with Gold
-55 °C to +105 °C with Tin
Insertion Depth:
SLM: (2.03 mm) .080" to (3.05 mm) .120"
SMS: (3.43 mm) .135" to (6.35 mm) .250" with (0.38 mm) .015" wipe
RoHS Compliant:
Yes

PROCESSING

Lead-Free Solderable:
SLM: Wave Only
SMS: Yes

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

Note:
Some lengths, styles and options are non-standard, non-returnable.

SLM – 1 – NO. PINS PER ROW – 01 – PLATING OPTION – ROW OPTION

Mates with:
HTMS, TMS, MTMS, DWM, HDWM, FTR, HMTMS

TIGER BUY™ CONTACT

01 thru 50

PLATING OPTION

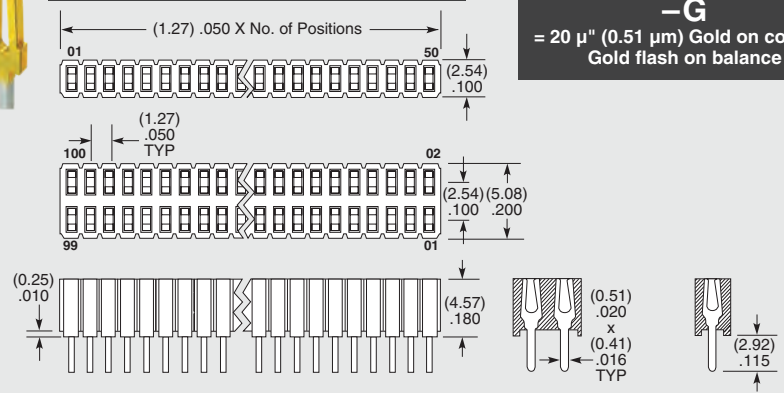
–L
= 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

–G
= 20 µ" (0.51 µm) Gold on contact, Gold flash on balance

ROW OPTION

–S
= Single Row

–D
= Double Row



ALSO AVAILABLE
(MOQ Required)
- Other platings

SMS – 1 – NO. PINS PER ROW – LEAD STYLE – PLATING OPTION – ROW OPTION

Mates with:
HTMS, TMS, MTMS, DWM, HDWM, FTR, TML, ZML, HMTMS

01 thru 50

LEAD STYLE
Specify LEAD STYLE from chart

PLATING OPTION

–L
= 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

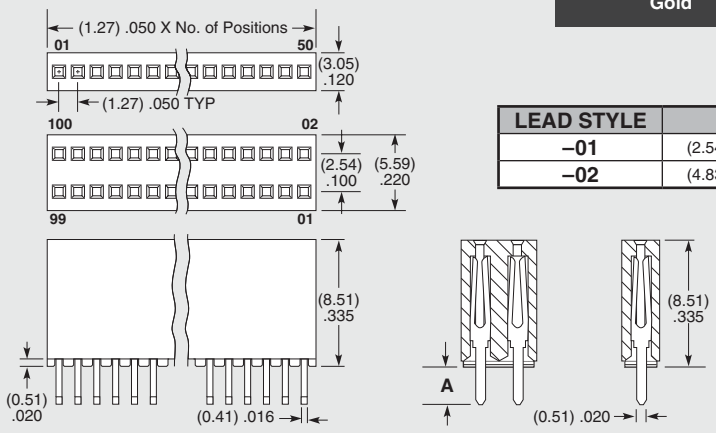
–G
= 10 µ" (0.25 µm) Gold

ROW OPTION

–S
= Single Row

–D
= Double Row

TIGER BUY™ CONTACT



LEAD STYLE	A
–01	(2.54) .100
–02	(4.83) .190

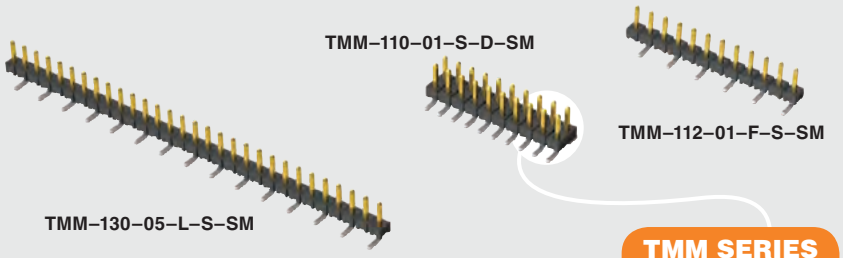
ALSO AVAILABLE
(MOQ Required)
- Other platings

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samtec

10 YEAR MFG WITH 30 µ" GOLD
EXTENDED LIFE PRODUCT
HIGH MATING CYCLES



(2.00 mm) .0787"

TMM SERIES

LOW-PROFILE SMT HEADER

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?TMM

Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Plating:
Sn or Au over
50 µ" (1.27 µm) Ni
Current Rating:
3.2 A per pin
(2 pins powered)
Operating Temp Range:
-55 °C to +105 °C with Tin;
-55 °C to +125 °C with Gold
Voltage Rating:
281 VAC mated with SQW;
250 VAC mated with SQT
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.15 mm) .006" max*
*(.004" stencil solution may be available; contact IPG@samtec.com)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

ALSO AVAILABLE (MOQ Required)

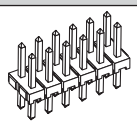
- Other platings

Board Mates:
CLT, SQT, SQW, ESQT, TLE, SMM, MMS

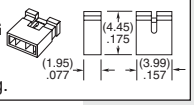
Cable Mates:
TCSD

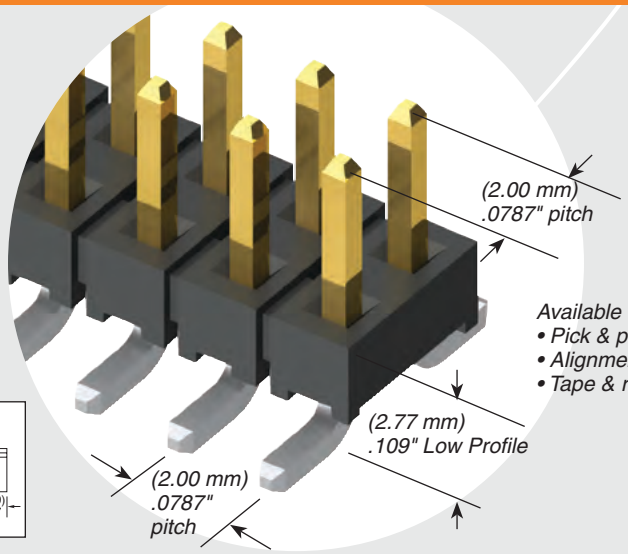
OTHER SOLUTIONS

Through-hole



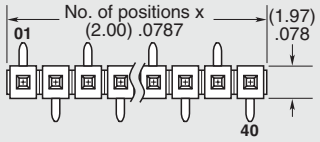
2 mm Shunt
Specify **2SN–BK–G** for 2 mm shunt with Gold plating.

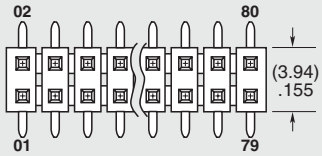




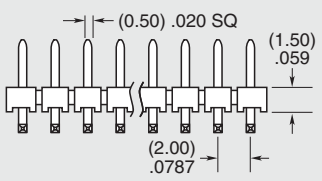
Available with optional
- *Pick & place pads*
- *Alignment pins*
- *Tape & reel packaging*

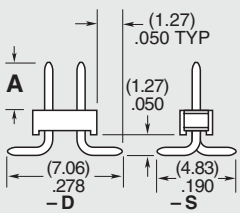
TMM	– 1	NO. PINS PER ROW	–	LEAD STYLE	–	PLATING OPTION	–	ROW OPTION	–	SM	–	OTHER OPTION
		02 thru 40		Specify LEAD STYLE from chart below.		–F = Gold flash on post, Matte Tin on tail –L = 10 µ" (0.25 µm) Gold on post, Matte Tin on tail –S = 30 µ" (0.76 µm) Gold on post, Matte Tin on tail –T = Matte Tin		–S = Single Row –D = Double Row				–A = Alignment Pin (Metal or plastic at Samtec's discretion) (5 positions minimum) (–D only) –"XXX" = Polarized Position (Specify position of omitted pin) –P = Pick & Place Pad (3 positions minimum) –TR = Tape & Reel Packaging (3 thru 36 positions only)

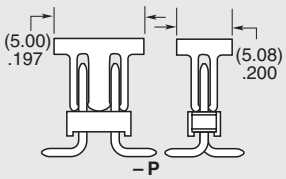




LEAD STYLE	A	MATES WITH
–01	(3.20) .126	SQT, SQW, ESQT, TLE, SMM, MMS, TCSD
–04	(1.91) .075	CLT
–05	(1.65) .065	
–06	(4.27) .168	CLT-BE





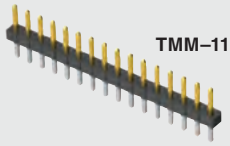


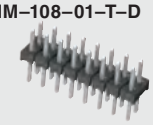
Note:
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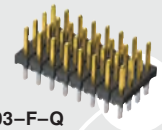
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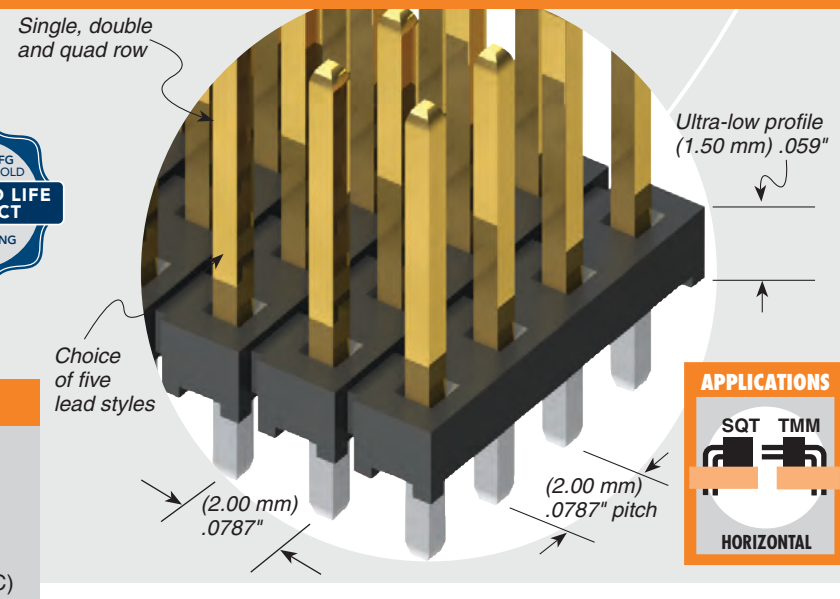




(2.00 mm) .0787"

TMM SERIES

LOW-PROFILE THROUGH-HOLE HEADER



SPECIFICATIONS

For complete specifications see www.samtec.com?TMM

Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Plating:
Sn or Au over
50 µ" (1.27 µm) Ni
Current Rating (SMM/TMM):
3.2 A per row
(2 pins powered)
Operating Temp Range:
-55 °C to +105 °C with Tin;
-55 °C to +125 °C with Gold
Voltage Rating:
281 VAC mated with SQW;
250 VAC mated with SQT
RoHS Compliant:
Yes
Lead–Free Solderable:
Yes

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

ALSO AVAILABLE (MOQ Required)

- Other platings

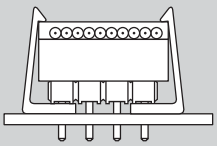
Board Mates:
CLT, SQT, SQW, ESQT, TLE, SMM, MMS

Cable Mates:
TCSD

10 YEAR MFG WITH 30 µ" GOLD
EXTENDED LIFE PRODUCT
HIGH MATING CYCLES

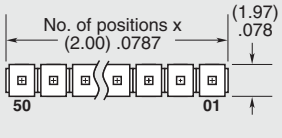
Note:
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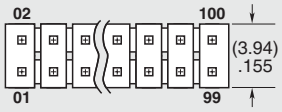
APPLICATION

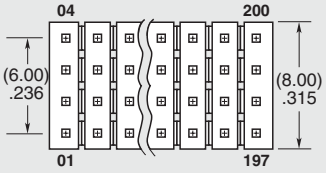


Retention Clip Option (–RC)

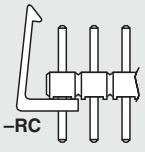
TMM	–	1	NO. PINS PER ROW	–	LEAD STYLE	–	PLATING OPTION	–	ROW OPTION	–	OTHER OPTION
			01 thru 50		Specify LEAD STYLE from chart below.		–F = Gold flash on post, Matte Tin on tail –L = 10 µ" (0.25 µm) Gold on post, Matte Tin on tail –S = 30 µ" (0.76 µm) Gold on post, Matte Tin on tail –T = Matte Tin		–S = Single Row –D = Double Row –Q = Four Row		–RA & –RE = Right-angle (Lead Style –01 only) (2 positions minimum, –Q row) –RC = Retention Clip (Mates with TCSD) (Double row only, 4 positions minimum, only available –06 lead style) –"XXX" = Polarized Position (Specify position of omitted pin)

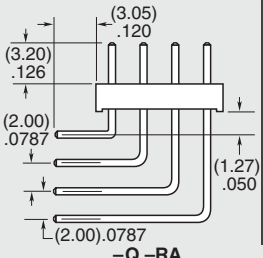


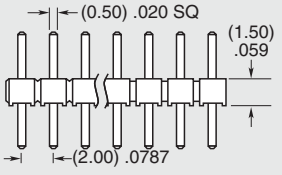


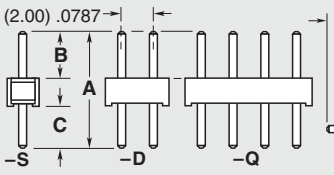


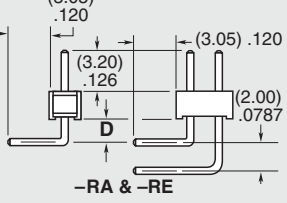
LEAD STYLE	A	B	C
–01	(8.20) .323	(3.20) .126	(3.50) .138
–02		(3.70) .146	(3.00) .118
–03		(4.00) .158	(2.70) .106
–04	(5.69) .224	(1.91) .075	(2.29) .090
–05	(5.43) .214	(1.65) .065	
–06	(9.58) .377	(3.20) .126	(4.88) .192











OPTION	D
–RA	(1.27) .050
–RE	(3.56) .140

Other Solutions

Press-fit
See PTT Series.

Elevated
See TW Series.

High-density
See TMMH Series.

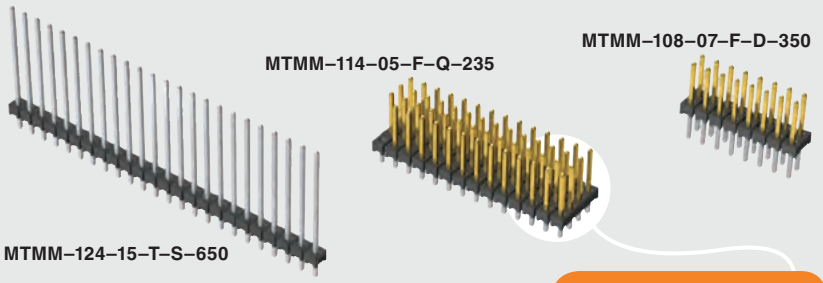
Shrouded Four Row Vertical & Right-Angle
See TMMS Series.

Paste In Hole (PIH) processing. Contact Samtec ASP Group for part customization.

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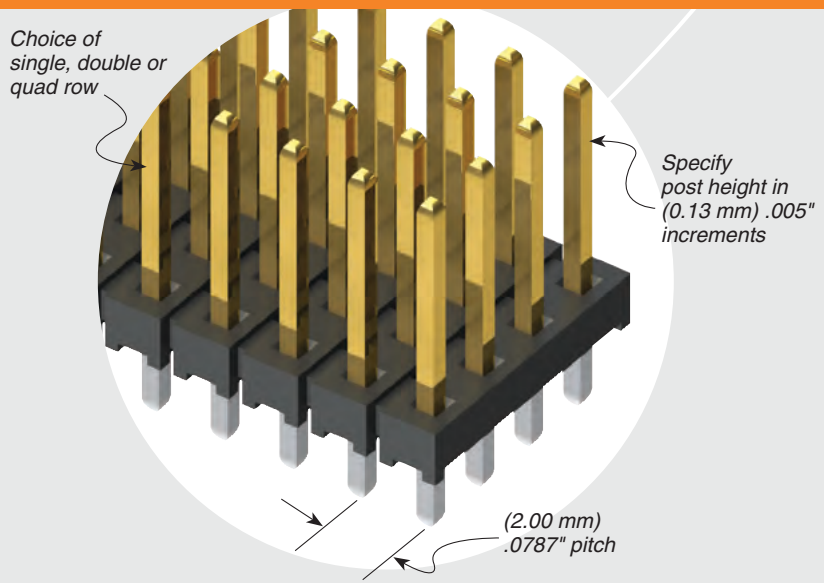
samtec



(2.00 mm) .0787"

MTMM SERIES

MODIFIED THROUGH-HOLE HEADER



SPECIFICATIONS

For complete specifications see www.samtec.com?MTMM

Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Plating:
Sn or Au over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +105 °C with Tin;
-55 °C to +125 °C with Gold
RoHS Compliant:
Yes
Lead–Free Solderable:
Yes

Board Mates:
CLT, SQT, SQW, ESQT, TLE, SMM, MMS

Cable Mates:
TCSD

RECOGNITIONS

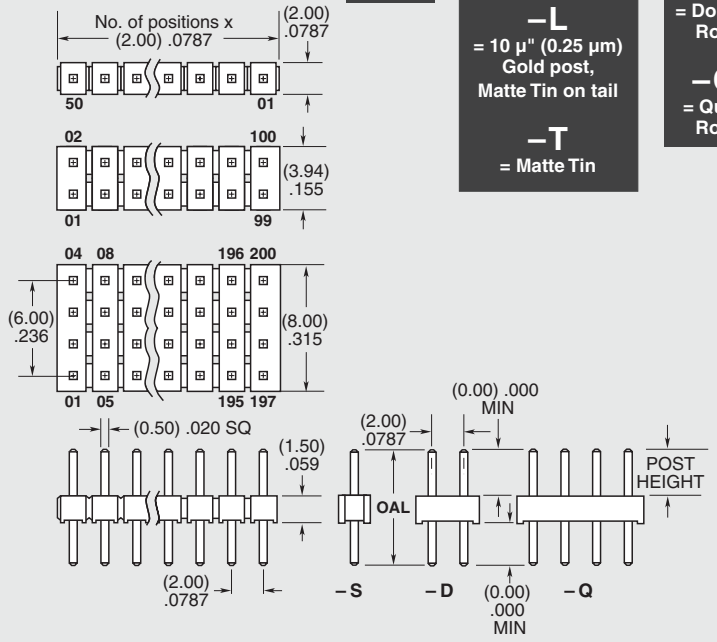
For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

ALSO AVAILABLE (MOQ Required)

- Other platings

MTMM	–	1	NO. PINS PER ROW	–	LEAD STYLE	–	PLATING OPTION	–	ROW OPTION	–	POST HEIGHT	–	OPTION
			01 thru 50		Specify LEAD STYLE from chart.		–F = Gold flash on post, Matte Tin on tail –L = 10 µ" (0.25 µm) Gold post, Matte Tin on tail –T = Matte Tin		–S = Single Row –D = Double Row –Q = Quad Row		–"XXX" = Post Height in inches (0.13 mm) .005" increments Example: –070 = (1.78 mm) .070"		–"XXX" = Polarized Position Specify position of omitted pin



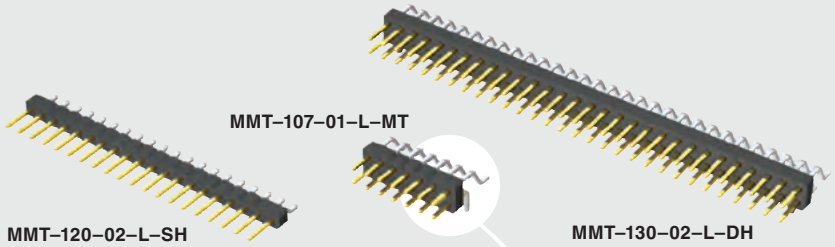
LEAD STYLE	OAL
–02	(6.48) .255
–03	(7.67) .302
–04	(8.20) .323
–05	(9.58) .377
–06	(10.08) .397
–07	(11.58) .456
–08	(12.09) .476
–09	(13.59) .535
–10	(14.10) .555
–11	(15.09) .594
–12	(15.60) .614
–13	(17.09) .673
–14	(19.08) .751
–15	(21.08) .830

Note: This Series is non-standard, non-returnable.

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(2.00 mm) .0787"

MMT SERIES

HORIZONTAL SURFACE MOUNT HEADER

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?MMT

Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +105 °C with Tin;
-55 °C to +125 °C with Gold
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (02-25)
(0.15 mm) .006" max (26-36)*
*(.004" stencil solution may be available; contact IPG@samtec.com)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

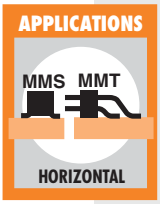
ALSO AVAILABLE (MOQ Required)

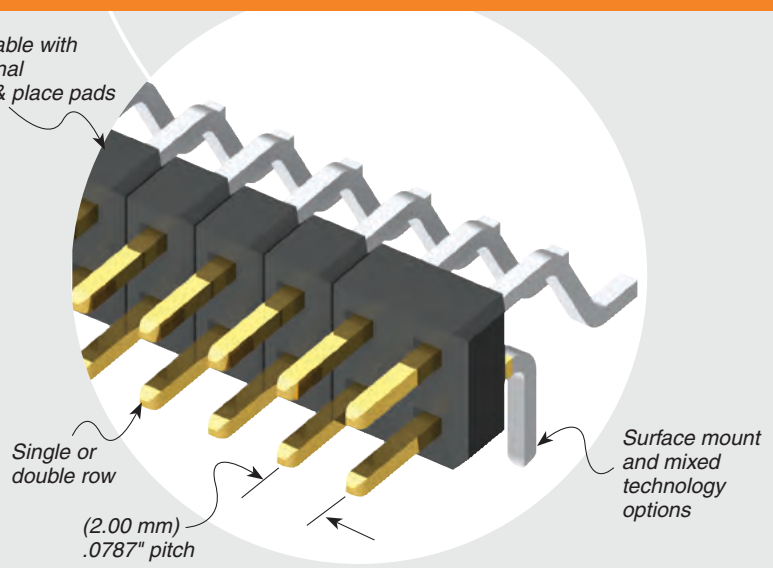
- Alignment pins
- Locking clips
- Molded pick & place pads
- Other platings

Board Mates:
CLT, SQT, SQW, ESQT, TLE, SMM, MMS

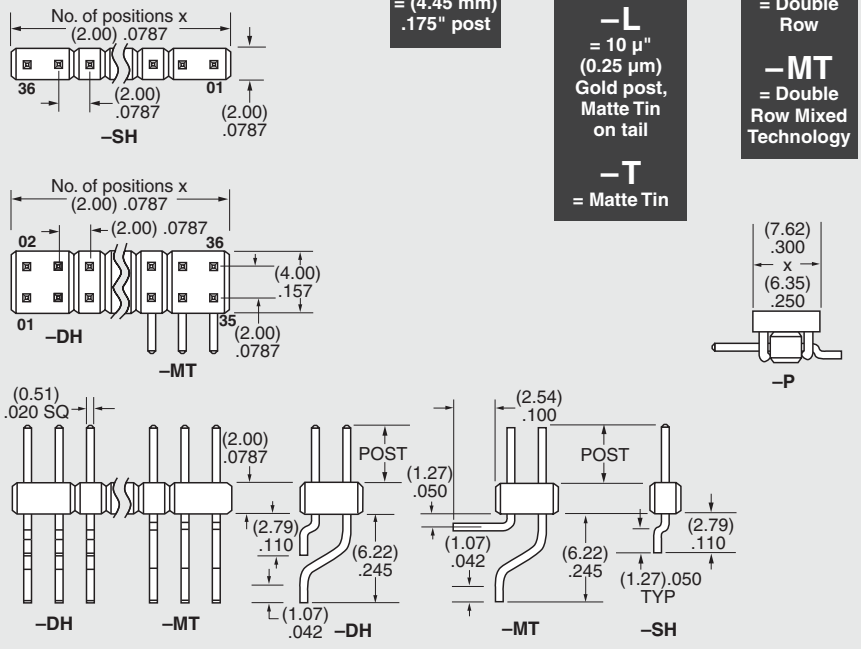
Cable Mates:
TCSD

APPLICATIONS





MMT	–	1	NO. PINS PER ROW	–	LEAD STYLE	–	PLATING OPTION	–	ROW OPTION	–	OPTION
			02 thru 36		–01 = (3.20 mm) .126" post –02 = (4.45 mm) .175" post		–F = Gold flash on post, Matte Tin on tail –L = 10 µ" (0.25 µm) Gold post, Matte Tin on tail –T = Matte Tin		–SH = Single Row –DH = Double Row –MT = Double Row Mixed Technology		–K = (4.00 mm) .157" DIA Polyimide Film Pick & Place Pad (3 positions minimum) –P = Pick & Place Pad (2 positions minimum) –"XXX" = Polarized Position Specify position of omitted pin –TR = Tape & Reel Packaging



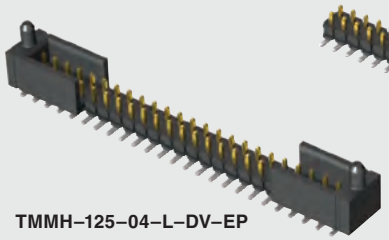
Note:
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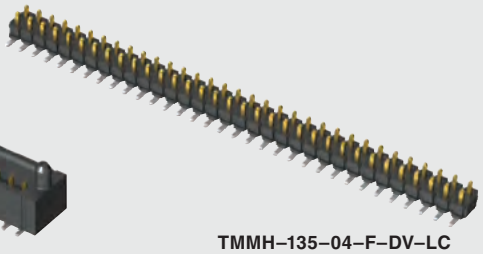
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10 YEAR MFG WITH 30 µ" GOLD
EXTENDED LIFE PRODUCT
HIGH MATING CYCLES


TMMH–125–04–L–DV–EP


TMMH–135–04–F–DV–LC

(2.00 mm) .0787"

FLEXIBLE SMT HEADER

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?TMMH

Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Plating:
Sn or Au over
50 µ" (1.27 µm) Ni
Current Rating (TMMH/ESQT):
4.5 A per pin
(2 pins powered)
Current Rating (TMMH/SQT):
5.1 A per pin
(2 pins powered)
Operating Temp Range:
-55 °C to +105 °C with Tin;
-55 °C to +125 °C with Gold
Voltage Rating:
281 VAC mated with SQW;
250 VAC mated with SQT
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

ALSO AVAILABLE
(MOQ Required)

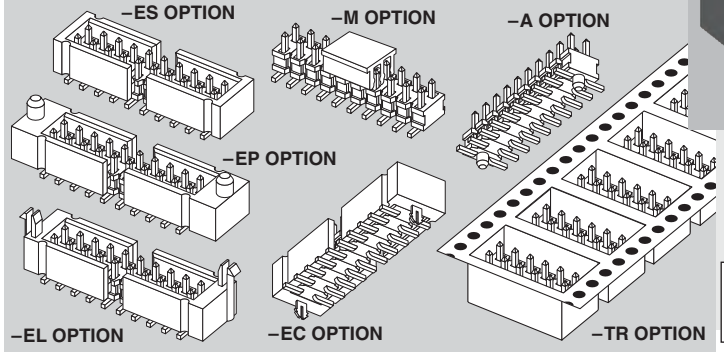
- Other platings

Note:
Some lengths, styles and options are non-standard, non-returnable.

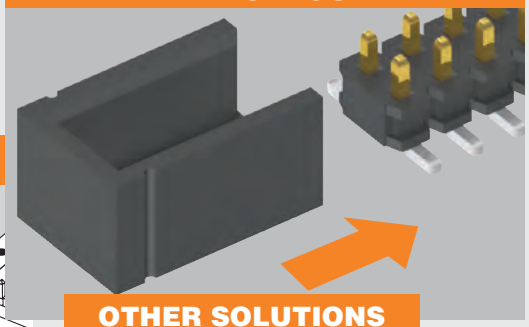
Board Mates:
CLT, SQT, SQW, ESQT, TLE, SMM, MMS

Cable Mates:
TCSD

OPTIONS

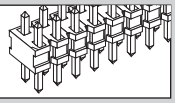


FLEX SHROUD

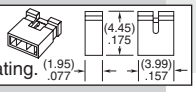


OTHER SOLUTIONS

Through-hole



2 mm Shunt
Specify **2SN–BK–G** for 2 mm shunt with Gold plating.



TMMH	–	1	NO. PINS PER ROW	–	LEAD STYLE	–	PLATING OPTION	–

03 thru 50

Specify LEAD STYLE from chart

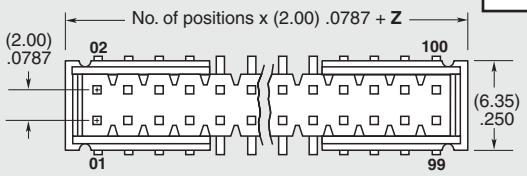
–F
= Gold flash on post, Matte Tin on tail

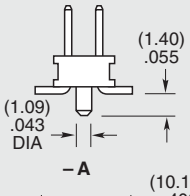
–L
= 10 µ" (0.25 µm) Gold on post, Matte Tin on tail

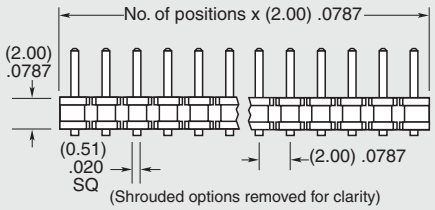
–T
= Matte Tin

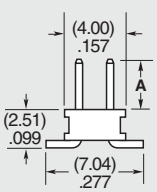
OPTION	Z
–ES	(2.92) .115
–EC	(4.70) .185
–EP & –EPC	(6.10) .240
–EL & –EBC	(4.45) .175

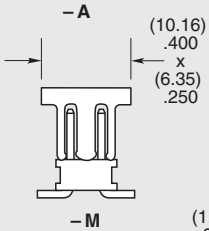
LEAD STYLE	A	MATES WITH
–01	(3.20) .126	SQT, SQW, ESQT, TLE, SMM, MMS, TCSD
–04	(1.91) .075	CLT
–05	(1.65) .065	

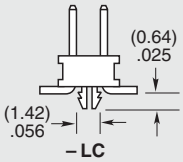






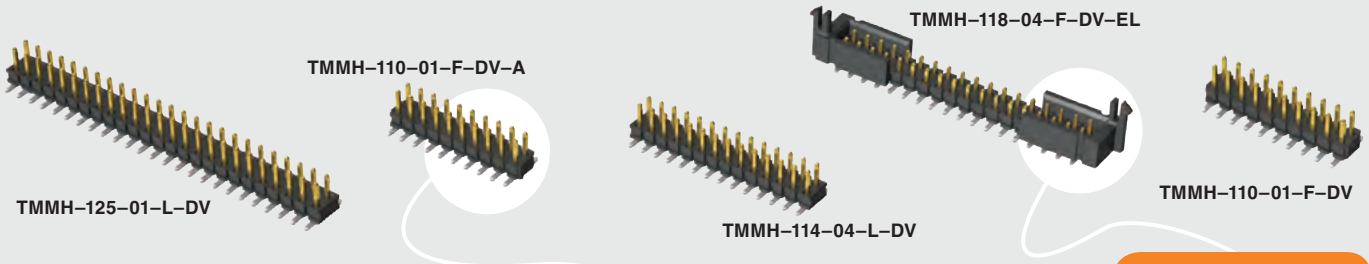




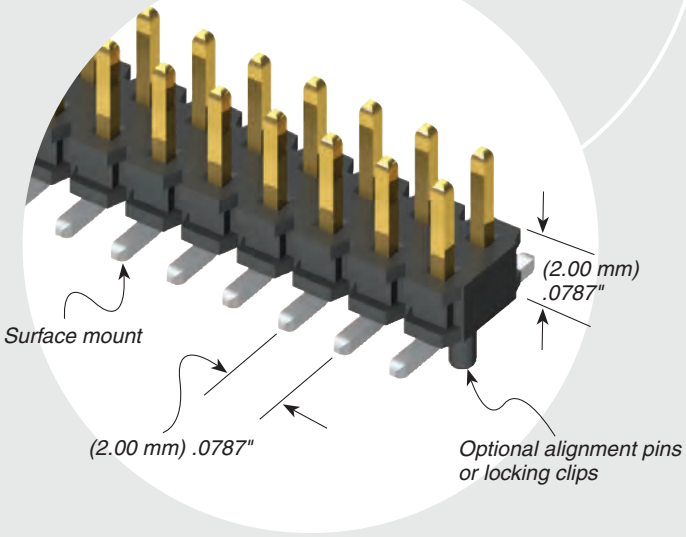


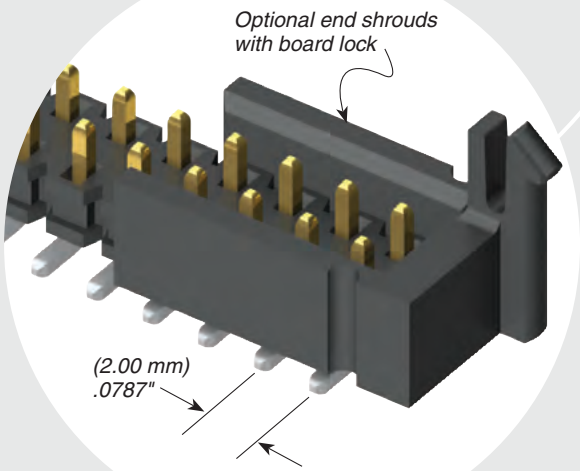
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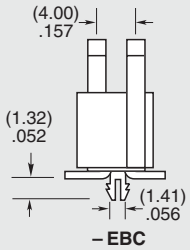
TMMH SERIES



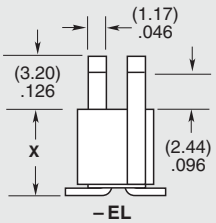


DV

LEAD STYLE	X	Y
–01	(5.84) .230	(4.45) .175
–04 & –05	(4.50) .177	(3.02) .119



– EBC



– EL

FLEX SHROUD OPTIONS

All Flex Shroud options require 9 pins/row minimum
(For board-to-board interfaces. Will not mate with TCSD)

–ES
= End Shroud
(For best cost also see TSH Series)

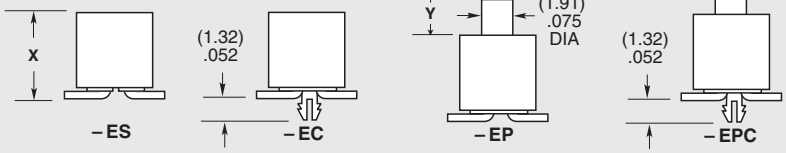
–EC
= End Shroud with Locking Clip
(For best cost also see TSH Series)
(Manual placement required)

–EP
= End Shroud with Guide Post

–EL
= End Shroud with Board Lock
(Boards are positively locked and cannot be unmated)

–EBC
= End Shroud with Board Lock and Locking Clip
(Boards are positively locked and cannot be unmated)

–EPC
= End Shroud with Guide Post and Locking Clip
(Manual placement required)



– ES – EC – EP – EPC

OTHER OPTIONS

–"XXX"
= Polarized Position. Specify position of omitted pin

–A
= Alignment Pin
(3 positions minimum)
(Not available with -LC)

–LC
= Locking Clip
(5 positions minimum)
(Not available with -A)
(Manual placement required)

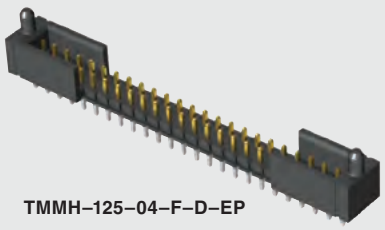
–M
= Pick & Place Pad
(5 positions minimum)

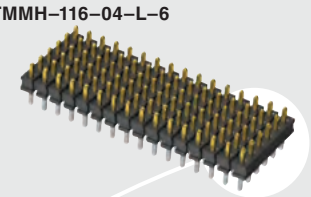
–TR
= Tape & Reel Packaging
(36 positions maximum)
(Flex Shroud options not available
except –ES, –EP & –EL)

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samtec





(2.00 mm) .0787"

FLEXIBLE THROUGH-HOLE HEADER

SPECIFICATIONS

For complete specifications see www.samtec.com?TMMH

Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Plating:
Sn or Au over
50 µ" (1.27 µm) Ni
Current Rating (TMMH/ESQT):
4.5 A per pin
(2 pins powered)
Current Rating (TMMH/SQT):
5.1 A per pin
(2 pins powered)
Operating Temp Range:
-55 °C to +105 °C with Tin;
-55 °C to +125 °C with Gold
Voltage Rating:
281 VAC mated with SQW;
250 VAC mated with SQT
RoHS Compliant:
Yes
Lead–Free Solderable: Yes

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

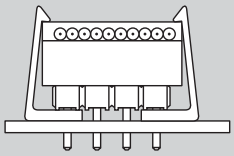
Note:
Some lengths, styles and options are non-standard, non-returnable.

Board Mates:
CLT, SQT, SQW, ESQT, TLE, SMM, MMS

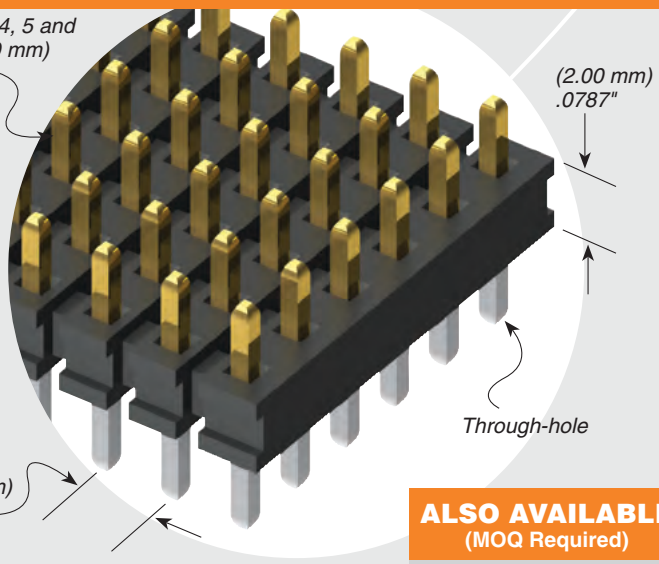
Cable Mates:
TCSD

10 YEAR MFG WITH 30 µ" GOLD
EXTENDED LIFE PRODUCT
HIGH MATING CYCLES

APPLICATION



Retention Clip Option (–RC)



ALSO AVAILABLE
(MOQ Required)

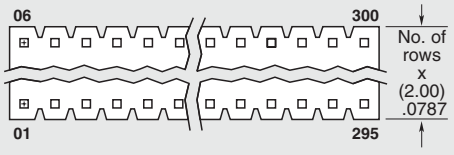
- Other platings

TMMH	–	1	NO. PINS PER ROW	–	LEAD STYLE	–	PLATING OPTION
		03 thru 50			Specify LEAD STYLE from chart		

–F
= Gold flash on post, Matte Tin on tail

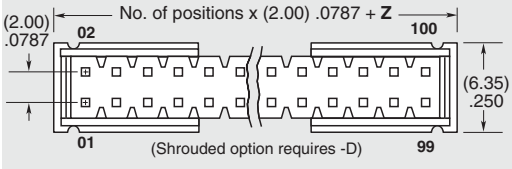
–L
= 10 µ" (0.25 µm) Gold on post, Matte Tin on tail

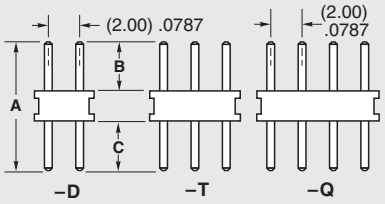
–T
= Matte Tin

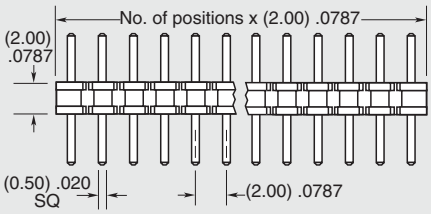


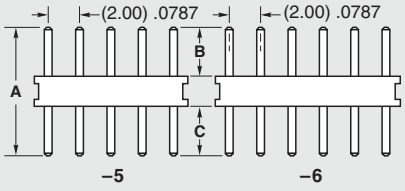
OPTION	Z
–ES	(2.92) .115
–EC	(4.70) .185
–EP & –EPC	(6.10) .240
–EL & –EBC	(4.45) .175

LEAD STYLE	A	B	C
–01	(7.67) .302	(3.20) .126	(2.46) .097
–04	(6.45) .254	(1.91) .075	(2.57) .101
–05	(5.94) .234	(1.65) .065	(2.29) .090
–06	(8.74) .344	(3.20) .126	(3.53) .139









Other Solutions

Press-fit
See PTT Series.

Surface Mount
See previous page.

Low Profile
See TMM Series.

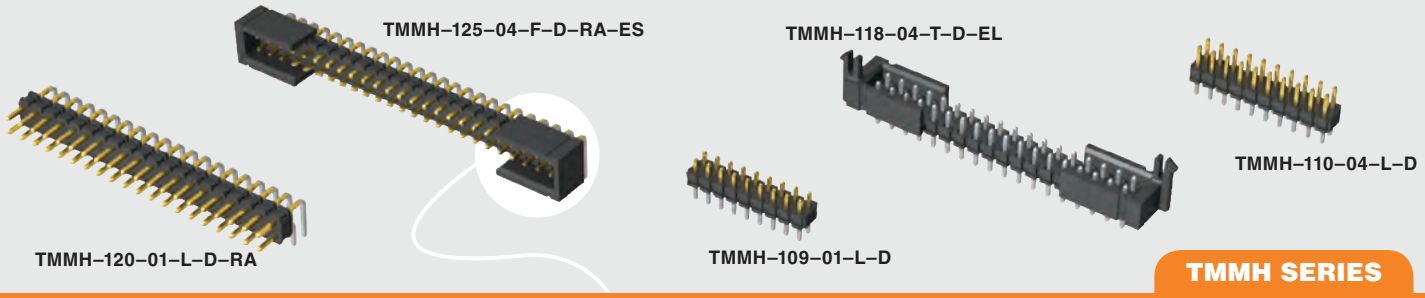
Right-angle Four Row
See TMM Series.

Shrouded Four Row Vertical & Right-angle
See TMMS Series.

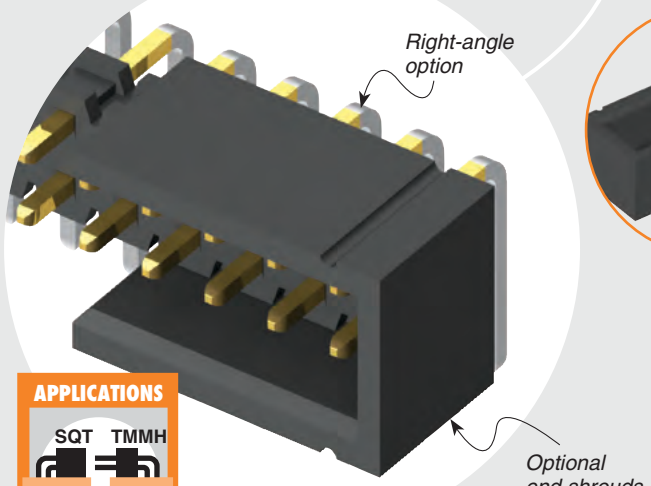
Paste In Hole (PIH) processing. Contact Samtec ASP Group for part customization.

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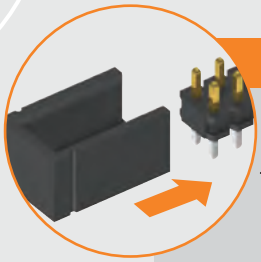


TMMH SERIES

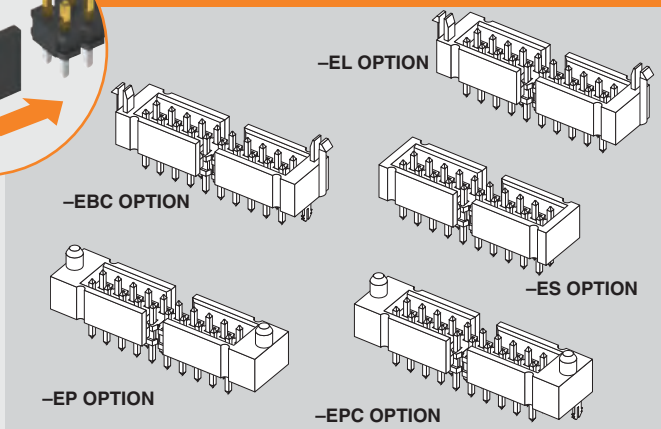


APPLICATIONS





FLEX SHROUD OPTIONS



ROW OPTION

–D
= Double Row
(Required for Flex Shroud option)

–T
= Triple Row

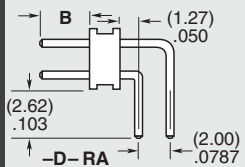
–Q
= Four Row

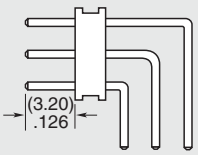
–5
= Five Row

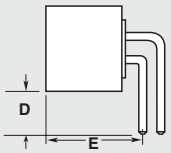
–6
= Six Row

TAIL OPTION

–RA
= Right-angle
(Double & Triple Row only)
(–ES, –EP, –EL Double Row only)
(–EC, –EBC and –EPC not available)
(–06 Lead style not available)

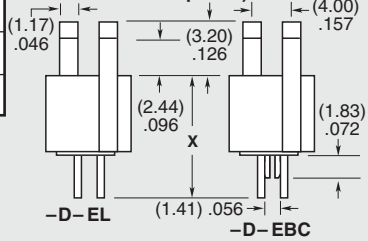


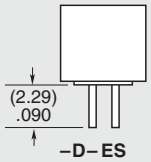


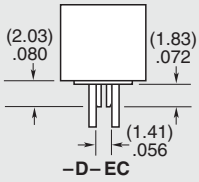


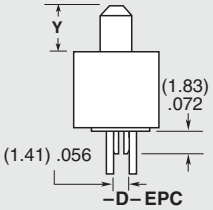
LEAD STYLE	D	E
–01	(2.34) .092	(6.60) .260
–04	(2.62) .103	(5.26) .207
–05	(3.12) .123	(5.26) .207

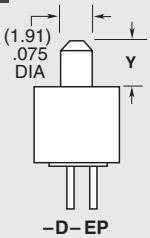
LEAD STYLE	X	Y
–01	(5.84) .230	(4.45) .175
–04 & –05	(4.50) .177	(3.02) .119











FLEX SHROUD OPTIONS

Flex Shroud requires -D row & 9 pins/row minimum
(For board-to-board interfaces. Will not mate with TCSD)

–ES
= End Shroud

–EC
= End Shroud with Locking Clip
(Manual placement required)

–EP
= End Shroud with Guide Post

–EL
= End Shroud with Board Lock
(Boards are positively locked and cannot be unmated)

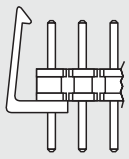
–EBC
= End Shroud with Board Lock and Locking Clip
(Boards are positively locked and cannot be unmated)

–EPC
= End Shroud with Guide Post and Locking Clip
(Manual placement required)

OTHER OPTIONS

–"XXX"
= Polarized Position
(Specify position of omitted pin)

–RC
= Retention Clip
(Mates to TCSD)
(Double row only, minimum position 4 and available only –06 lead style)



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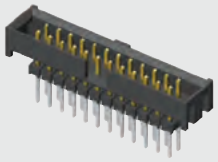
samtec

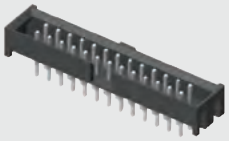
FLEX STACK



LTMM–110–02–F–D–RA

ZLTMM–112–75–L–D–285





LTMM–113–02–T–D

(2.00 mm) .0787"

LTMM, ZLTMM SERIES

SHROUDED HEADER & STACKER

Mates with:
SQT, SQW, ESQT, SMM

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?LTMM or www.samtec.com?ZLTMM

Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Plating:
Sn or Au over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +105 °C with Tin;
-55 °C to +125 °C with Gold
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

OTHER SOLUTIONS

- Shrouded IDC headers and stackers to mate with TCSD Series. See STMM and ZSTMM Series.

ALSO AVAILABLE (MOQ Required)

- Other sizes
- Other platings

Note:
This Series is non-standard, non-returnable.

LTMM	–	1	NO. PINS PER ROW	–	02	–	PLATING OPTION	–	D	–	TAIL OPTION	–	OTHER OPTION

04, 05, 06, 07, 08, 10, 12, 13, 15, 17, 20, 22, 25
(Standard sizes)

–F
= Gold flash on post, Matte Tin on tail

–L
= 10 µ" (0.25 µm) Gold on post, Matte Tin on tail

–T
= Matte Tin

Leave blank for Through-hole

–RA
= Right-angle

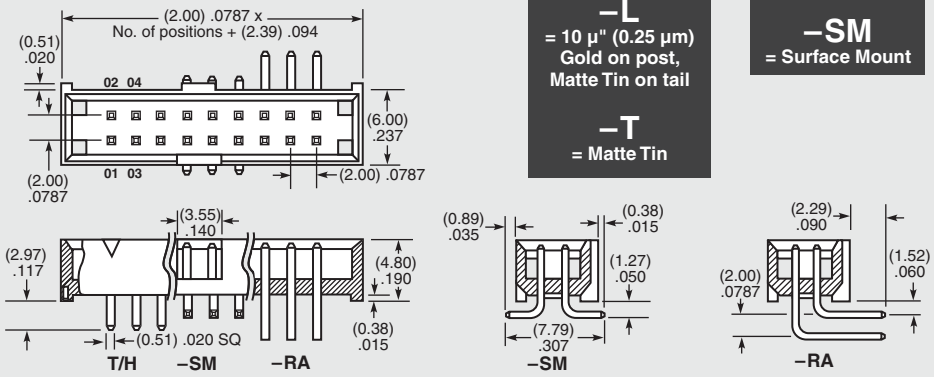
–SM
= Surface Mount

–"XX"
= Polarized Position

–LC
= Locking Clip (-SM only) (Manual placement required)

–K
= (7.50 mm) .295" DIA Film Pick & Place Pad (-SM only)

–TR
= Tape & Reel (–SM only)



ZLTMM	–	1	NO. PINS PER ROW	–	LEAD STYLE	–	PLATING OPTION	–	D	–	BODY HEIGHT	–	OTHER OPTION

04, 05, 06, 07, 08, 10, 12, 13, 15, 17, 20, 22, 25
(Standard sizes)

Specify LEAD STYLE from chart.

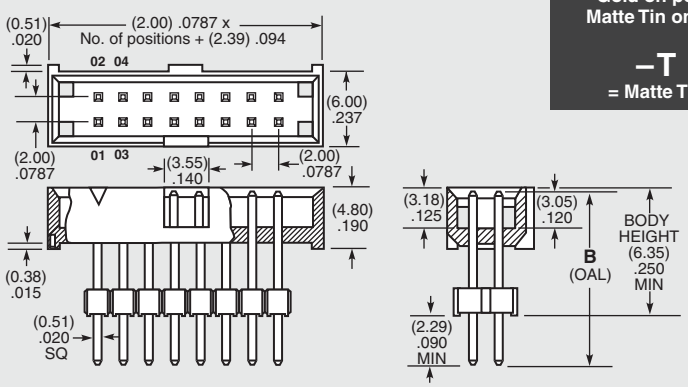
–F
= Gold flash on post, Matte Tin on tail

–L
= 10 µ" (0.25 µm) Gold on post, Matte Tin on tail

–T
= Matte Tin

–"XXX"
= Body Height

–"XX"
= Polarized Position



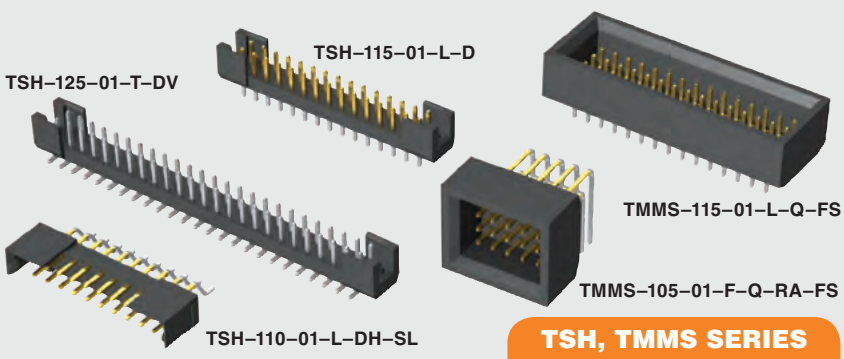
LEAD STYLE	B (OAL)	MAX BODY HEIGHT
–75	(9.58) 0.377	(7.42) 0.292
–62	(10.08) 0.397	(7.92) 0.312
–65	(10.49) 0.413	(8.33) 0.328
–73	(12.09) 0.476	(9.93) 0.391
–63	(14.10) 0.555	(11.94) 0.470
–66	(15.09) 0.594	(12.93) 0.509
–69	(15.60) 0.614	(13.44) 0.529
–74	(17.09) 0.673	(14.94) 0.588
–70	(17.60) 0.693	(15.44) 0.608
–71	(21.08) 0.830	(18.92) 0.745
–72	(21.62) 0.851	(19.46) 0.766

Note: For added mechanical stability, Samtec recommends mechanical board spacers be used in applications with gold or selective gold plated connectors. Contact ipg@samtec.com for more information.

Due to technical progress, all designs, specifications and components are subject to change without notice.

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(2.00 mm) .0787"

TSH, TMMS SERIES

SHROUDED HEADERS

Mates with:
CLT, SQT, SQW, ESQT, TLE, SMM, MMS, PTF

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?TSH

Insulator Material: Black Liquid Crystal Polymer
Terminal Material: Phosphor Bronze
Plating: Sn or Au over 50 µ" (1.27 µm) Ni
Operating Temp Range: -55 °C to +105 °C with Tin; -55 °C to +125 °C with Gold
RoHS Compliant: Yes

PROCESSING

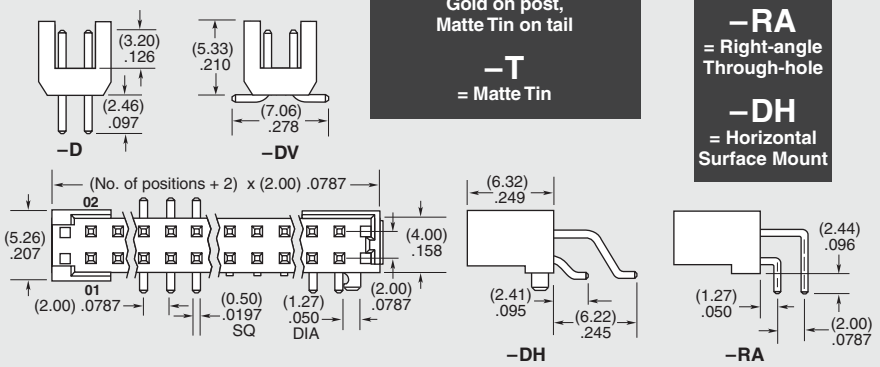
Lead–Free Solderable: Yes
SMT Lead Coplanarity: (0.15 mm) .006" max*
*(.004" stencil solution may be available; contact IPG@samtec.com)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

TSH	– 1	NO. PINS PER ROW	– 01	– PLATING OPTION	– ROW OPTION	– OTHER OPTION
		05, 10, 15, 20, 25, 30, 35, 40, 45 (40 & 45 = –D & -RA only) (Standard sizes)		–F = Gold flash on post, Matte Tin on tail –L = 10 µ" (0.25 µm) Gold on post, Matte Tin on tail –T = Matte Tin	–D = Vertical Through-hole –DV = Vertical Surface Mount –RA = Right-angle Through-hole –DH = Horizontal Surface Mount	–LC = Locking Clip (–DV only) (N/A with -A) (Manual placement required) –A = Alignment Pin (–DV only) (N/A with -LC) –SL = Solder Locks (–DH only) –K = (4.50 mm) .177" DIA Polyimide Film Pick & Place Pad (N/A with 15 - 30 positions) (–DH only) –TR = Tape & Reel



Note:
Some lengths, styles and options are non-standard, non-returnable.

ALSO AVAILABLE
(MOQ Required)

- Other sizes and platings

Mates with:
SQT, SQW, ESQT

SPECIFICATIONS

For complete specifications see www.samtec.com?TMMS

Insulator Material: Black LCP
Terminal Material: Phosphor Bronze
Plating: Sn or Au over 50 µ" (1.27 µm) Ni
Operating Temp Range: -55 °C to +105 °C with Tin; -55 °C to +125 °C with Gold
RoHS Compliant: Yes
Lead–Free Solderable: Yes

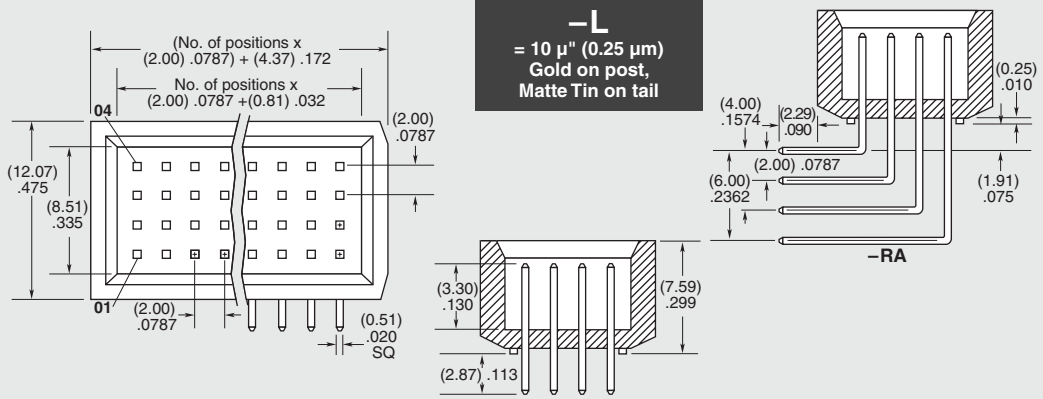
RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

Note:
Some lengths, styles and options are non-standard, non-returnable.

TMMS	– 1	NO. PINS PER ROW	– 01	– PLATING OPTION	– Q	– OPTION	– FS
		05, 10, 15, 20, 30, 40, 50		–F = Gold flash on post, Matte Tin on tail –L = 10 µ" (0.25 µm) Gold on post, Matte Tin on tail		–RA = Right-angle	



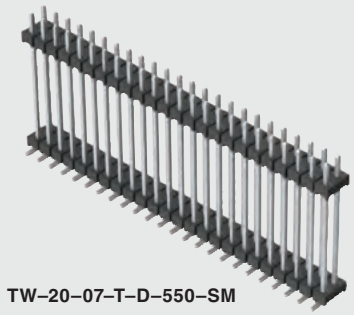
Due to technical progress, all designs, specifications and components are subject to change without notice.

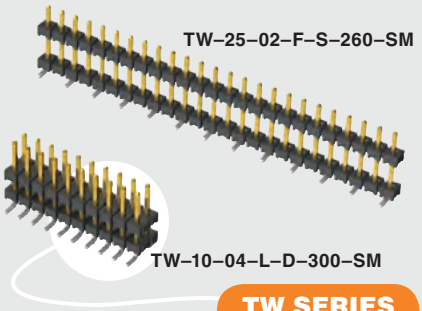
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FLEX STACK

(2.00 mm) .0787"





TW SERIES

SMT BOARD STACKERS

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?TW-SM

Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Plating:
Sn or Au over
50 µ" (1.27 µm) Ni
Current Rating:
4.9 A per pin
(2 pins powered)
Operating Temp Range:
-55 °C to +105 °C with Tin;
-55 °C to +125 °C with Gold
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.15 mm) .006" max*
*(.004" stencil solution may be available; contact IPG@samtec.com)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

ALSO AVAILABLE (MOQ Required)

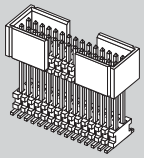
- Other Platings
- End shrouds with or without guide post

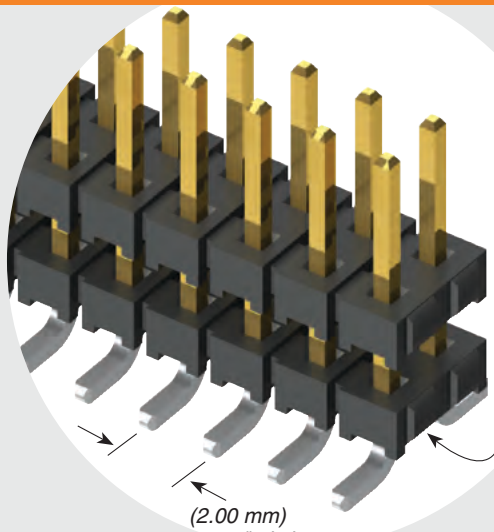
Board Mates:
CLT, SQT, SQW, ESQT, TLE, SMM, MMS

Cable Mates:
TCSD

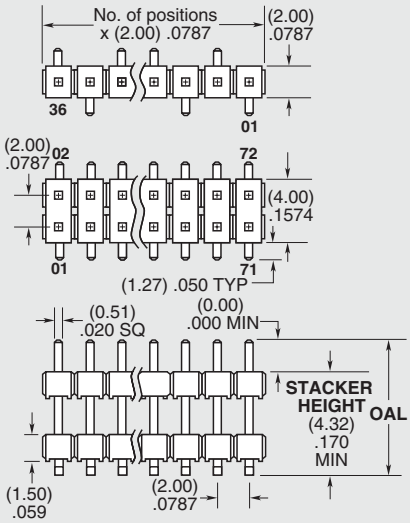
OTHER SOLUTIONS

- Stacker height ranges and standard part numbers on double row.

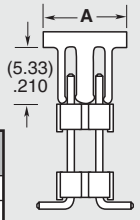




TW	NO. PINS PER ROW	LEAD STYLE	PLATING OPTION	ROW OPTION	STACKER HEIGHT	SM	OTHER OPTIONS
	02 thru 36	Specify LEAD STYLE from chart below.	–F = Gold flash on post, Matte Tin on tail –L = 10 µ" (0.25 µm) Gold on post, Matte Tin on tail –T = Matte Tin	–S = Single Row –D = Double Row	–"XXX" = Stacker Height in inches (0.13 mm) .005" increments Example: –250 = (6.35 mm) .250"		–"XXX" = Polarized Position –A = Alignment Pin (Metal or plastic at Samtec discretion) (4.83 mm) .190" min. board space (–D only) –P = Pick & Place Pad (1.91 mm) .075" min. post height (04-36 only) –TR = Tape & Reel Packaging (–07 lead style not available) (–06 lead style with –P option not available as a standard)

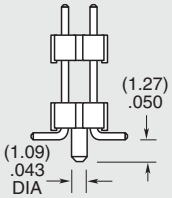


LEAD STYLE	OAL
–02	(7.85) .309
–03	(11.86) .467
–04	(12.37) .487
–06	(15.37) .605
–07	(17.35) .683
–09	(9.86) .388



–P OPTION

ROW OPTION	A
–S	(5.08) .200
–D	(6.35) .250



–A OPTION

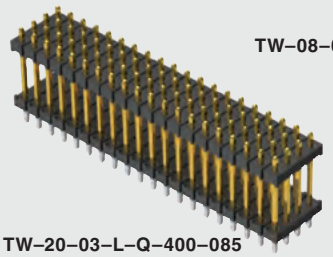
Notes:
For added mechanical stability, Samtec recommends mechanical board spacers be used in applications with gold or selective gold plated connectors. Contact ipg@samtec.com for more information.

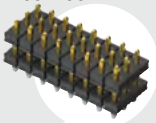
This Series is non-standard, non-returnable.

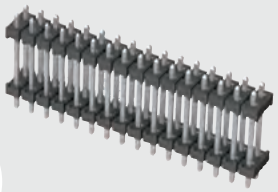
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(2.00 mm) .0787"

TW SERIES

THROUGH-HOLE BOARD STACKERS

SPECIFICATIONS

For complete specifications see www.samtec.com?TW-TH

Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Plating:
Sn or Au over
50 µ" (1.27 µm) Ni
Current Rating:
5.2 A per pin
(2 pins powered)
Operating Temp Range:
-55 °C to +105 °C with Tin;
-55 °C to +125 °C with Gold
RoHS Compliant:
Yes
Lead–Free Solderable:
Yes

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

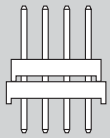
Notes:
For added mechanical stability, Samtec recommends mechanical board spacers be used in applications with gold or selective gold plated connectors. Contact ipg@samtec.com for more information.

This Series is non-standard, non-returnable.

Board Mates:
CLT, SQT, SQW, ESQT, TLE, SMM, MMS

Cable Mates:
TCSD

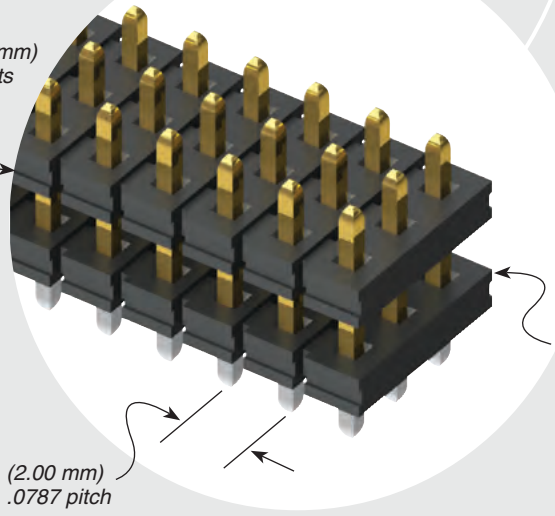
OTHER SOLUTIONS



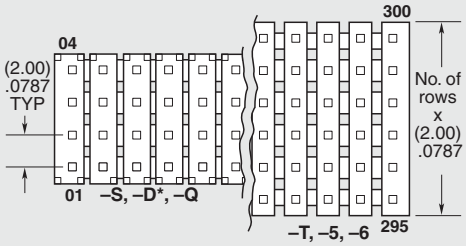
Paste In Hole (PIH) processing. Contact Samtec ASP Group.

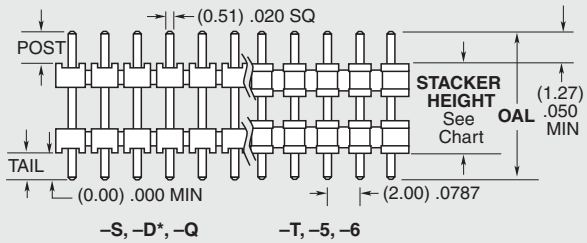
ALSO AVAILABLE
(MOQ Required)

- Other platings



TW	NO. PINS PER ROW	LEAD STYLE	PLATING OPTION	ROW OPTION	STACKER HEIGHT	TAIL SPEC
	02 thru 50	Specify LEAD STYLE from chart below.	–F = Gold flash on post, Matte Tin on tail –L = 10 µ" (0.25 µm) Gold on post, Matte Tin on tail –T = Matte Tin	–S = Single Row –D = Double Row –T = Triple Row –Q = Four Row –5 = Five Row –6 = Six Row	–"XXX" = Stacker Height in inches (0.13 mm) .005" increments Example: –250 = (6.35 mm) .250"	–"XXX" = Tail Length in inches (0.13 mm) .005" increments Example: -150 = (3.81 mm) .150" –"XXX" = Polarized Position (Specify position to be removed)





LEAD STYLE	OAL
–01	(8.20) .323
–02	(9.60) .377
–03	(13.60) .535
–04	(14.10) .555
–05	(15.10) .594
–06	(17.10) .673
–07	(19.10) .751
*–08	(21.10) .830
–09	(11.60) .456
–10	(15.60) .614
–11	(10.08) .397
*–12	(28.19) 1.110

*Style –08 & –12 = S & D only

ROW OPTION	STACKER HEIGHT
–S, –D*, & –Q	(3.05) .120 MIN
–T, –5, –6	(4.06) .160 MIN

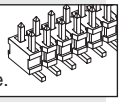
*–D with stacker height greater than (4.06 mm) .160" will not have standoffs.

Other Solutions

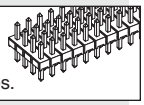
2 mm Shunt
See 2SN Series.



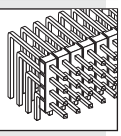
Surface Mount
See previous page.



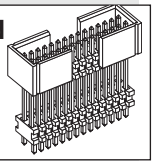
Low Profile
See TMM Series.



Right-angle
See TMM Series.



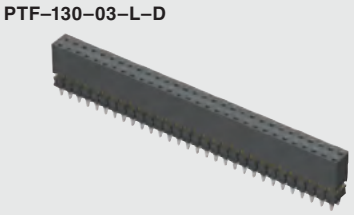
Shrouded Double Row
See ZLTMM Series.



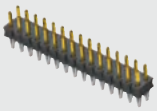
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(2.00 mm) .0787"

PTT, PTF SERIES

PRESS-FIT HEADERS & SOCKETS

PTT Mates with:
PTF, ESQT, PTHF, SQW, SQT, SMM

PTF Mates with:
PTT, TMMH, TMM, MTMM, MMT, TW, LTMM, ZLTMM

SPECIFICATIONS

For complete specifications see www.samtec.com?PTT or www.samtec.com?PTF

Insulator Material:
Black Liquid Crystal Polymer
Contact Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Current Rating:
2.9 A per pin
(2 pins powered)
Operating Temp Range:
-55 °C to +125 °C
Insertion Depth:
(2.67 mm) .105" to
(3.56 mm) .140"
Normal Force:
60 grams (0.59 N) average
Max Cycles:
100 with 30 µ" (0.76 µm) Au
RoHS Compliant:
Yes

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

ALSO AVAILABLE
(MOQ Required)

- Other platings

TOOLING

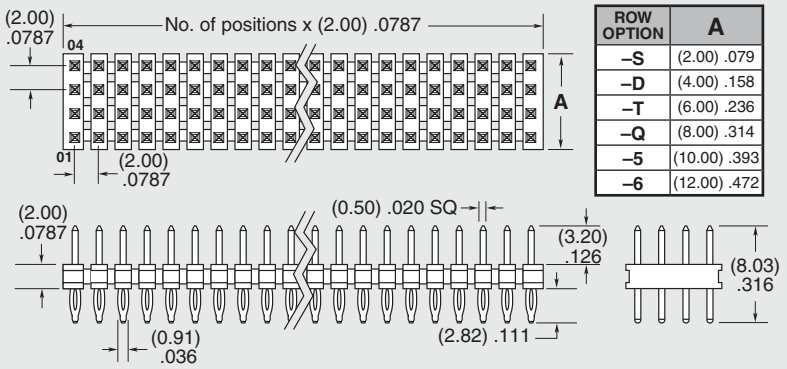
- Press-Fit
  PTT: CAT-PT-PH-1XX-X-X
  PTF: CAT-PT-PH-1XX-X-B

For more information, visit www.samtec.com/tooling

Note: Some sizes, styles and options are non-standard, non-returnable.

PTT – **1** – **NO. PINS PER ROW** – **01** – **PLATING OPTION** – **ROW OPTION** – **OPTION**

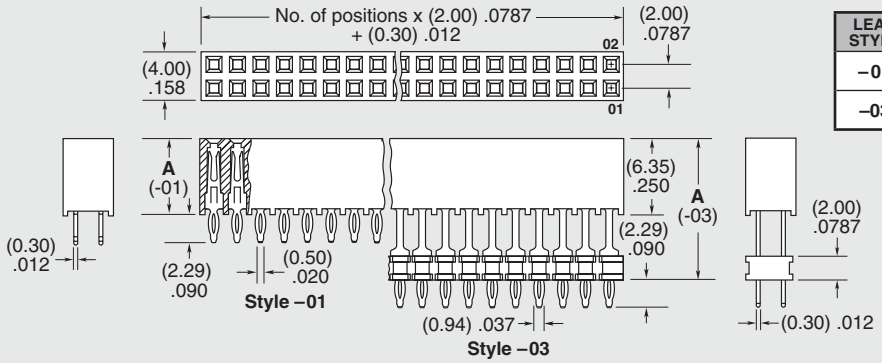
- NO. PINS PER ROW: 02 thru 50
- PLATING OPTION: –L = 10 µ" (0.25 µm) Gold contact, Matte Tin on tail
- ROW OPTION:
  - –S = Single Row
  - –D = Double Row
  - –T = Triple Row
  - –Q = Four Row
  - –5 = Five Row
  - –6 = Six Row
- OPTION: –"XXX" = Polarized Position



ROW OPTION	A
–S	(2.00) .079
–D	(4.00) .158
–T	(6.00) .236
–Q	(8.00) .314
–5	(10.00) .393
–6	(12.00) .472

PTF – **1** – **NO. PINS PER ROW** – **LEAD STYLE** – **PLATING OPTION** – **D** – **OPTION**

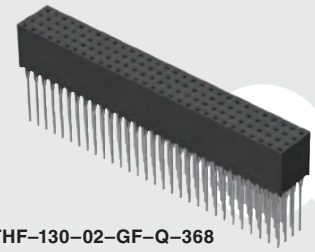
- NO. PINS PER ROW: 02 thru 50
- LEAD STYLE: Specify LEAD STYLE from chart
- PLATING OPTION: –L = 10 µ" (0.25 µm) Gold on post, Matte Tin on tail
- OPTION: –"XXX" = Polarized Position



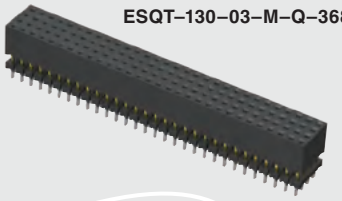
LEAD STYLE	A
–01	(6.35) .250
–03	(9.14) .360

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EMBEDDED-PC PC/104 MODULES



PTHF–130–02–GF–Q–368



ESQT–130–03–M–Q–368

(2.00 mm) .0787"

ESQT (-368), PTHF SERIES

PC/104-PLUS™ SELF-NESTING SOCKETS

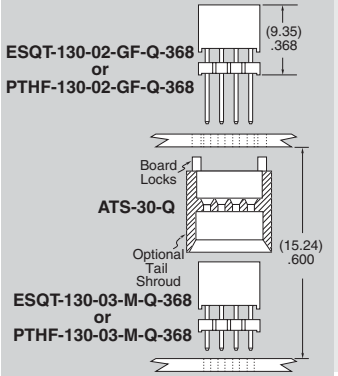
SPECIFICATIONS

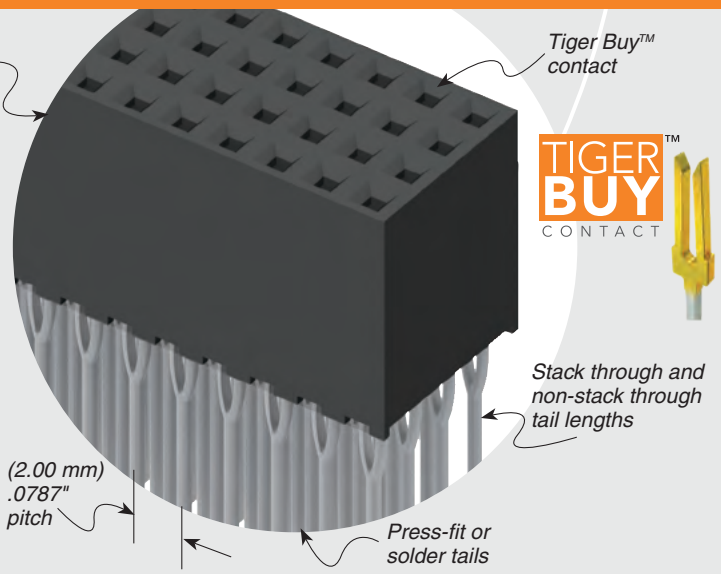
For complete specifications and recommended PCB layouts see www.samtec.com?ESQT or www.samtec.com?PTHF

Insulator Material:
Black Liquid Crystal Polymer (ESQT)
Black High Temp Nylon (PTHF)
Contact Material:
Phosphor Bronze
Plating:
Au or Sn over 50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C
Normal Force:
60 grams (0.59 N) average
Max Cycles:
100 with 10 µ" (0.25 µm) Au
RoHS Compliant:
Yes
Lead–Free Solderable:
Yes (ESQT)

Mates with:
ESQT, PTHF

APPLICATIONS





RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

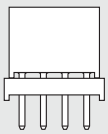
FILE NO. E111594

TOOLING

- Press-Fit CAT-PT-PT-130-A-4

For more information, visit www.samtec.com/tooling

OTHER SOLUTIONS



Paste In Hole (PIH) processing. Contact Samtec ASP Group.
(Not recommended for stack through applications)
ESQT only.

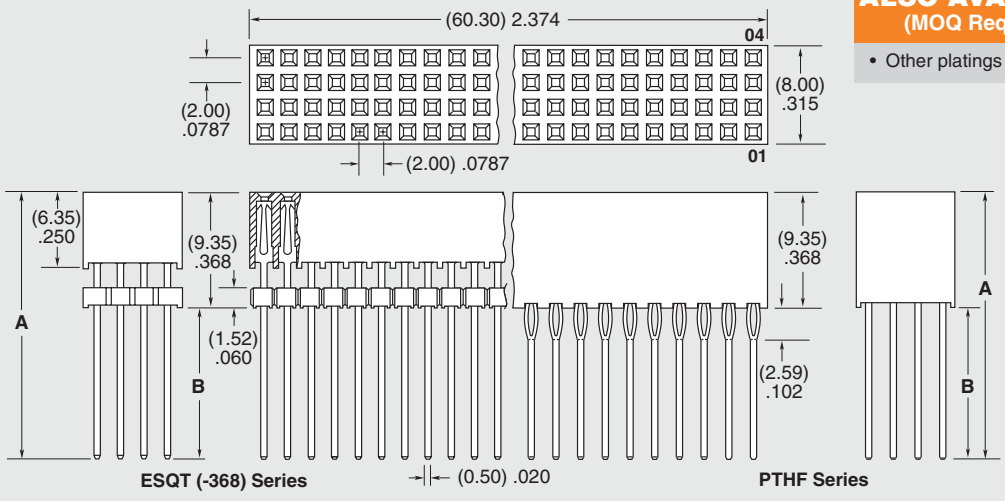
Note: Some lengths, styles and options are non-standard, non-returnable.

TYPE STRIP	–	1	NO. PINS PER ROW	–	LEAD STYLE	–	PLATING OPTION	–	Q	–	368
ESQT = Solder Tails PTHF = Press-fit Tails			30		Specify LEAD STYLE from chart		–GF = 15 µ" (0.38 µm) Gold on contact, Gold flash on tail (–02 Lead Style only) –M = 20 µ" (0.51 µm) Gold on contact, Matte Tin on tail (–03 Lead Style only)				

LEAD STYLE	ESQT A	ESQT B	PTHF A	PTHF B
–02	(21.59) .850	(12.24) .482	(21.59) .850	(12.24) .482
–03	(11.63) .458	(2.29) .090	(12.34) .486	(3.00) .118

ALSO AVAILABLE
(MOQ Required)

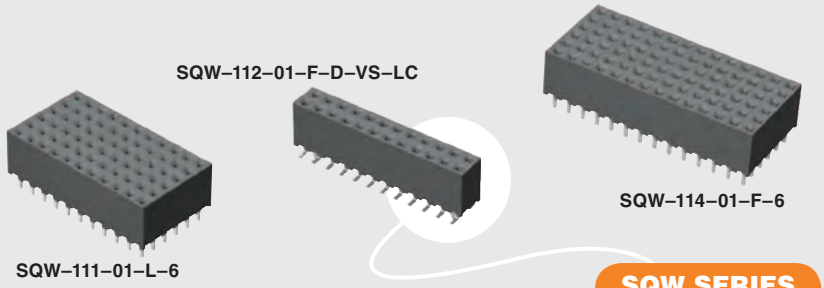
- Other platings



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samtec



(2.00 mm) .0787"

SQW SERIES

COST-EFFECTIVE RUGGED SOCKETS

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?SQW

Insulator Material:
Black Liquid Crystal Polymer
Contact Material:
Phosphor Bronze
Plating:
Sn or Au over
50 µ" (1.27 µm) Ni
Current Rating (SQW/TMMH):
3.8 A per pin
(2 pins powered)
Voltage Rating:
281 VAC mated with TMM;
250 VAC mated with TMMH
Operating Temp Range:
-55 °C to +125 °C
Insertion Depth:
(2.62 mm) .103" to
(5.03 mm) .198" with
(0.38 mm) .015" wipe
Max Cycles:
100 with 10 µ" (0.25 µm) Au
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes, for -D & -D-VS
(Wave only for -T, -Q, -5 & -6)
SMT Lead Coplanarity:
(0.10 mm) .004" max (02-10)
(0.15 mm) .006" max (11-50)*
*(.004" stencil solution may be available; contact IPG@samtec.com)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

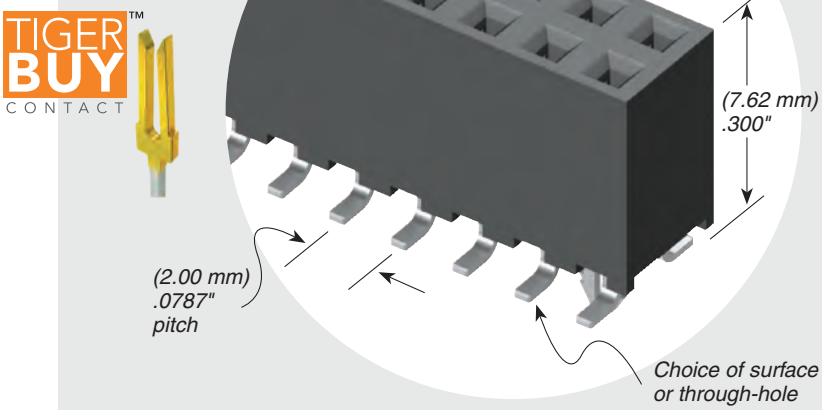
FILE NO. E111594

Note:
Some lengths, styles and options are non-standard, non-returnable.

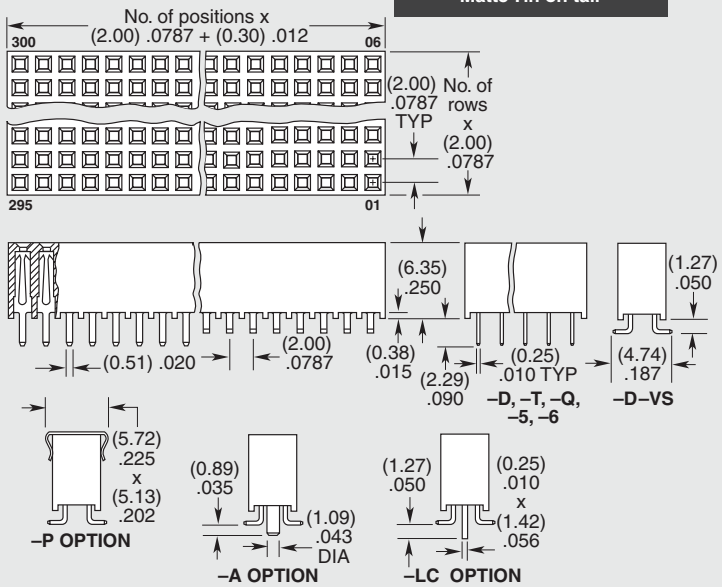
Board Mates:
TMMH, TMM, MTMM, MMT, TW, TSH, LTMM, PTT

Cable Mates:
TCMD

TIGER BUY™ CONTACT



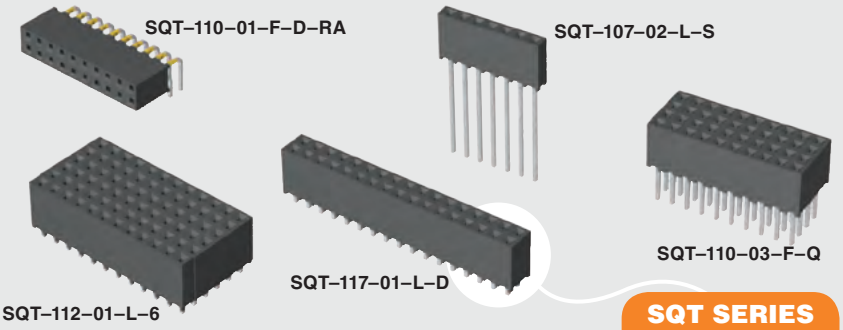
SQW	– 1	NO. PINS PER ROW	– 01	– PLATING OPTION	– ROW OPTION	– OPTION
		02 thru 50		–F = Gold flash on contact, Matte Tin on tail –L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail	–D = Double Row –D–VS = Double Row Surface Mount –T = Triple Row –Q = Four Row –5 = Five Row –6 = Six Row	–"XXX" = Polarized Position –D–VS only options: –A = Alignment Pin (5 positions minimum) Metal or plastic at Samtec discretion. (N/A with -LC) –LC = Locking Clip (5 positions minimum) (N/A with -A) (Manual placement required) –K = (4.25 mm) .167" DIA Polyimide Film Pick & Place Pad (4 positions minimum) –P = Pick & Place Pad (4 positions minimum) –TR = Tape & Reel Packaging (4 thru 28 positions only)



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(2.00 mm) .0787"

SQT SERIES

COST-EFFECTIVE RUGGED SOCKETS

SPECIFICATIONS

For complete specifications see www.samtec.com?SQT

Insulator Material:
Black Liquid Crystal Polymer
Contact Material:
Phosphor Bronze
Plating:
Sn or Au over 50 µ" (1.27 µm) Ni
Current Rating (TMMH/SQT):
5.1 A per pin
(2 pins powered)
Voltage Rating:
281 VAC mated with TMM;
250 VAC mated with TMMH
Operating Temp Range:
-55 °C to +125 °C
Insertion Depth:
(2.62 mm) .103" to
(5.03 mm) .198"
Normal Force:
60 grams (0.59 N) average
Max Cycles:
100 with 10 µ" (0.25 µm) Au
RoHS Compliant:
Yes
Lead–Free Solderable:
Yes

RECOGNITIONS

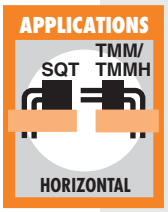
For complete scope of recognitions see www.samtec.com/quality

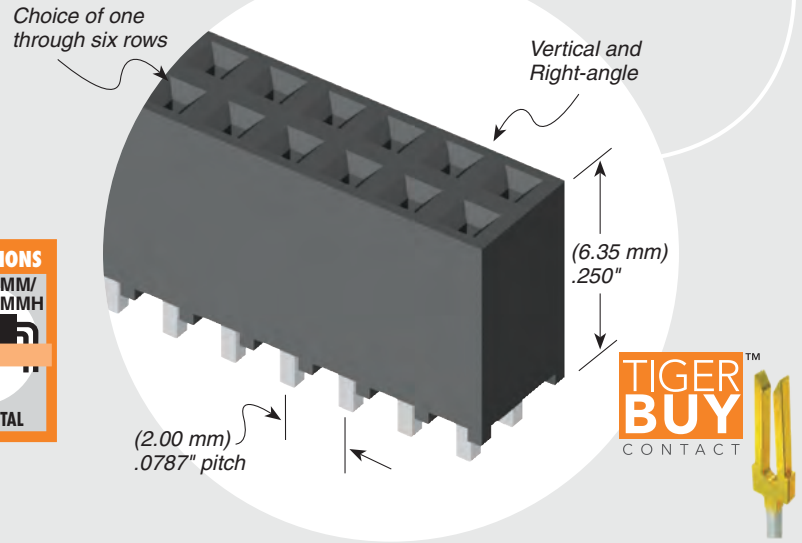
FILE NO. E111594

Note:
Some lengths, styles and options are non-standard, non-returnable.

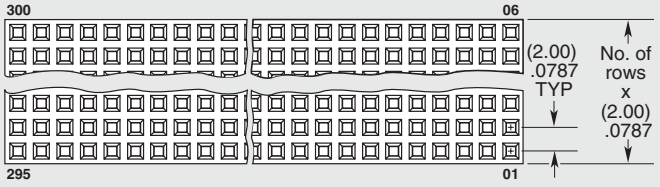
Board Mates:
TMMH, TMM, MTMM, MMT, TW, LTMM, ZLTMM, ESQT, PTT, TSH

Cable Mates:
TCMD

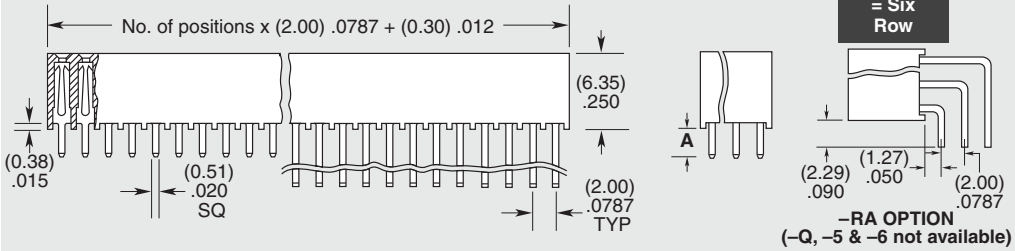




SQT	– 1	NO. PINS PER ROW	LEAD STYLE	PLATING OPTION	ROW OPTION	OTHER OPTION
		02 thru 50	Specify LEAD STYLE from chart	–F = Gold flash on contact, Matte Tin on tail –L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail	–S = Single Row –D = Double Row –T = Triple Row –Q = Four Row –5 = Five Row –6 = Six Row	–RA = Right-angle (–Q, –5 & –6 Row not available) (Lead Style –01 only) –"XXX" = Polarized Position (Indicate position number)



LEAD STYLE	A
–01	(2.29) .090
–02	(15.24) .600
–03	(5.28) .208



Other Solutions

Elevated
See ESQT Series.

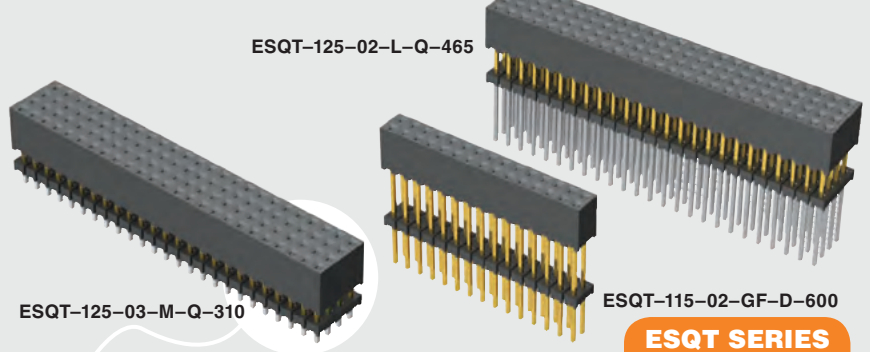
Surface Mount
See SQW and TLE Series.

Low Profile
See CLT Series.

High Reliability
See SMM Series.

Press-Fit
See PTF Series.

samtec



(2.00 mm) .0787"

ESQT SERIES

FLEXIBLE ELEVATED SOCKET STRIPS

SPECIFICATIONS

For complete specifications see www.samtec.com?ESQT

Insulator Material:
Black Liquid Crystal Polymer
Contact Material:
Phosphor Bronze
Plating:
Sn or Au over
50 µ" (1.27 µm) Ni
Current Rating (ESQT/TMMH):
4.5 A per pin
(2 pins powered)
Operating Temp Range:
-55 °C to +125 °C
Insertion Depth:
(2.62 mm) .103" to
(5.03 mm) .198" with
(0.38 mm) .015" wipe
Max Cycles:
100 with 10 µ" (0.25 µm) Au
RoHS Compliant:
Yes
Lead–Free Solderable:
Yes, for -S, -D & -Q
(Wave only for -T, -5 & -6)

RECOGNITIONS

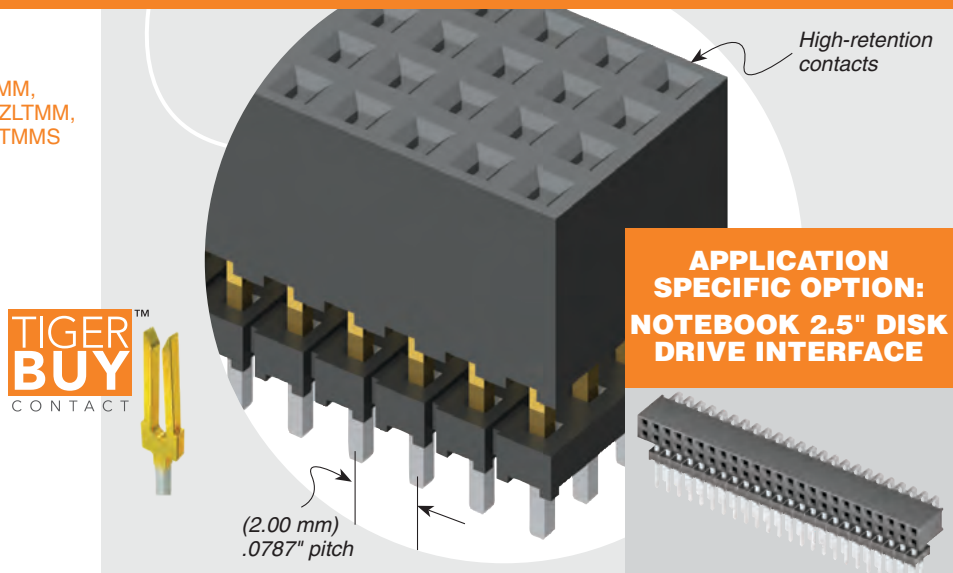
For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

Note:
This Series is non-standard, non-returnable.

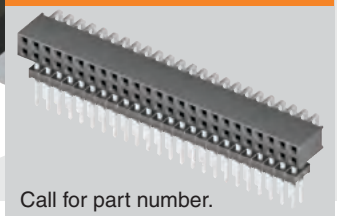
Board Mates:
TMMH, TMM, MTMM, MMT, TW, LTMM, ZLTMM, ESQT, PTT, TSH, TMMS

Cable Mates:
TCMD



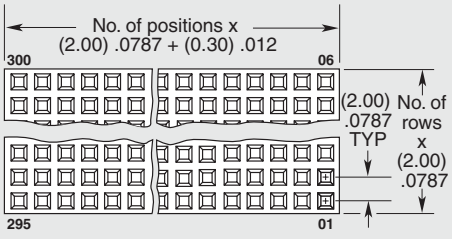
TIGER BUY™ CONTACT

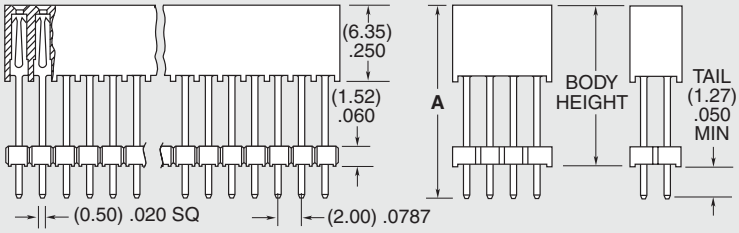
APPLICATION SPECIFIC OPTION:
NOTEBOOK 2.5" DISK DRIVE INTERFACE



Call for part number.

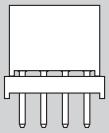
ESQT	1	NO. PINS PER ROW	LEAD STYLE	PLATING OPTION	ROW OPTION	BODY HEIGHT	OTHER OPTION
		02 thru 50	Specify LEAD STYLE from chart	–F = Gold flash on contact, Matte Tin on tail –L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail –M = 20 µ" (0.51 µm) Gold on contact, Matte Tin on tail –GF = 15 µ" (0.38 µm) Gold on contact, Gold flash on tail (Recommended for self-nesting) (–02 lead style only)	–S = Single Row –D = Double Row –T = Triple Row –Q = Quad Row –5 = Five Row –6 = Six Row	–"XXX" = Body Height (in inches) (7.87 mm) .310" minimum for –S, –D, –Q (9.53 mm) .375" minimum for –T, –5, –6	–"XXX" = Polarized Position (Indicate position number)





LEAD STYLE	A	MAX TAIL	MAX BODY HEIGHT
–02	(21.59) .850	(13.72) .540	(20.32) .800
–03	(11.63) .458	(3.76) .148	(10.36) .408

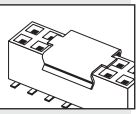
OTHER SOLUTIONS



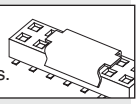
Paste In Hole (PIH) processing.
Contact Samtec ASP Group.
(Not recommended for stack through applications)

Other Solutions

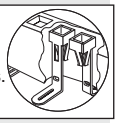
Surface Mount
See SQW and TLE Series.



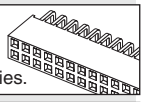
Low Profile
See CLT Series.



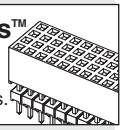
High Reliability
See SMM Series.



Right-Angle
See SQW Series.



PC/104-Plus™ Sockets
See ESQT-368 and PTHF Series.

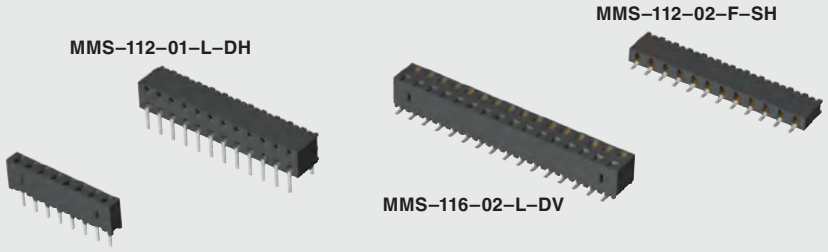


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TIGER™ CLAW CONTACT



(2.00 mm) .0787"

MMS SERIES

TIGER CLAW™ SOCKET STRIP

Board Mates:
TMMH, TMM, MTMM, MMT, TW, LTMM, ZLTMM, TSH

Cable Mates:
TCMD

SPECIFICATIONS

For complete specifications see www.samtec.com?MMS

Insulator Material:
Black LCP
Contact Material:
Phosphor Bronze
Plating:
Sn or Au over
50 µ" (1.27 µm) Ni
Current Rating (MMS/TMM):
3.9 A per pin
(2 pins powered)
Operating Temp Range:
-55 °C to +125 °C with Gold
-55 °C to +105 °C with Tin
Insertion Depth:
DH = (2.13 mm) .084" to (2.79 mm) .110",
SH = (2.13 mm) .084" minimum or pass-through
Top Entry DV/SV = (2.13 mm) .084" to (4.32 mm) .170"
Bottom Entry DV/SV = (4.27 mm) .168" minimum (Plus board)
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.15 mm) .006" max*
*(.004" stencil solution may be available; contact IPG@samtec.com)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

ALSO AVAILABLE (MOQ Required)

- Alignment Pin (–DV only)
- Locking clips and Through-hole pass-through options
- Other platings

Note:
Some lengths, styles and options are non-standard, non-returnable.

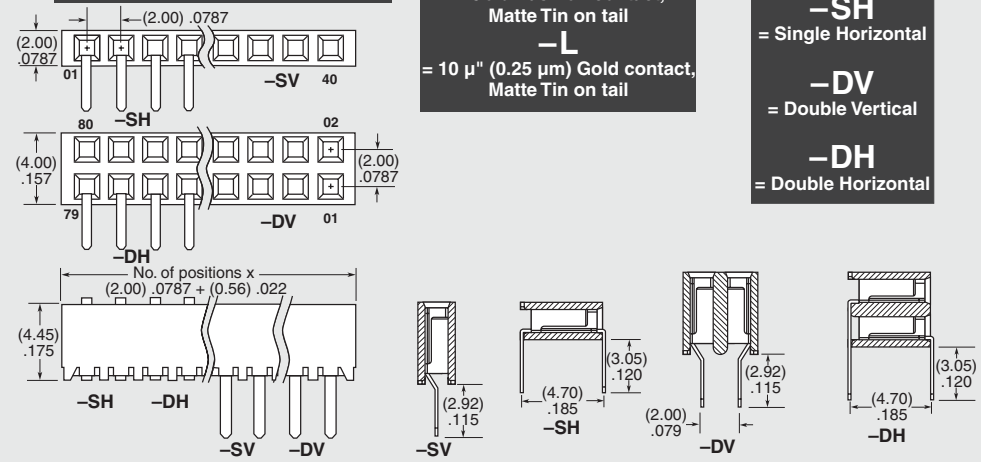
MMS – 1 – NO. PINS PER ROW – 01 – PLATING OPTION – ROW OPTION – OTHER OPTION

NO. PINS PER ROW: 02 thru 40

PLATING OPTION
–F = Gold flash on contact, Matte Tin on tail
–L = 10 µ" (0.25 µm) Gold contact, Matte Tin on tail

ROW OPTION
–SV = Single Vertical
–SH = Single Horizontal
–DV = Double Vertical
–DH = Double Horizontal

OTHER OPTION
–"XX" = Polarized Position



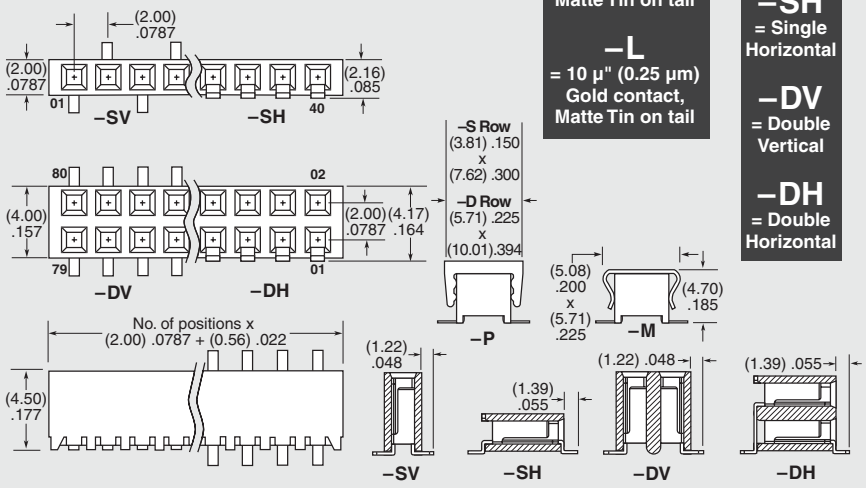
MMS – 1 – NO. PINS PER ROW – 02 – PLATING OPTION – ROW OPTION – OTHER OPTION

NO. PINS PER ROW: 02 thru 40

PLATING OPTION
–F = Gold flash on contact, Matte Tin on tail
–L = 10 µ" (0.25 µm) Gold contact, Matte Tin on tail

ROW OPTION
–SV = Single Vertical
–SH = Single Horizontal
–DV = Double Vertical
–DH = Double Horizontal

OTHER OPTION
–"XX" = Polarized Position
–K = (5.50 mm) .217" DIA Polyimide Film Pick & Place Pad (–SV & –DV only) (–SV= 3 positions min.) (–DV= 4 positions min.)
–M = Metal Pick & Place Pad (4 positions min.) (–DV only)
–P = Plastic Pick & Place Pad (4 pos. min., –SV only) (5 pos. min., –DV only)
–TR = Tape & Reel Packaging

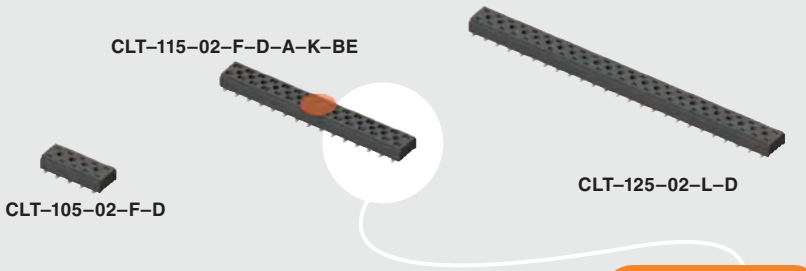


Due to technical progress, all designs, specifications and components are subject to change without notice.

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Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.

samtec

10 YEAR MFG WITH 30 µ" GOLD
EXTENDED LIFE PRODUCT
HIGH MATING CYCLES



(2.00 mm) .0787"

CLT SERIES

LOW-PROFILE DUAL WIPE SOCKET

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?CLT

Insulator Material:
Black Liquid Crystal Polymer
Contact Material:
Phosphor Bronze
Plating: Sn or Au over 50 µ" (1.27 µm) Ni
Current Rating (TMMH/CLT):
4.1 A per pin
(2 pins powered)
Operating Temp Range:
-55 °C to +125 °C
Insertion Depth:
Top Entry=
(1.40 mm) .055" minimum
Bottom Entry=
(2.57 mm) .101" minimum
(add board thickness for correct post OAL)
Max Cycles:
100 with 10 µ" (0.25 µm) Au
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (02-25)
(0.15 mm) .006" max (26-34)*
(0.20 mm) .008" max (35-50)*
*(.004" stencil solution may be available; contact IPG@samtec.com)

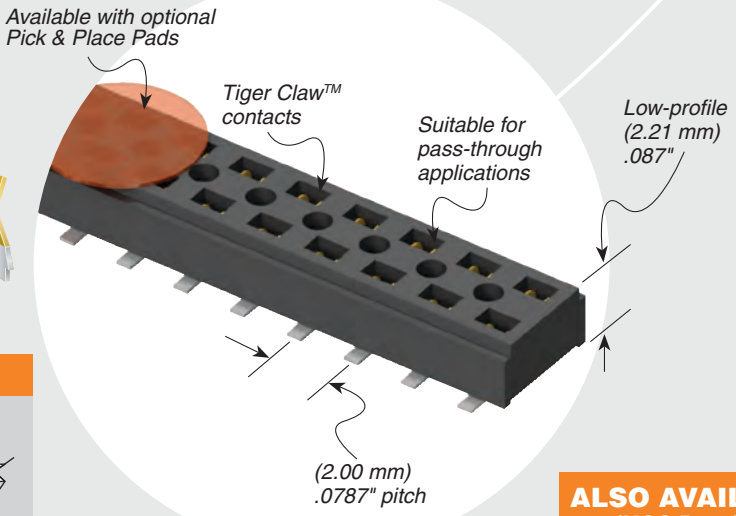
RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

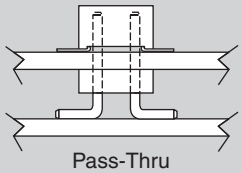
FILE NO. E111594

Mates with:
TMM, TMMH, MTMM, MMT, TW, TSH

TIGER™ CLAW CONTACT



APPLICATION



ALSO AVAILABLE (MOQ Required)

- Other platings

CLT	–	1	NO. PINS PER ROW	–	LEAD STYLE	–	PLATING OPTION	–	D	–	OTHER OPTIONS

02 thru 50

–01 = Through-hole

–02 = Surface Mount

–03 = Through-hole

–F = Gold flash on contact, Matte Tin on tail

–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

–G = 10 µ" (0.25 µm) Gold on contact, Gold flash on tail

All options require Style –02

–BE = Bottom Entry (Required for bottom entry applications)

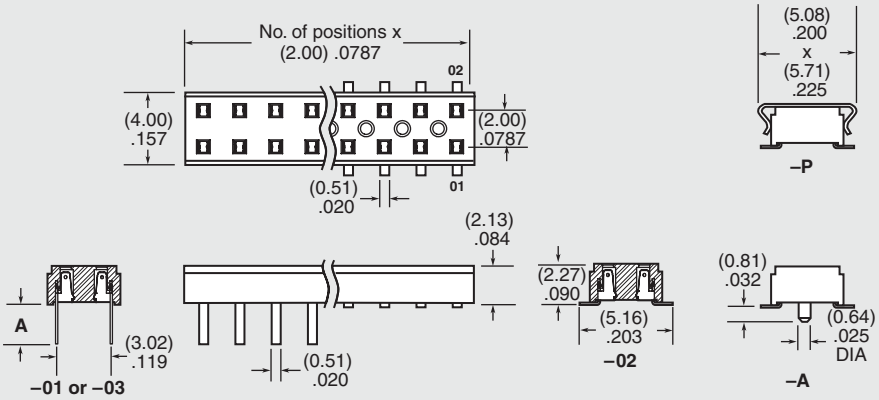
–A = Alignment Pin (3 positions minimum) Metal or plastic at Samtec's discretion

–K = (5.00 mm) .197" DIA Polyimide Film Pick & Place Pad (04 thru 50 only)

–P = Pick & Place Pad (4 positions minimum) (Not always necessary for auto placement.)

–TR = Tape & Reel Packaging (36 positions max)

LEAD STYLE	A
–01	(2.16) .085
–03	(2.95) .116



Note:
Some lengths, styles and options are non-standard, non-returnable.

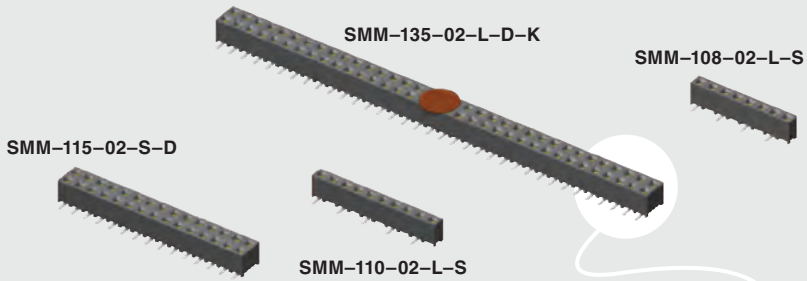
Due to technical progress, all designs, specifications and components are subject to change without notice.

All parts within this catalog are built to Samtec's specifications.
Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.

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TIGER™ EYE SYSTEM

(2.00 mm) .0787"



SMM SERIES

TIGER EYE™ SOCKET STRIP

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?SMM

Insulator Material:
Black Liquid Crystal Polymer
Contact Material:
BeCu
Plating: Sn or Au over 50 µ" (1.27 µm) Ni
Current Rating (TMM/SMM):
3.2 A per pin
(2 pins powered)
Voltage Rating:
350 VAC
Operating Temp Range:
-55 °C to +125 °C
Insertion Depth:
(3.05 mm) .120" to
(3.25 mm) .128"
Max Cycles:
100 with 10 µ" (0.25 µm) Au
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

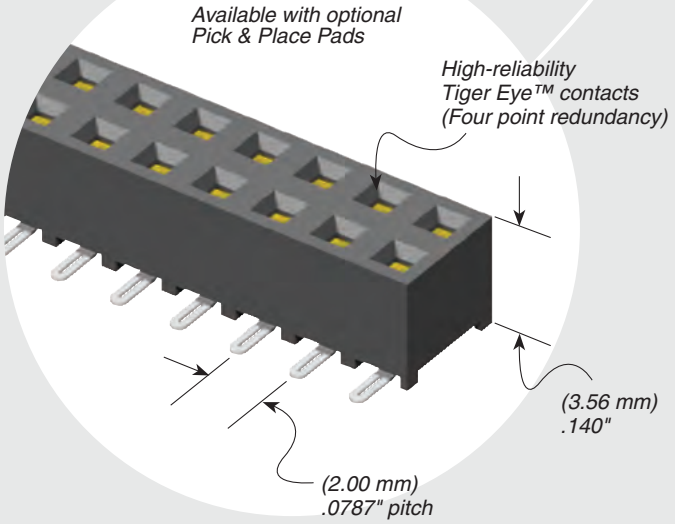
FILE NO. E111594

Board Mates:
TMM, TMMH, MTMM, MMT, LTMM, TW, PTT, ZLTMM

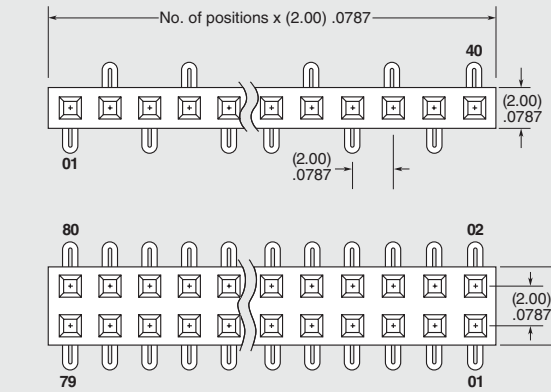
Cable Mates:
TCMD

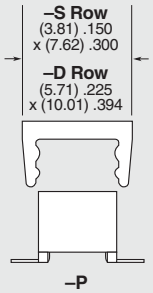


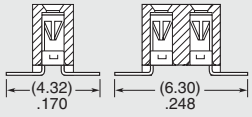
10 YEAR MFG WITH 30 µ" GOLD
EXTENDED LIFE PRODUCT
HIGH MATING CYCLES



SMM	1	NO. PINS PER ROW	02	PLATING OPTION	ROW OPTION	OTHER OPTION
		02 thru 40		–F = Gold flash on contact, Matte Tin on tail –L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail –S = 30 µ" (0.76 µm) Gold on contact, Matte Tin on tail	–S = Single Row –D = Double Row	–"XX" = Polarized Position –K = (5.50 mm) .217" DIA Polyimide Film Pick & Place Pad (2 positions minimum, –02 thru –05 requires –TR) –P = Plastic Pick & Place Pad (–02 thru –05 requires –TR) –TR = Tape & Reel Packaging (27 positions maximum)







ALSO AVAILABLE (MOQ Required)

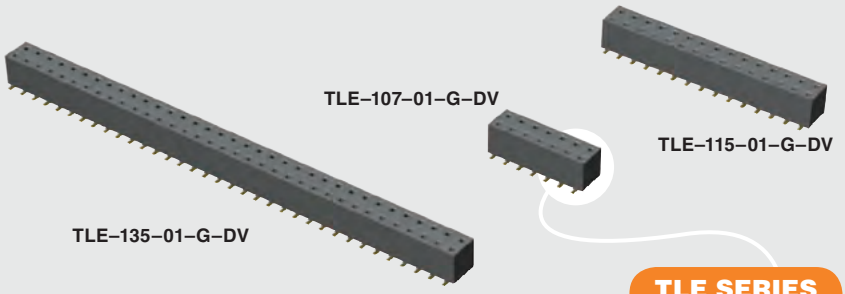
- Locking clip (Manual placement required)
- Other platings

POLARIZING KEY

Specify PK–01–07 for polarizing key (Available in wheels of six each). Also polarizes TCSD Series IDC Cable.

Note:
Some lengths, styles and options are non-standard, non-returnable.

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(2.00 mm) .0787"

TLE SERIES

COST-EFFECTIVE RELIABLE SOCKET

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?TLE

Insulator Material:
Black Liquid Crystal Polymer
Contact Material:
Phosphor Bronze
Plating:
Au over 50 µ" (1.27 µm) Ni
Current Rating (TLE/TMMH):
3.2 A per pin
(2 pins powered)
Operating Temp Range:
-55 °C to +125 °C
Insertion Depth:
(2.08 mm) .082" to
(4.37 mm) .172" with
(0.38 mm) .015" wipe,
pass-through, or
(3.35 mm) .132" min
for bottom entry
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (02-26)
(0.15 mm) .006" max (27-50)*
*(.004" stencil solution may be available; contact IPG@samtec.com)

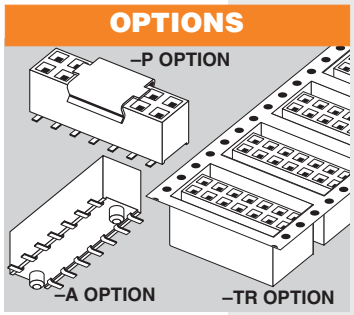
RECOGNITIONS

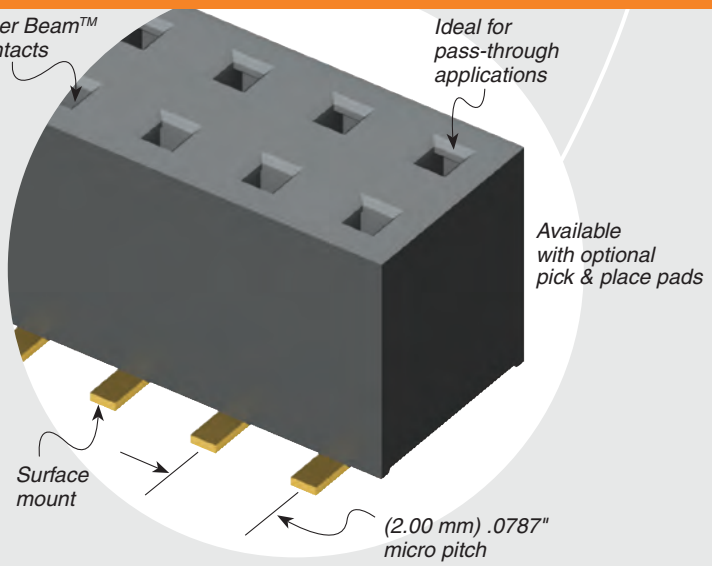
For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

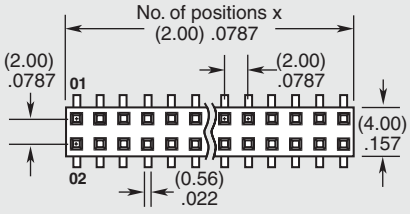
Mates with:
TMMH, TMM, MTMM, MMT, TW, LTMM, ZLTMM, TCMD, TSH

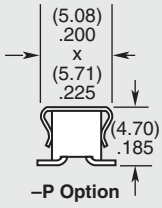
TIGER™ BEAM CONTACT

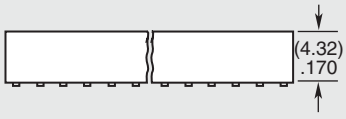


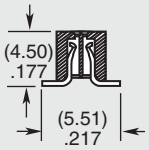


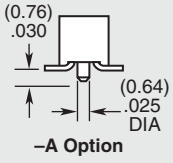
TLE	–	1	NO. PINS PER ROW	–	01	–	PLATING OPTION	–	DV	–	OPTION
			02 thru 50				–G = 10 µ" (0.25 µm) Gold				–A = Alignment Pin (3 positions minimum) –K = (5.00 mm) .197" DIA Polyimide Film Pick & Place Pad (3 positions minimum) –P = Metal Pick & Place Pad (4 positions minimum) –TR = Tape & Reel Packaging (2-37 positions only)





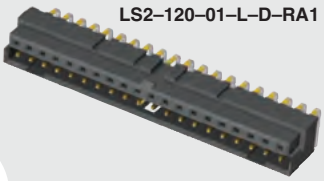


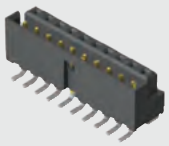


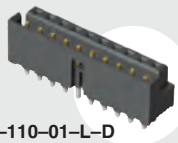


Note:
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(2.00 mm) .0787"

LS2 SERIES

SELF MATING HERMAPHRODITIC STRIP

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?LS2

Insulator Material:
Black Liquid Crystal Polymer
Contact Material:
Phosphor Bronze
Plating:
Au or Sn over 50 µ" (1.27 µm) Ni
Current Rating:
3.2 A per pin (6 adjacent pins powered)
Voltage Rating:
475 VAC mated with LS2
Operating Temp Range:
-55 °C to +125 °C
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.15 mm) .006" max*
*(.004" stencil solution may be available; contact IPG@samtec.com)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

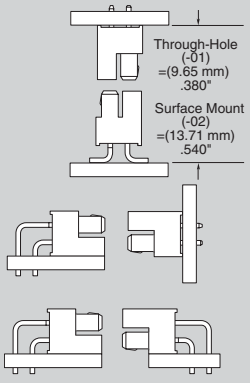
FILE NO. E111594

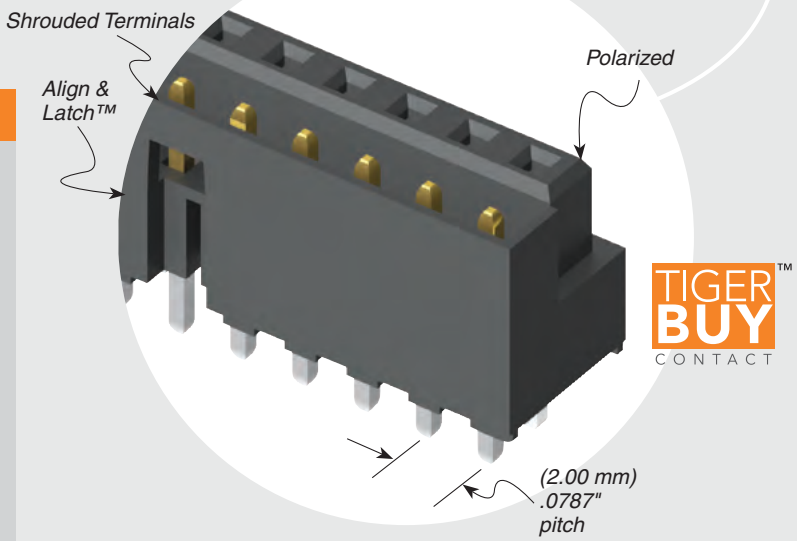
ALSO AVAILABLE
(MOQ Required)

- Alignment pin
- Other platings
- Other stack heights

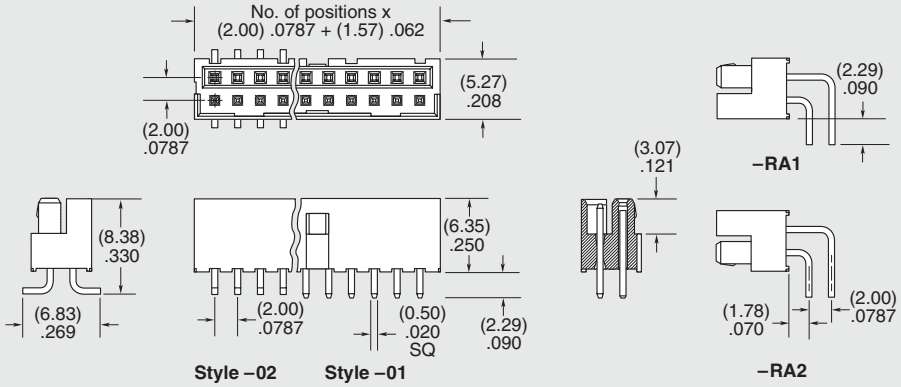
Mates with:
LS2

APPLICATION





LS2	–	1	NO. PINS PER ROW	–	LEAD STYLE	–	PLATING OPTION	–	D	–	TAIL OPTION	–	OPTION
			05, 10, 15, 20, 25, 30		–01 =Through-hole –02 = Surface Mount		–F = Gold flash on contact, Matte Tin on tail –L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail				–01 only –RA1 = Right-angle (Shroud Down) –RA2 = Right-angle (Shroud Up)		–K = (6.30 mm) .248" DIA Polyimide Film Pick & Place Pad (–02 only) –TR = Tape & Reel Packaging

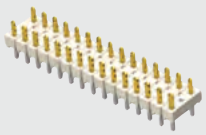


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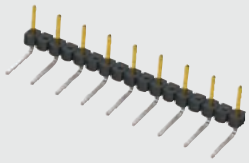
10 YEAR MFG WITH 30 µ" GOLD
EXTENDED LIFE PRODUCT
HIGH MATING CYCLES



HTSW–115–05–L–Q



HTSW–116–11–G–S



TSW–209–09–F–S–RA

(2.54 mm) .100"

THROUGH-HOLE .025" SQ POST HEADER

Board Mates:
SSW, SSQ, SSM, ESW, ESQ, BCS, BSW, CES, SLW

Cable Mates:
IDSD, IDSS

SPECIFICATIONS

For complete specifications see www.samtec.com?TSW or www.samtec.com?HTSW

Insulator Material:
TSW: Black Glass Filled Polyester
HTSW: Natural Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Plating:
Au or Sn over 50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C with Gold
-55 °C to +105 °C with Tin
Voltage Rating:
550 VAC mated with SSW;
500 VAC mated with BCS or ESQ;
450 VAC -RA/-RE mated with BCS or SSM
400 VAC mated with CES
RoHS Compliant: Yes
Lead–Free Solderable:
HTSW: Yes
TSW: No, Lead Wave Only

CURRENT RATING (PER PIN)						
TSW mated with						
ESW	SSW	SLW	SSQ	SSM	BCS	SNT
5.2 A	5.7 A	5.2 A	6.3 A	5.2 A	4.6 A	4.3 A
2 POSITIONS POWERED						

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

APPLICATIONS

SSW TSW

HORIZONTAL

ALSO AVAILABLE (MOQ Required)

- Other platings

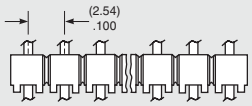
Note:
Some lengths, styles and options are non-standard, non-returnable.

TYPE STRIP – **PIN CENTERS** – **NO. PINS PER ROW**

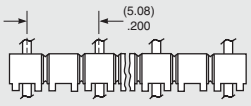
TSW = Standard Strip

HTSW = Hi-Temp Strip

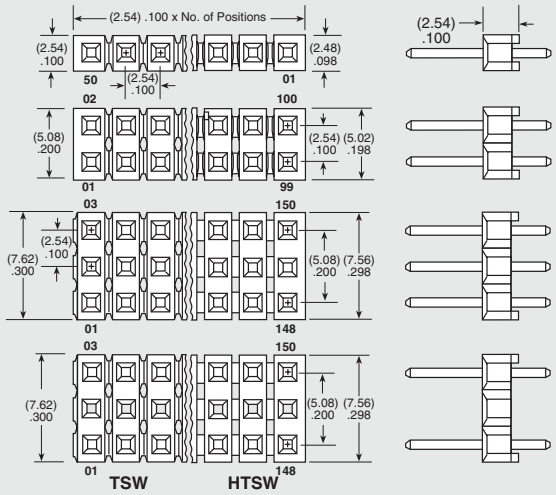
–1 = .100" (2.54 mm) Centers, All Positions Filled



–2 = .200" (5.08 mm) Centers, Every Other Position Filled

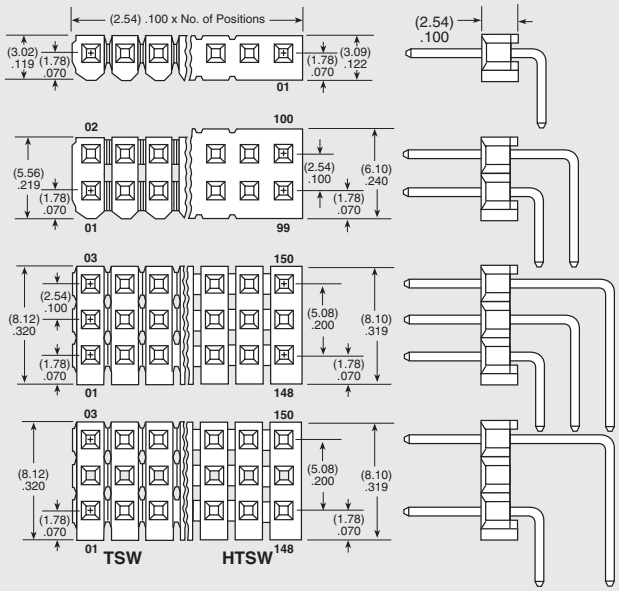


Straight Pin Versions



–S
–D
–T
–Q

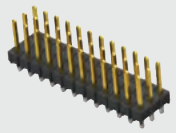
Right-Angle Versions



–S
–D
–T
–Q

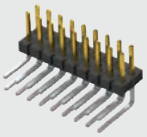
01 thru 50 = .100" (2.54 mm) Center Version

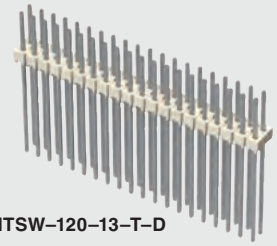
02 thru 25 = .200" (5.08 mm) Center Version



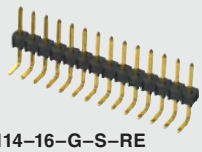
TSW–112–07–G–T

TSW–109–10–F–D–RA





HTSW–120–13–T–D



TSW–114–16–G–S–RE

LEAD STYLE

PLATING OPTION

–F
= Gold flash on post, Matte Tin on tail

–L
= 10 µ" (0.25 µm) Gold on post, Matte Tin on tail

–G
= 10 µ" (0.25 µm) Gold on post, Gold flash on balance

–T
= Matte Tin

OTHER SOLUTIONS

- Elevated Right-angle option
- Shunts

ROW OPTION

–S
= Single Row

–D
= Double Row

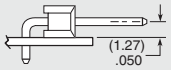
–T
= Triple Row

–Q
= Double Row (5.08 mm) .200" row space

OTHER OPTIONS

– RA or –RE
= Right-angle

–NA
= Right-angle (using straight body for coplanar mating with SSW-RA series)

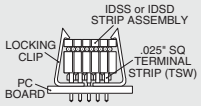


–LL
= Locking Lead



Two leads per strip crimped in opposite directions on or near centerline. See charts for available styles. N/A with single row 1 or 2 positions. Recommended hole size (1.02 mm ± 0.03 mm) .040" ± .001"

–LC
= Locking Clip (Styles –08 thru –13 & –22 only)



Requires 4 pin minimum (NA with -T,-Q,-RA or -RE)

–LA
= –RA Option with –LL Option

–"XXX"
= Polarized Position

Straight Pin Versions
(Specify "LEAD STYLE" from chart)

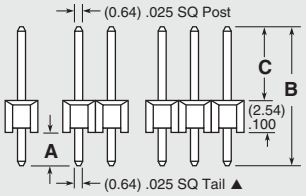
	STYLE	A	B	C
*	– 05	(3.30) .130	(8.51) .335	(2.67) .105
*	– 06	(2.41) .095	(7.62) .300	(2.67) .105
*	– 07	(2.54) .100	(10.92) .430	(5.84) .230
*	– 08	(5.08) .200	(13.46) .530	
	– 09	(10.16) .400	(18.54) .730	
	–10	(12.70) .500	(21.08) .830	
	–11	(15.24) .600	(23.62) .930	
	–12	(17.78) .700	(26.16) 1.030	
	–13	(22.86) .900	(31.24) 1.230	
	–14	(2.79) .110	(13.46) .530	(8.13) .320
*	–15		(18.54) .730	(13.21) .520
*	–16	(7.87) .310		(8.13) .320
*	–17	(2.79) .110	(21.08) .830	(15.74) .620

* Available with –LL (Locking Lead) Option

	STYLE	A	B	C
*	–18	(2.79) .110	(23.62) .930	(18.29) .720
*	–19		(26.16) 1.030	(20.83) .820
*	– 20		(31.24) 1.230	(25.91) 1.020
*	– 21		(36.32) 1.430	(30.99) 1.220
*	– 22	(7.62) .300	(16.00) .630	(5.84) .230
*	– 23	(2.92) .115	(11.30) .445	
*	– 24		(12.15) .480	(6.73) .265
*	– 25	(5.33) .210	(16.00) .630	(8.13) .320
▲	– 26	(3.20) .126	(11.58) .456	(5.84) .230
	– 27	(25.40) 1.000	(33.78) 1.330	
	– 28	(20.32) .800	(28.70) 1.130	
	– 29	(23.11) .910	(33.78) 1.330	(8.13) .320
	– 30	(18.03) .710	(28.70) 1.130	
+	– 41	(0.89) .035	(9.27) .365	(5.84) .230
+	– 42	(1.27) .050	(11.94) .470	(8.13) .320

\+ Style –41 & –42 available with HTSW only.

▲Except: Style –26 (0.46) .018 DIA Tail



Specify -07 for best mate with IDXX Series IDC Cable

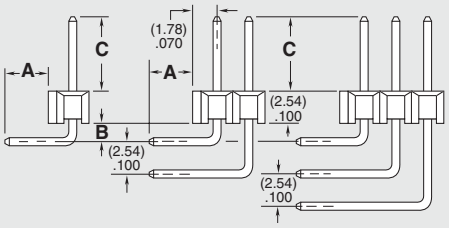
Right-Angle Versions
(Specify "LEAD STYLE" from chart and select –RA or –RE from other options)

	–RA LEAD STYLE	SINGLE (–S A	SINGLE (–S C	DOUBLE (–D) A	TRIPLE (–T & –Q) A
	– 08	(2.29) .090	(5.84) .230	(2.29) .090	(2.29) .090
	– 09	(7.37) .290		(7.37) .290	(7.37) .290
	–10	(9.91) .390		(9.91) .390	(9.91) .390
	–11	(12.45) .490		(12.45) .490	(12.45) .490
	–12	(14.99) .590		(14.99) .590	(14.99) .590
	–13	(20.07) .790		(20.07) .790	N/A
*	–16	(5.08) .200	(8.13) .320	(5.08) .200	(5.08) .200
	– 21	(25.15) .990	(5.84) .230	N/A	N/A
*	– 22	(4.83) .190		(4.83) .190	(4.83) .190
*	– 25	(2.54) .100	(8.13) .320	(2.54) .100	(2.54) .100
	– 27	(22.61) .890	(5.84) .230	N/A	N/A
	– 28	(17.53) .690		(17.53) .690	
	– 29	(20.32) .800	(8.13) .320	N/A	
	– 30	(15.24) .600		(15.24) .600	

–RE LEAD STYLE	SINGLE A	C
– 09	(4.83) .190	(5.84) .230
–10	(7.37) .290	
–11	(9.91) .390	
–12	(12.45) .490	
–13	(17.53) .690	
–16	(2.54) .100	(8.13) .320
– 21	(22.61) .890	(5.84) .230
– 22	(2.29) .090	
– 27	(20.07) .790	
– 28	(14.99) .590	

*Available with –LA (Locking Lead) Option

LEAD STYLE	B
– RA	(1.52) .060
– RE	(4.06) .160



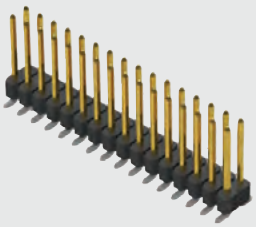
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samtec

10 YEAR MFG WITH 30 µ" GOLD
EXTENDED LIFE PRODUCT
HIGH MATING CYCLES

TSM–116–02–S–DV–LC





TSM–121–01–T–SV

(2.54 mm) .100"

SMT .025" SQ POST HEADER

Board Mates:
SSW, SSQ, SSM, BSW, ESW, ESQ, BCS, SLW, CES, HLE

Cable Mates:
IDSS, IDSD

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?TSM

Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +105 °C with Tin;
-55 °C to +125 °C with Gold
Voltage Rating:
475 VAC -SV/-DV mated with BCS or SSM
RoHS Compliant: Yes

MATES	CURRENT RATING (PER PIN)
TSM/SSW	4.7 A
TSM/SSM	5.4 A
TSM/HLE	4.1 A
2 PINS POWERED	

PROCESSING

Lead–Free Solderable: Yes
-DH/-SH Lead Coplanarity:
(0.15 mm) .006" max (02-36)*
-DV/-SV Lead Coplanarity:
(0.10 mm) .004" max (02-05)
(0.13 mm) .005" max (06-10)*
(0.15 mm) .006" max (11-36)*
*(.004" stencil solution may be available; contact IPG@samtec.com)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

ALSO AVAILABLE (MOQ Required)

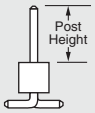
- Edge Mount and Locking Clips for –SV
- Solder Locks for –DH and Shrouds for –DV
- Other platings

Note: Some lengths, styles and options are non-standard, non-returnable.

TSM – 1 – NO. PINS PER ROW – LEAD STYLE – PLATING OPTION – ROW OPTION

NO. PINS PER ROW: 02 thru 36

LEAD STYLE:



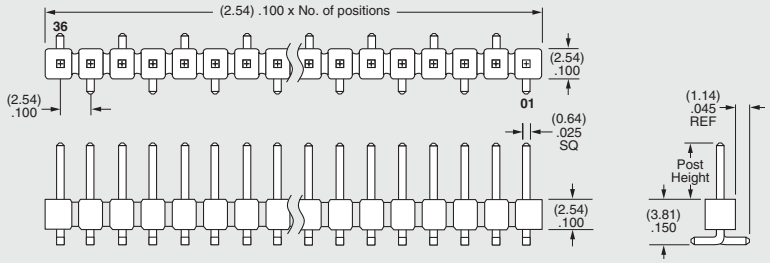
- **–01** = .230" (5.84 mm) Post Height (Mates with SSW, BCS, SSM, IDSS, IDSD)
- **–02** = .320" (8.13 mm) Post Height (Mates with SSM -DH)
- **–03** = .420" (10.67 mm) Post Height (For Bottom Mount & Pass Through)
- **–04** = .120" (3.05 mm) Post Height (Mates with SLW, CES, HLE)

PLATING OPTION:

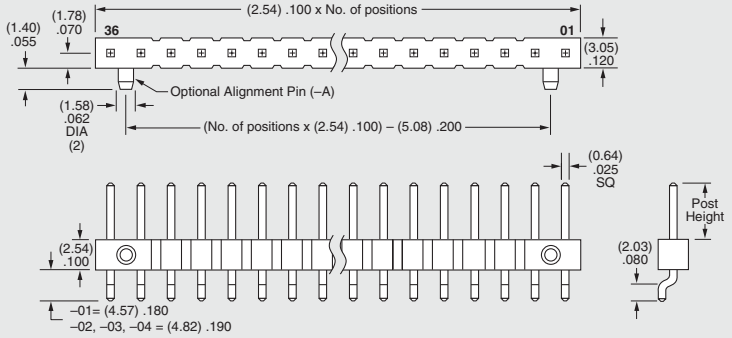
- **–F** = Gold flash on post, Matte Tin on tail
- **–L** = 10 µ" (0.25 µm) Gold on post, Matte Tin on tail
- **–S** = 30 µ" (0.76 µm) Gold on post, Matte Tin on tail
- **–T** = Matte Tin

ROW OPTION:

–SV
= Single Row Vertical Pin



–SH
= Single Row Horizontal Pin

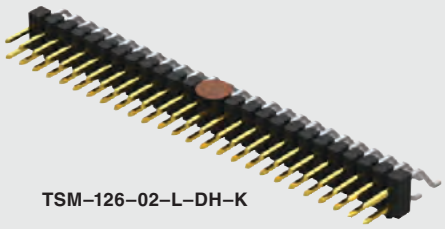


APPLICATIONS



Due to technical progress, all designs, specifications and components are subject to change without notice.

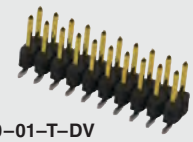
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TSM–126–02–L–DH–K

TSM–115–01–T–SH–A





TSM–110–01–T–DV

OTHER OPTIONS

–A
= Alignment Pin metal or plastic at Samtec discretion (Not available with –TM or –MT) (02 positions min.) (Not available with –LC)

–LC
= Locking Clip (Not available with –TM) (3 positions min.) (Not available with –A) (Manual placement required)

–K
= (6.50 mm) .256" DIA Polyimide Film Pick & Place Pad

(–SH: 4 positions minimum without –TR; 2 & 3 positions available with –TR)

(–DH: 4 positions minimum without –TR)

–"XXX"
= Polarized Position

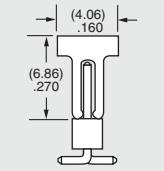
–P
= Plastic Pick & Place Pad

(–DV: 4 positions minimum without –TR; 2 & 3 positions available with –TR)

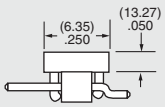
(–SH: 4 positions minimum without –TR; 2 & 3 positions available with –TR)

(–DH: 5 positions minimum without –TR)

(–SV: 4 positions minimum without –TR; 2 & 3 positions available with –TR)



–SV



–SH & –DH

–TR
= Tape & Reel Packaging

–SV = 02-22 positions

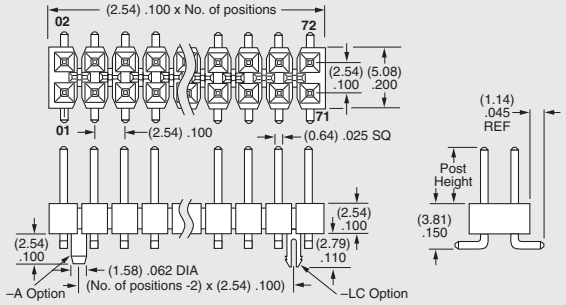
–DV = 02-28 positions

–SH = 02-30 positions

–DH = 02-29 positions

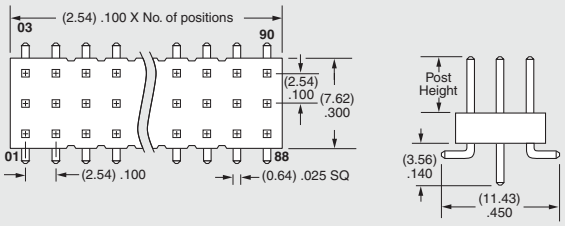
Not available with –MT or –TM

–DV
= Double Row Vertical Pin

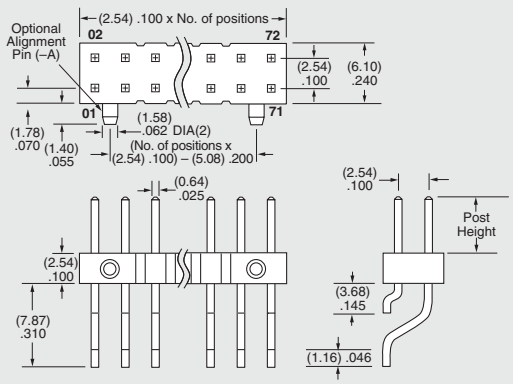


–TM
= Triple Row Vertical Mixed Technology (Style –01 only)

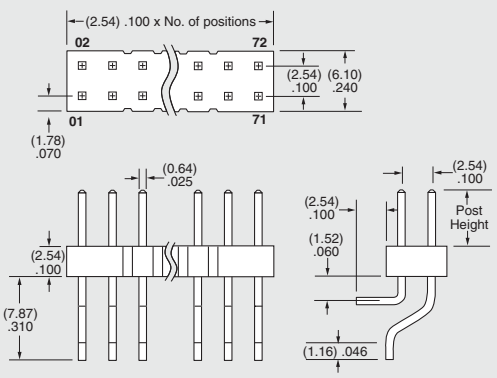
02 thru 30 positions only



–DH
= Double Row Horizontal Pin (Style –01, –02 or –03 only)



–MT
= Mixed Technology Pin (Style –01, –02 or –03 only)



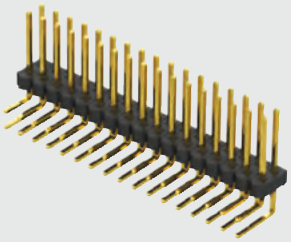
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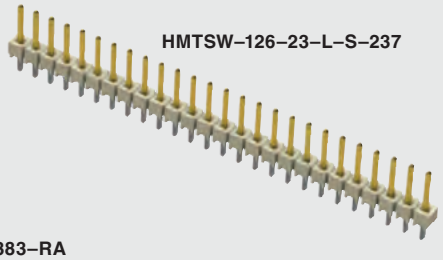
samtec

FLEX STACK

(2.54 mm) .100"



MTSW–117–09–G–D–383–RA



HMTSW–126–23–L–S–237

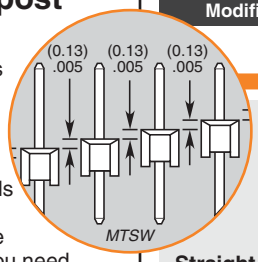
MODIFIED .025" SQ POST HEADERS

Board Mates:
SSW, SSQ, ESW,
ESQ, BCS, BSW
CES, SLW, HLE, SSM

Cable Mates:
IDSD, IDSS

Modified .025" strips permit custom post heights.

Samtec offers the greatest stacking flexibility in the industry. The "M" stands for Modified. You tell us the post height you need and we'll deliver it.



SPECIFICATIONS

For complete specifications see www.samtec.com?MTSW or www.samtec.com?HMTSW

Insulator Material:
MTSW: Black Glass Filled Polyester
HMTSW: Natural Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Plating:
Au or Sn over 50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C with Gold
-55 °C to +105 °C with Tin
RoHS Compliant:
Yes
Lead–Free Solderable:
MTSW: No, Lead Wave Only
HMTSW: Yes

RECOGNITIONS

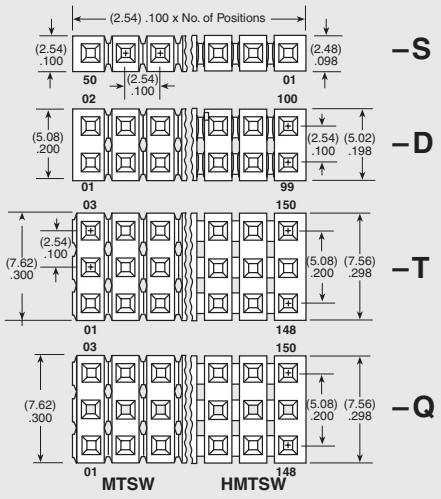
For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

Note:
These Series are non-standard, non-returnable.

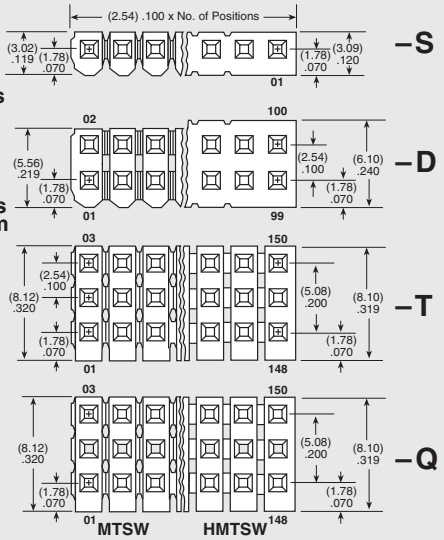
TYPE STRIP	PIN PITCH	NO. PINS PER ROW	LEAD STYLE
MTSW = Modified Strip **HMTSW** = Hi-Temp Modified Strip	**–1** = (2.54 mm) .100" Pitch **–2** = (5.08 mm) .200" Pitch	01 thru 50 = (2.54 mm) .100" Center Version 02 thru 25 = (5.08 mm) .200" Center Version	SPECIFY "LEAD STYLE" FROM CHART

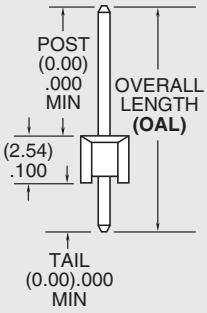
Straight Pin Versions



Right Angle Versions

HMTSW –S & –D = 36 positions maximum





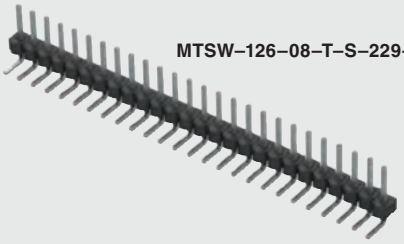
LEAD STYLE	OAL
–06	(7.62) .300
–07	(10.92) .430
–08	(13.46) .530
–09	(18.54) .730
–10	(21.08) .830
–11	(23.62) .930
–12	(26.16) 1.030
–13	(31.24) 1.230
–21	(36.32) 1.430
–22	(16.00) .630
–23	(11.30) .445
–24	(12.19) .480
–27	(33.78) 1.330
–28	(28.70) 1.130

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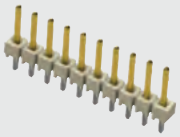
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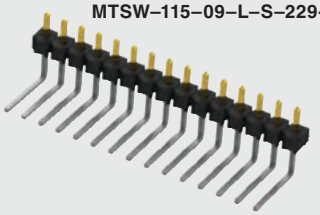
MTSW–108–28–G–D–920



MTSW–126–08–T–S–229–RA



HMTSW–110–23–L–S–237



MTSW–115–09–L–S–229-RE

MTSW, HMTSW SERIES

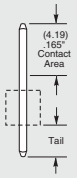
PLATING OPTION

–F
= Gold flash on post, Matte Tin on tail

–L
= 10 µ" (0.25 µm) Gold on post, Matte Tin on tail

–G
= 10 µ" (0.25 µm) Gold on post, Gold flash on balance

–T
= Matte Tin



ROW OPTION

–S
= Single

–D
= Double

–T
= Triple

–Q
= Double Row .200" (5.08 mm) row space

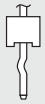
POST HEIGHT

–"XXXX" = "C" Dimension (Specify post height in INCHES – .005" (0.13 mm) increments)

OTHER OPTION

–RA or **–RE** = Right-angle

–LL
= Locking Lead (N/A with –RE, N/A in single row 1 or 2 positions. Available on tails from (2.29 mm) .090" to (10.16 mm) .400" only)



Two leads per strip crimped in opposite directions on or near centerline. See TSW for availability.

–LA = –RA Option with –LL Option (Maximum "C" = (13.46 mm) .530)

POLARIZED OPTION

–"XXX"
= Polarized (Specify 'XXX' as position number)

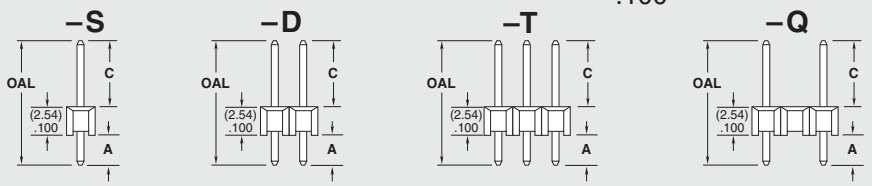
ALSO AVAILABLE
(MOQ Required)

- Other platings

FOR A = (2.29) .090				
LEAD STYLE	OAL	C MAXIMUM STRAIGHT	C MAXIMUM with/–RA	C MAXIMUM with/–RE
– 06	(7.62) .300	(2.79) .110	Not Available	Not Available
– 07	(10.92) .430	(6.10) .240	(3.30) .130	Not Available
– 08	(13.46) .530	(8.64) .340	(5.84) .230	(3.30) .130
– 09	(18.54) .730	(13.72) .540	(10.92) .430	(8.38) .330
– 10	(21.08) .830	(16.26) .640	(13.46) .530	(10.92) .430
– 11	(23.62) .930	(18.80) .740	(16.00) .630	(13.46) .530
– 12	(26.16) 1.030	(21.34) .840	(18.54) .730	(16.00) .630
* – 13	(31.24) 1.230	(26.42) 1.040	(23.62) .930	(21.08) .830
* – 21	(36.32) 1.430	(31.50) 1.240	(28.70) 1.130	(26.16) 1.030
– 22	(16.00) .630	(11.18) .440	(8.38) .330	(5.84) .230
* – 23	(11.30) .445	(6.48) .255	(3.68) .145	Not Available
* – 24	(12.19) .480	(7.37) .290	(4.57) .180	
* – 27	(33.78) 1.330	(28.96) 1.140	(26.16) 1.030	(23.62) .930
* – 28	(28.70) 1.130	(23.88) .940	(21.08) .830	(18.54) .730

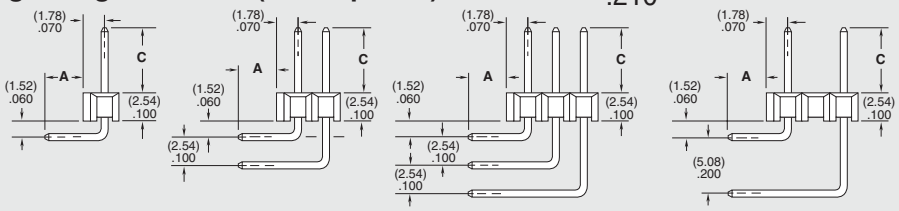
*** Styles –21, –23, –24, –27 not available with –D Right-angle**
Styles –13, –21, –23, –24, –27, –28 not available with –T or –Q Right-angle

Straight Pin Versions $A = OAL - C - \frac{(2.54)}{.100}$



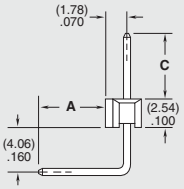
Right-Angle Versions (–RA Options) $A = OAL - C - \frac{(5.33)}{.210}$

Styles –21, –23, –24, –27 N/A with –D
Styles –13, –21, –23, –24, –27, –28 N/A with –T or –Q



Right-Angle Versions (–RE Options) Single Row Only

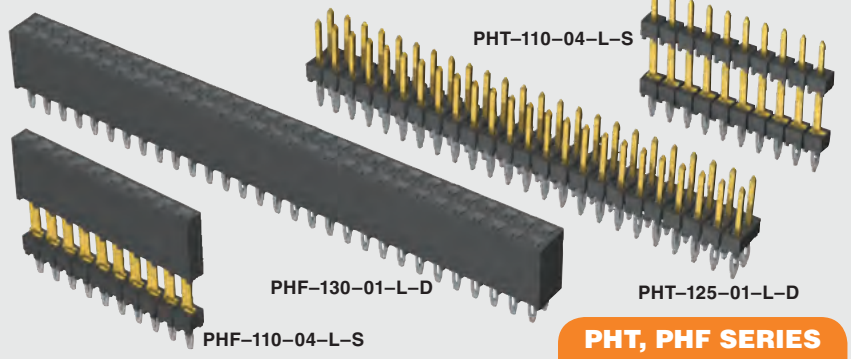
$A = OAL - C - \frac{(7.87)}{.310}$



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samtec



(2.54 mm) .100"

PHT, PHF SERIES

PRESS-FIT HEADERS & SOCKETS

PHT Board Mates:
SSW, SSQ, ESW, ESQ, BCS, BSW, CES, SLW, PHF, SSM

PHT Cable Mates:
IDSD, IDSS

PHF Board Mates:
TSW, MTSW, MTLW, EW, ZW, TSS, ZSS, TSM, TSSH, PHT, DW, HW

SPECIFICATIONS

For complete specifications see www.samtec.com?PHT or www.samtec.com?PHF

Insulator Material:
Liquid Crystal Polymer
Contact Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Current Rating (PHT/PHF):
4.8 A per pin
(2 pins powered)
Operating Temp Range:
-55 °C to +125 °C with Gold
(PHF) Insertion Depth:
(3.68 mm) .145" to
(6.35 mm) .250"
RoHS Compliant:
Yes

PROCESSING

Contact ipg@samtec.com

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

ALSO AVAILABLE (MOQ Required)

- Other platings

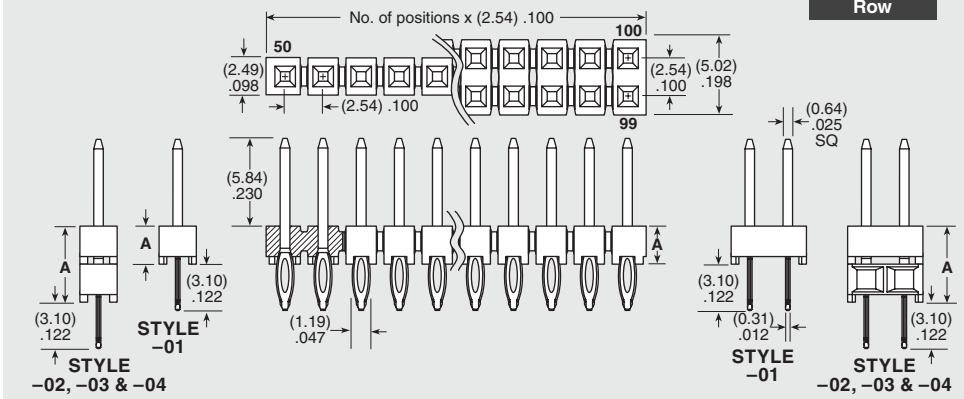
TOOLING

- Press-Fit
  PHT: CAT-PT-PH-1XX-X-X
  PHF: CAT-PT-PH-1XX-X-B

For more information, visit www.samtec.com/tooling

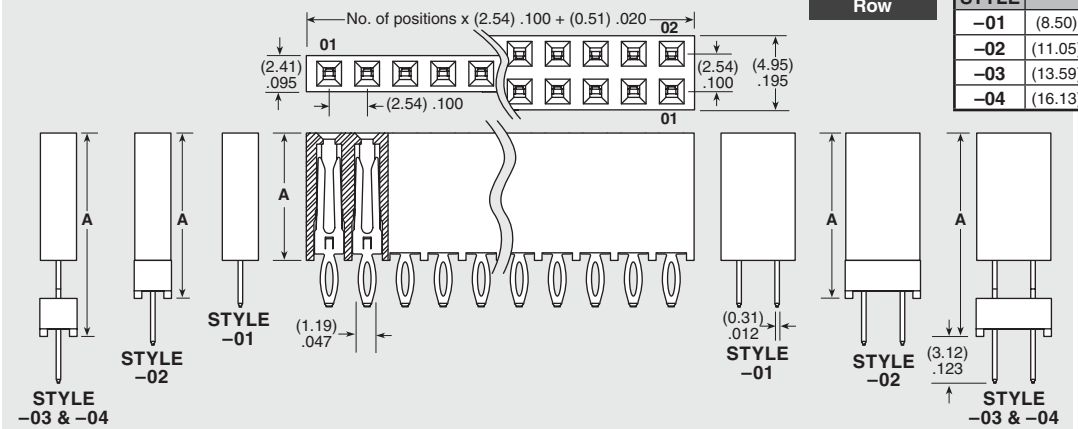
Note:
Some lengths, styles and options are non-standard, non-returnable.

PHT	–	1	NO. PINS PER ROW	–	LEAD STYLE	–	PLATING OPTION	–	ROW OPTION	–	OTHER OPTION
			01 = (single row only) 02 thru 50		Specify LEAD STYLE from chart		–L = 10 µ" (0.25 µm) Gold on post, Matte Tin on tail		–S = Single Row –D = Double Row		–"XXX" = Polarized Position



LEAD STYLE	A
–01	(2.54) .100
–02	(5.08) .200
–03	(7.62) .300
–04	(10.16) .400

PHF	–	1	NO. PINS PER ROW	–	LEAD STYLE	–	PLATING OPTION	–	ROW OPTION	–	OTHER OPTION
			01 = (single row only) 02 thru 50		Specify LEAD STYLE from chart		–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail		–S = Single Row –D = Double Row		–"XXX" = Polarized Position



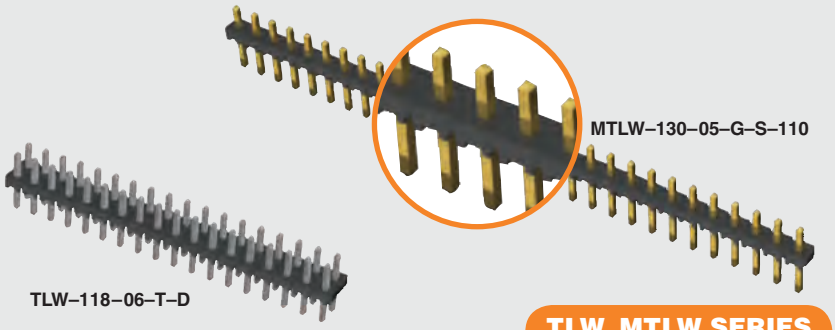
LEAD STYLE	A
–01	(8.50) .335
–02	(11.05) .435
–03	(13.59) .535
–04	(16.13) .635

Due to technical progress, all designs, specifications and components are subject to change without notice.

All parts within this catalog are built to Samtec's specifications.
Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.

samtec

FLEX STACK



(2.54 mm) .100"

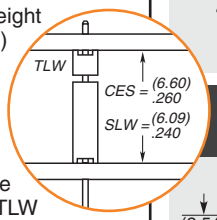
TLW, MTLW SERIES

LOW-PROFILE .025" SQ POST HEADERS

Board Mates:
BSW, CES, SLW, HLE

FEATURES

These headers provide the ultimate low-profile (0.64 mm) .025" square post board stacking system. The high quality Phosphor Bronze terminals are available with a standard short post height (TLW Series) for mating with low-profile sockets, or the post height can be Modified (MTLW Series) to accommodate IDC assemblies and other applications.



SPECIFICATIONS

For complete specifications see www.samtec.com?TLW or www.samtec.com?MTLW

Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Current Rating (TLW/SLW):
5.2 A per pin
(2 pins powered)
Operating Temp Range:
-55 °C to +105 °C with Tin
-55 °C to +125 °C with Gold
RoHS Compliant:
Yes
Lead–Free Solderable:
Yes

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

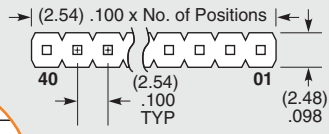
FILE NO. E111594

Note:
Some lengths, styles and options are non-standard, non-returnable. MTLW Series is non-standard, non-returnable.

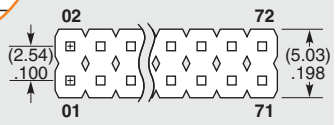
TLW – 1 – NO. PINS PER ROW – LEAD STYLE – PLATING OPTION – ROW OPTION – OTHER OPTION

NO. PINS PER ROW

01 thru 40
= Single Row

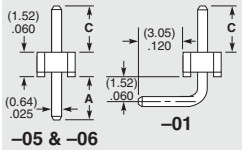


01 thru 36
= Double Row



LEAD STYLE

Specify LEAD STYLE from chart



LEAD STYLE	A	C
–01	N/A	(5.84) .230
–05	(4.32) .170	(2.67) .105
–06	(3.43) .135	(2.67) .105

PLATING OPTION

–F
= Gold flash on post, Matte Tin on tail

–G
= 10 µ" (0.25 µm) Gold on post, Gold flash on tail

–T
= Matte Tin

ROW OPTION

– S
= Single Row

– D
= Double Row

OTHER OPTION

–RA
= Right-angle
(–01 Lead Style only)

–"XX"
= Polarized Position
Specify position for omitted pin.

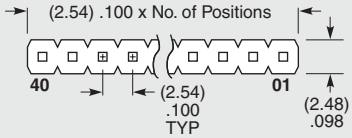
ALSO AVAILABLE
(MOQ Required)

- Other platings

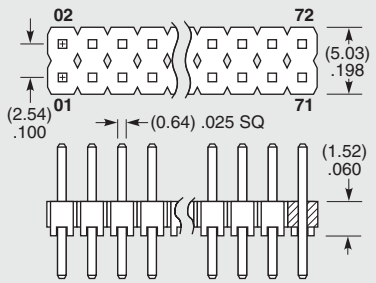
MTLW – 1 – NO. PINS PER ROW – LEAD STYLE – PLATING OPTION – ROW OPTION – POST HEIGHT

NO. PINS PER ROW

01 thru 40
= Single Row

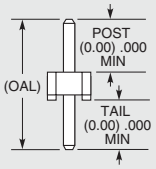


01 thru 36
= Double Row



LEAD STYLE

Specify LEAD STYLE from chart



LEAD STYLE	OAL
–05	(8.51) .335
–06	(7.62) .300
–07	(10.92) .430
–08	(13.46) .530
–09	(18.54) .730
–10	(21.08) .830
–22	(16.00) .630
–23	(11.30) .445
–24	(12.19) .480

PLATING OPTION

–F
= Gold flash on post, Matte Tin on tail

–L
= 10 µ" (0.25 µm) Gold on post, Matte Tin on tail

–G
= 10 µ" (0.25 µm) Gold on post, Gold flash on tail

–T
= Matte Tin

ROW OPTION

– S
= Single Row

– D
= Double Row

POST HEIGHT

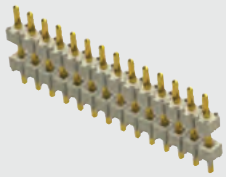
–"XXX"
= Post Height Dimension (In inches)

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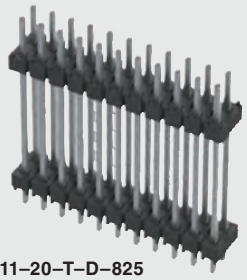
FLEX STACK



HW–14–08–G–S–300–100

ZW–06–13–L–D–787–118





DW–11–20–T–D–825

(2.54 mm) .100"

DW, EW, ZW, HW-TH SERIES

FLEXIBLE .025" SQ BOARD STACKERS

Mates with:
SSW, SSQ, ESW, ESQ, CES, SLW, BSW, BCS, SSM, HLE, PHF

Cable Mates:
IDSS, IDSD

SPECIFICATIONS

For complete specifications see www.samtec.com?DW, www.samtec.com?EW, www.samtec.com?ZW or www.samtec.com?HW-TH

Insulator Material:
DW, EW, ZW: Black Glass Filled Polyester
HW: Natural Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Plating:
Au or Sn over 50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C with Gold
-55 °C to +105 °C with Tin
RoHS Compliant:
Yes
Lead–Free Solderable:
DW, EW, ZW:
No, Lead Wave Only
HW: Yes

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

ALSO AVAILABLE (MOQ Required)

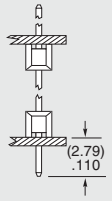
- Other platings

Notes:
For added mechanical stability, Samtec recommends mechanical board spacers be used in applications with gold or selective gold plated connectors. Contact ipg@samtec.com for more information.

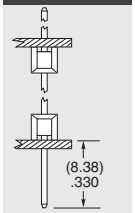
This Series is non-standard, non-returnable.

TYPE STRIP – NO. PINS PER ROW – LEAD STYLE – PLATING OPTION – ROW OPTION – STACKER HEIGHT – OTHER OPTIONS

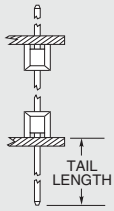
DW
= (2.79 mm) .110" Tail



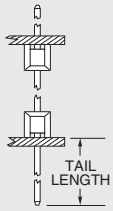
EW
= (8.38 mm) .330" Tail



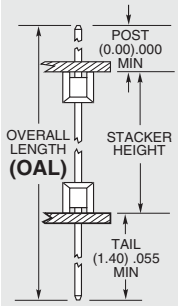
ZW
= Custom Tail



HW
= High Temp Custom Tail

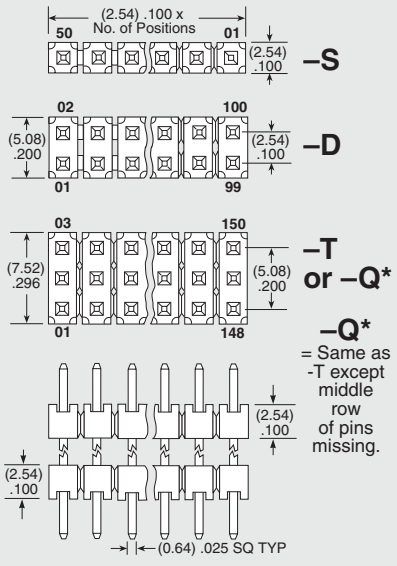


Specify LEAD STYLE from chart



LEAD STYLE	OAL
–07	(10.92) .430
–08	(13.46) .530
–09	(18.54) .730
–10	(21.08) .830
–11	(23.62) .930
–12	(26.16) 1.030
–13	(31.24) 1.230
–14	(36.32) 1.430
–15	(16.00) .630
–16	(11.30) .445
–17	(12.19) .480
–19	(33.78) 1.330
–20	(28.70) 1.130

01 thru 50



–Q*
= Same as -T except middle row of pins missing.

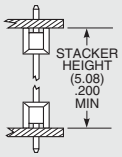
–S
= Single Row

–D
= Double Row

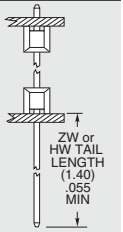
–T
= Triple Row

–Q
= Double Row .200" (5.08 mm) row space

–"XXX"
= Stacker Height (in inches) (5.08 mm) .200" minimum
Example: –250 = (6.35 mm) .250"



–"XXX"
= ZW or HW Tail Length (in inches) (1.40 mm) .055" minimum
Example: –250 = (6.35 mm) .250"



–LL
= Locking Lead (Shortest dimension between the tail and the post is the end that will be crimped. Available on tails from (2.29 mm) .090" to (7.87 mm) .310" only.) Single row, 01 & 02 positions & –Q row not available

–F
= Gold flash on contact, Matte Tin on tail

–L
= 10 µ" (0.25 µm) Gold on contact area of longer tail, Matte Tin on tail

–G
= 10 µ" (0.25 µm) Gold on contact area of longer tail, Gold flash on balance

–T
= Matte Tin

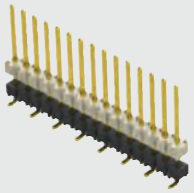
–"XXX"
= Polarized
Specify omitted pin position

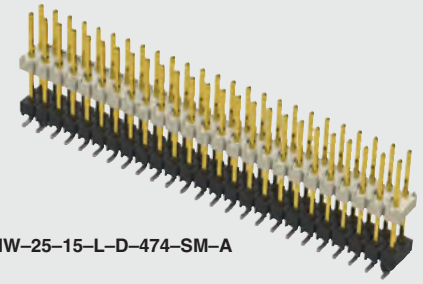
All parts within this catalog are built to Samtec's specifications.
Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.

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FLEX STACK

HW–15–08–G–S–335–SM





HW–25–15–L–D–474–SM–A

(2.54 mm) .100"

HW-SM SERIES

FLEXIBLE .025" SQ BOARD STACKERS

Board Mates:
SSW, SSQ, ESW, ESQ, CES, SLW, BSW, BCS, SSM, HLE, PHF

Cable Mates:
IDSS, IDSD

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?HW-SM

Insulator Material:
Top: Natural LCP
Bottom: Black LCP
Terminal Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C with Gold
-55 °C to +105 °C with Tin
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.15 mm) .006" max*
*(.004" stencil solution may be available; contact IPG@samtec.com)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

ALSO AVAILABLE (MOQ Required)

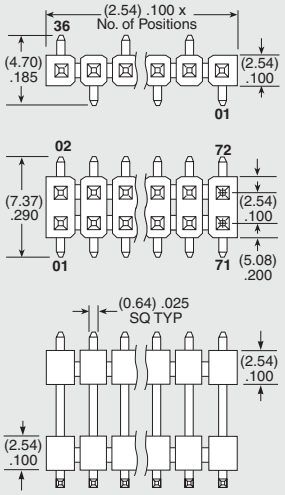
- Other platings
- Locking Clip (Manual placement required) available with double row –SM

Notes:
For added mechanical stability, Samtec recommends mechanical board spacers be used in applications with gold or selective gold plated connectors. Contact ipg@samtec.com for more information.

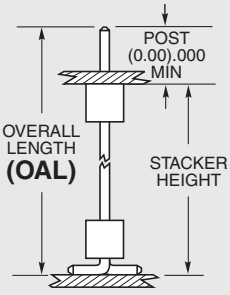
This Series is non-standard, non-returnable.

HW - NO. PINS PER ROW - LEAD STYLE - PLATING OPTION - ROW OPTION - STACKER HEIGHT - SM - OTHER OPTIONS

NO. PINS PER ROW: 02 thru 36



LEAD STYLE: Specify LEAD STYLE from chart



LEAD STYLE	OAL (SMT)
–08	(11.81) .465
–09	(16.89) .665
–10	(19.43) .765
–11	(21.97) .865
–12	(24.51) .965
–15	(14.35) .565
–16	(9.65) .380
–17	(10.54) .415
–20	(27.05) 1.065

PLATING OPTION

–F
= Gold flash on contact, Matte Tin on tail

–L
= 10 µ" (0.25 µm) Gold on contact area of longer tail, Matte Tin on tail

–G
= 10 µ" (0.25 µm) Gold on contact area of longer tail, Gold flash on balance

–T
= Matte Tin

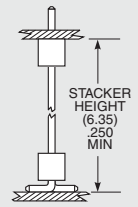
ROW OPTION

– S
= Single Row

– D
= Double Row

STACKER HEIGHT

–"XXX"
= Stacker Height

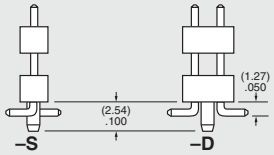


SM

–"XXX"
= Polarized

Specify omitted pin position

–A
= Alignment Pin



(Metal or plastic at Samtec discretion)

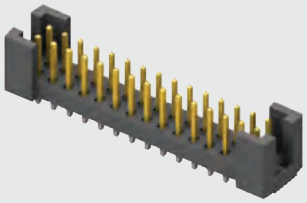
–TR
= Tape & Reel Packaging
(4–27 pins per row only)
(Not Available on Lead Styles 10, 11, 12 & 20)

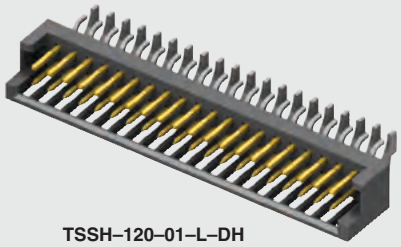
OTHER OPTIONS

All parts within this catalog are built to Samtec's specifications.
Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.

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TSSH–115–01–L–D





TSSH–120–01–L–DH

(2.54 mm) .100"

TSSH SERIES

SHROUDED .025" SQ POST HEADERS

Board Mates:
SSW, SSQ, SSM

Important Note:
This Series will only mate with SSW, SSQ & SSM Series

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?TSSH

Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +105 °C with Tin;
-55 °C to +125 °C with Gold
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity (–DV):
(0.10 mm) .004" max (05-10)
(0.15 mm) .006" max (15-20)*
(0.20 mm) .008" max (25-36)*
SMT Lead Coplanarity (–DH):
(0.15 mm) .006" max*
*(.004" stencil solution may be available; contact IPG@samtec.com)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

APPLICATIONS

SSM TSSH

HORIZONTAL

ALSO AVAILABLE
(MOQ Required)

- Other platings

Note:
Some lengths, styles and options are non-standard, non-returnable.

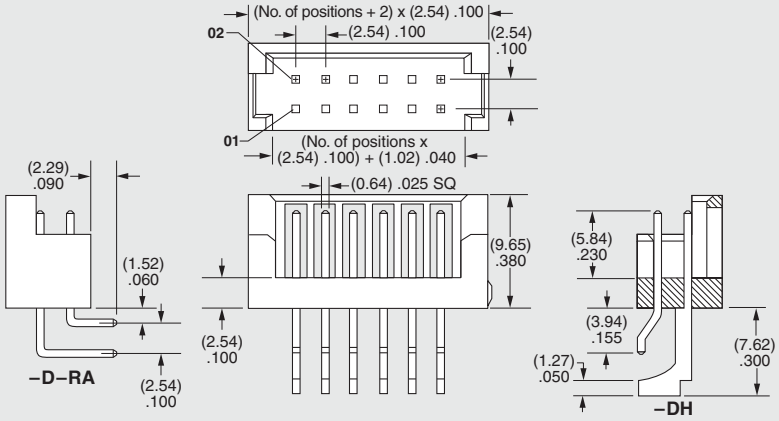
TSSH	–	1	NO. PINS PER ROW	–	01	–	PLATING OPTION	–	ROW OPTION	–	OTHER OPTION

NO. PINS PER ROW
05, 10, 15, 20, 25, 30, 34
(–D–RA, –DH)
05, 10, 15, 20, 25, 30, 35, 36
(–D, –DV)

PLATING OPTION
–L
= 10 µ" (0.25 µm) Gold on post, Matte Tin on tail
–T
= Matte Tin

ROW OPTION

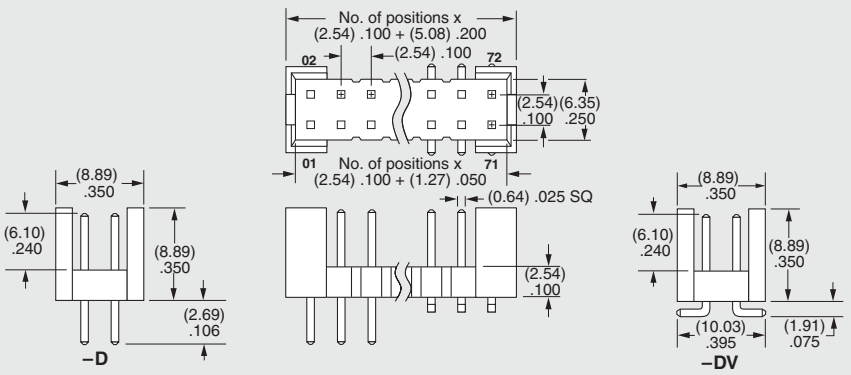
–D–RA
= Double Row Right-angle Pin Through-hole



–DH
= Double Row Horizontal Pin Surface Mount

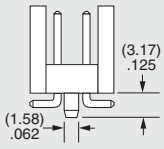
–D
= Double Row Vertical Pin Through-hole

–DV
= Double Row Vertical Pin Surface Mount

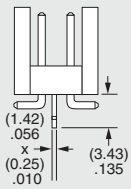


OTHER OPTION

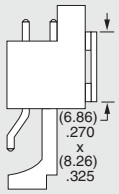
–A
= Alignment Pin (N/A with -LC)



–LC
= Locking Clip (–DV only) (N/A with -A) (Manual placement required)



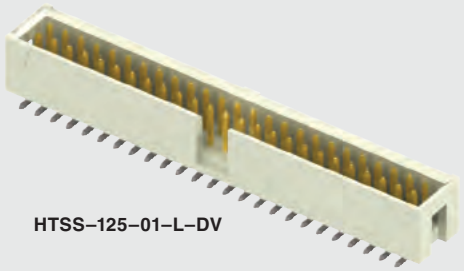
–P
= Plastic Pick & Place Pad (–DH only) 5 pos. min



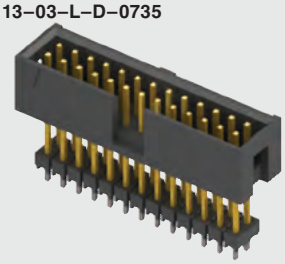
–TR
= Tape & Reel 5 to 25 positions (–DH & –DV only)

samtec

FLEX STACK



ZSS–113–03–L–D–0735



(2.54 mm) .100"

TSS, HTSS, ZSS SERIES

SHROUDED .025" SQ POST HEADERS

Mates with:
SSW, SSQ, ESW, ESQ, SSM, BCS

SPECIFICATIONS

For complete specifications see www.samtec.com?TSS, www.samtec.com?HTSS or www.samtec.com?ZSS

Insulator Material: TSS, ZSS: Black Glass Filled Polyester
HTSS: Natural PCT
Insulation Resistance: 5000 MΩ min
Terminal Material: Phosphor Bronze
Plating: Au or Sn over 50 µ" (1.27 µm) Ni
Operating Temp Range: -55 °C to +125 °C with Gold
-55 °C to +105 °C with Tin
Flammability Rating: UL 94V-O
Withstanding Voltage: 1000 VRMS
RoHS Compliant: Yes

PROCESSING

Lead–Free Solderable:
HTSS: Yes
TSS, ZSS: Wave Only
SMT Lead Coplanarity:
(0.15 mm) .006" max*
*(.004" stencil solution may be available; contact IPG@samtec.com)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

OTHER SOLUTIONS

- Shrouded IDC headers and stackers to mate with IDSD Series. See TST, HTST and ZST Series.

ALSO AVAILABLE (MOQ Required)

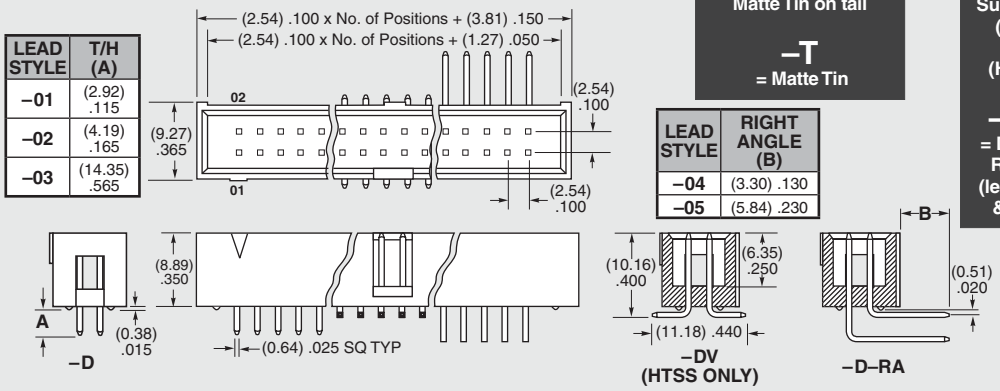
- Other sizes
- Other platings
- Alignment Pins
- Single Row
- Locking Leads
- Polarized

Note: Some lengths, styles and options are non-standard, non-returnable. ZSS is non-standard, non-returnable.

TYPE STRIP	1	NO. PINS PER ROW	LEAD STYLE	PLATING OPTION	ROW OPTION
TSS = Connector Strip **HTSS** = High Temp Connector Strip		**03** (TSS only) **05, 07, 08, 10, 12, 13, 15, 17, 20, 25, 32, 36** (Standard sizes)	Specify LEAD STYLE from chart.	**–F** = Gold flash on post, Matte Tin on tail (Not available on -DV) **–L** = 10 µ" (0.25 µm) Gold on post, Matte Tin on tail **–T** = Matte Tin	**–D** = Double Row Through-hole (lead style –01, –02 & –03 only) **–DV** = Double Row Surface Mount (lead style –01 only) (HTSS only) **–D–RA** = Double Row Right-angle (lead style –04 & –05 only)

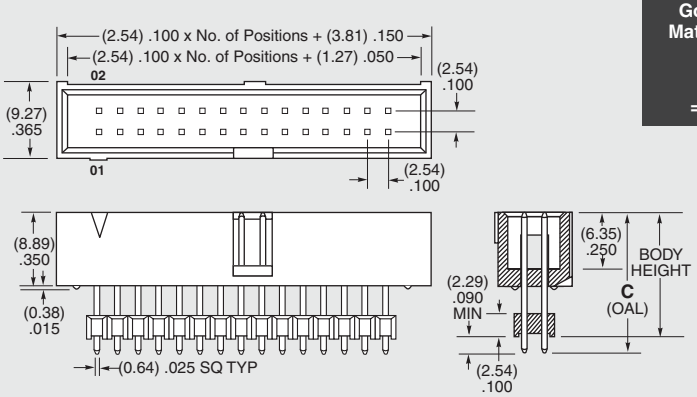
LEAD STYLE	T/H (A)
–01	(2.92) .115
–02	(4.19) .165
–03	(14.35) .565

LEAD STYLE	RIGHT ANGLE (B)
–04	(3.30) .130
–05	(5.84) .230



ZSS	1	NO. PINS PER ROW	LEAD STYLE	PLATING OPTION	D	BODY HEIGHT
		03, 05, 07, 08, 10, 12, 13, 15, 17, 20, 25, 32, 36 (Standard sizes)	Specify LEAD STYLE from chart.	**–F** = Gold flash on post, Matte Tin on tail **–L** = 10 µ" (0.25 µm) Gold on post, Matte Tin on tail **–T** = Matte Tin		**–"XXXX"** = Body Height

LEAD STYLE	C (OAL)	MAX BODY HEIGHT
–01	(16.00) .630	(13.72) .540
–02	(18.54) .730	(16.26) .640
–03	(21.08) .830	(18.80) .740
–04	(23.62) .930	(21.34) .840
–05	(26.16) 1.030	(23.88) .940
–06	(28.70) 1.130	(26.42) 1.040
–07	(31.24) 1.230	(28.96) 1.140
–08	(33.78) 1.330	(31.50) 1.240
–09	(36.32) 1.430	(34.04) 1.340

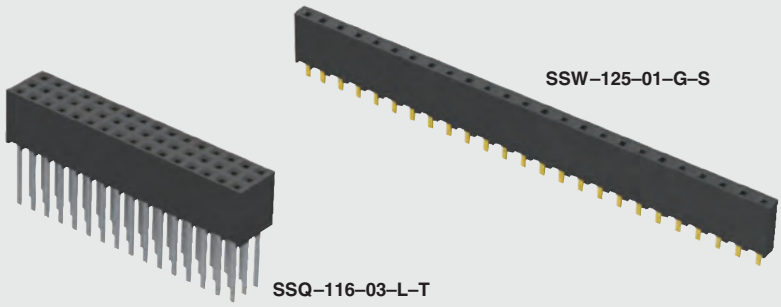


Note: For added mechanical stability, Samtec recommends mechanical board spacers be used in applications with gold or selective gold plated connectors. Contact ipg@samtec.com for more information.

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(2.54 mm) .100"

THROUGH-HOLE .025" SQ POST SOCKET

SPECIFICATIONS

For complete specifications see www.samtec.com?SSW or www.samtec.com?SSQ

Insulator Material:
Black Liquid Crystal Polymer (-S & -D) or
Black High Temperature Thermoplastic (-T)
Contact Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Current Rating (SSW/TSM):
4.7 A per pin
(2 pins powered)
Current Rating (SSQ/TSW):
6.3 A per pin
(2 pins powered)
Operating Temp Range:
-55 °C to +125 °C with Gold
-55 °C to +105 °C with Tin
Insertion Depth:
(3.68 mm) .145" to
(6.35 mm) .250"
Normal Force:
Standard= 125 grams (4.4 N)
Max Cycles:
100 with 10 µ" (0.25 µm) Au
Voltage Rating:
465 VAC / 655 VDC
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes:
-S and -D row option
Wave only:
-P, -T and -Q row option

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

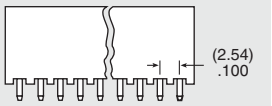
Note:
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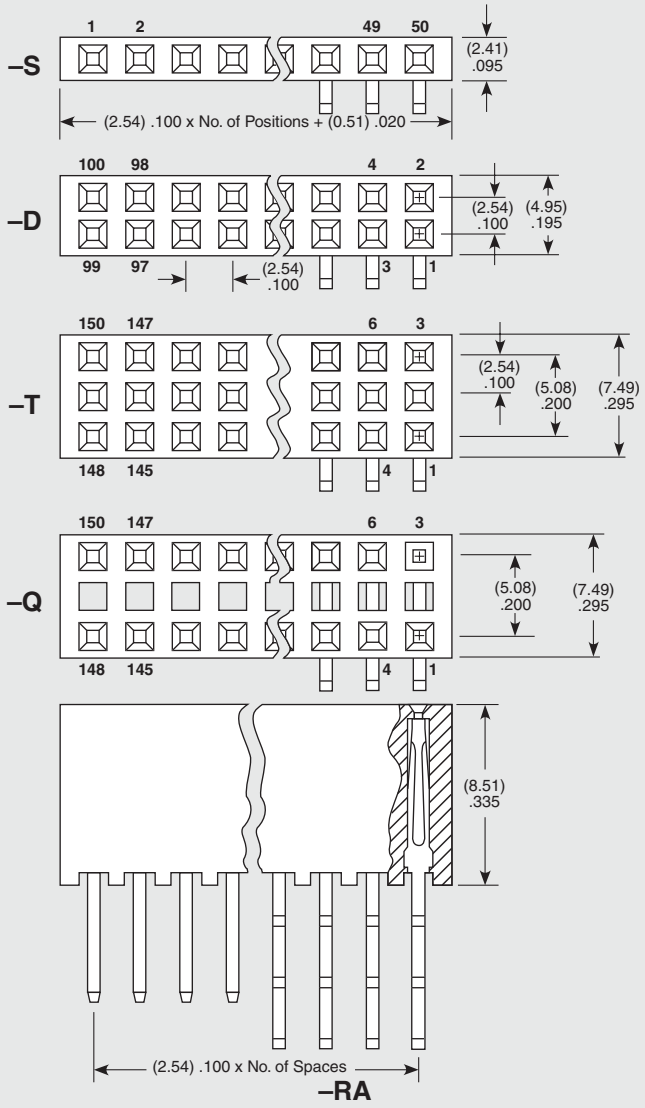
Mates With:
TSW, MTSW, MTLW, EW, ZW, TSS, ZSS, TSM, TSSH, HTSS

TIGER BUY™ CONTACT



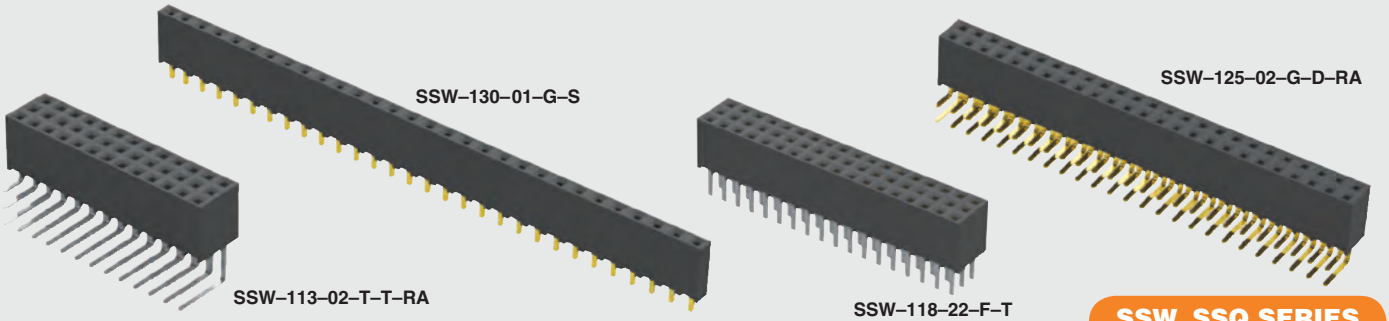
TYPE STRIP		PIN CENTERS		NO. PINS PER ROW
SSW = Solder Tail		–1 = (2.54 mm) .100" Centers		01 thru 50
SSQ = Square Tail				





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LEAD STYLE

PLATING OPTION

–F
= Gold flash on contact, Matte Tin on tail

–L
= 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

–G
= 20 µ" (0.51 µm) Gold on contact, Gold flash on tail

–T
= Matte Tin
(-T N/A on LIF contacts)

ROW OPTION

–S
= Single Row

–P
= Single Row
(36 pins max)

–D
= Double Row

–T
= Triple Row

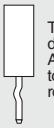
–Q
= Double Row
.200" (5.08 mm) row space
(Outer rows filled only)

TAIL OPTION

–RA
= Right-angle
(Leave blank for straight pin version)

OTHER OPTION

–LL
= Locking Lead



Two leads per strip crimped in opposite directions on or near centerline. Available on tails from (2.29 mm) .090" to (7.87 mm) .310" only. N/A with single row 1 or 2 positions.

–"XXX"
= Polarized
(Specify "XXX" as position number)

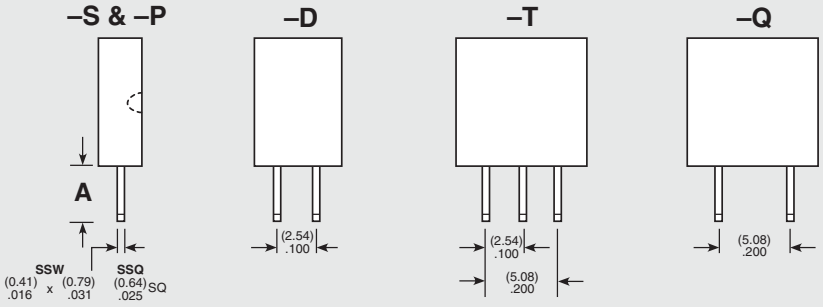
ALSO AVAILABLE
(MOQ Required)

- Other platings
- Notch option

Straight Pin Versions (Specify "LEAD STYLE" from chart)

LEAD STYLE		SINGLE DOUBLE OR TRIPLE
Standard Insertion Force	Low Insertion Force*	A
–01	–21	(2.64) .104
–02	–22	(4.93) .194
–03	–23	(10.00) .394
–04	–24	(14.83) .584
–06**	Not Available	(3.15) .124

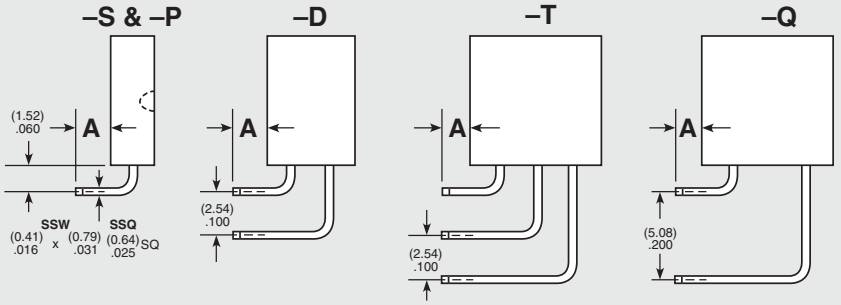
* LIF not available with Tin Plating
**Style –06 Not available with SSQ



Right-Angle Versions (Specify "LEAD STYLE" from chart)

LEAD STYLE		SINGLE	DOUBLE	TRIPLE
Standard Insertion Force	Low Insertion Force*	(–S) A	(–D) A	(–T & –Q) A
–02	–22	(2.54) .100	(2.54) .100	(2.54) .100
–03	–23	(7.62) .300	(7.62) .300	Not Available
–04	–24	(12.45) .490	Not Available	Not Available

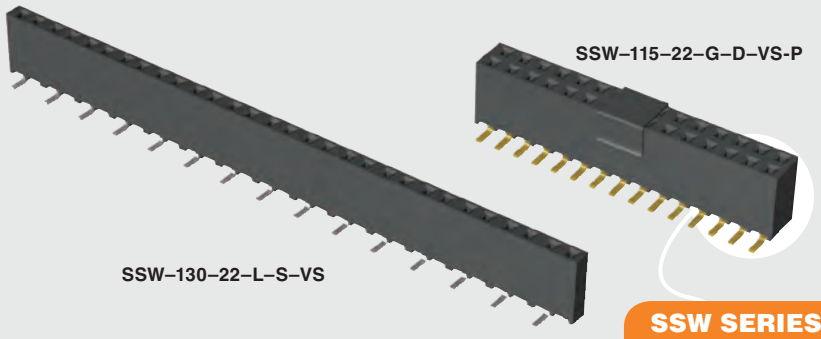
*LIF not available with Tin Plating



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(2.54 mm) .100"

SSW SERIES

SMT .025" SQ POST SOCKET

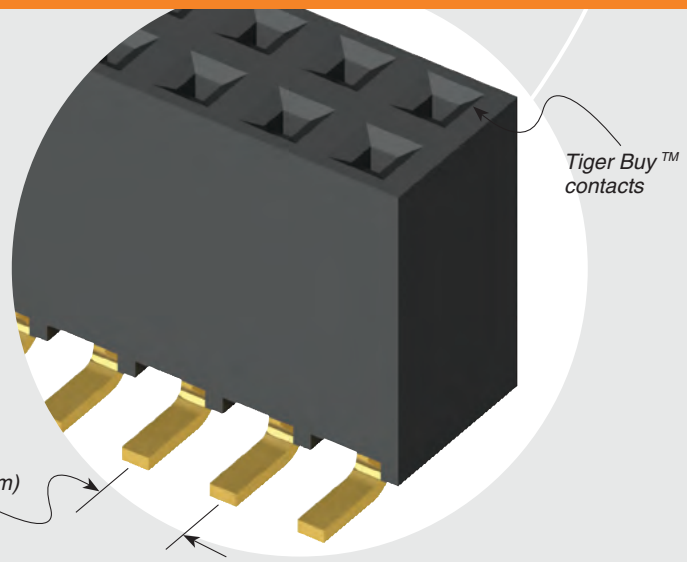
SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?SSW

Insulator Material:
Black LCP
Contact Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Current Rating (SSW/TSM):
4.7 A per pin
(2 pins powered)
Operating Temp Range:
-55 °C to +125 °C with Gold
-55 °C to +105 °C with Tin
Insertion Depth:
(3.68 mm) .145" to
(6.35 mm) .250"
Max Cycles:
100 with 10 µ" (0.25 µm) Au
Voltage Rating:
465 VAC / 655 VDC
RoHS Compliant:
Yes

Mates With:
TSW, MTSW, HTSW, HMTSW, MTLW, EW, ZW, TSS, HTSS, ZSS, TSM, TSSH, DW, HW

TIGER BUY™ CONTACT



PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

ALSO AVAILABLE (MOQ Required)

- Other platings
- Notch option

Note: Some lengths, styles and options are non-standard, non-returnable.

SSW	–	1	NO. PINS PER ROW	–	22	–	PLATING OPTION	–	ROW OPTION	–	VS	–	OTHER OPTION

02 thru 36

–F
= Gold flash on contact, Matte Tin on tail

–L
= 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

–G
= 20 µ" (0.51 µm) Gold on contact, Gold flash on tail

–S
= Single Row

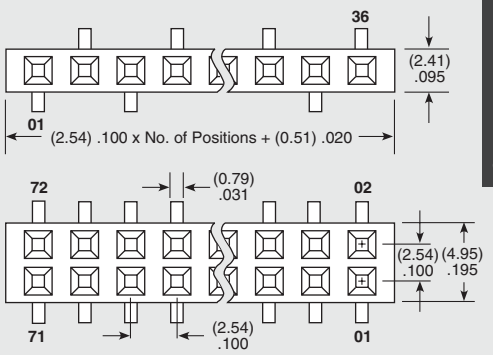
–D
= Double Row

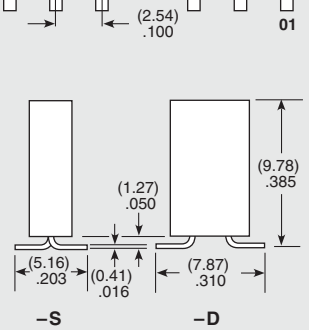
–"XX"
= Polarized Position

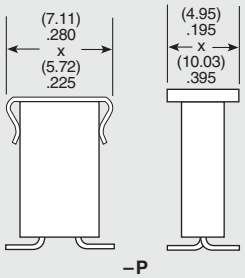
–K
= –S: (3.50 mm) .138" DIA, –D: (6.50 mm) .256" DIA Polyimide film Pick & Place Pad (03 positions min.)

–P
= Pick & Place Pad (05 positions min.)

–TR
= Tape & Reel Packaging (–02 thru –28)





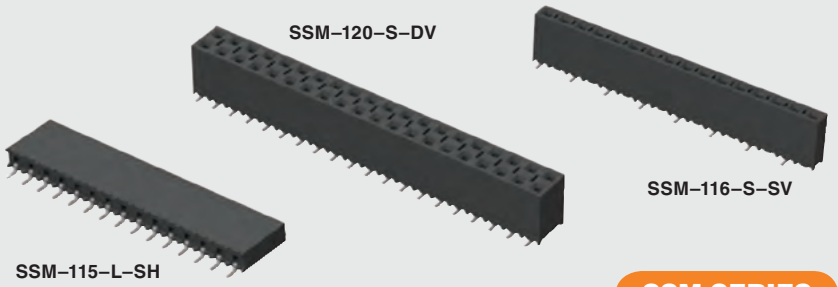


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samtec

10 YEAR MFG WITH 30 µ" GOLD
EXTENDED LIFE PRODUCT
HIGH MATING CYCLES



(2.54 mm) .100"

SSM SERIES

TIGER CLAW™ SURFACE MOUNT SOCKET

Mates with:
TSW, MTSW, TST, TSS, ZST, ZSS, DW, EW, ZW, TSM, HMTSW, HTSW, TSSH, BST, HTSS, TLW, MTLW

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?SSM

Insulator Material:
Black Liquid Crystal Polymer
Contact Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Current Rating (SSM/TSW):
5.2 A per pin
(2 pins powered)
Voltage Rating:
405 VAC / 572 VDC
Operating Temp Range:
-55 °C to +125 °C with Gold
-55 °C to +105 °C with Tin
Insertion Depth:
SV/DV is (4.34 mm) .171" to (7.24 mm) .285" or pass-through from top; (5.56 mm) .219" plus board thickness minimum from bottom; SH/DH is (4.34 mm) .171" to (6.35 mm) .250"
Normal Force:
125 grams (1.21 N) average
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
–DH Coplanarity:
Less than 28 positions
(0.15 mm) .006" max*
More than 27 positions
(0.20 mm) .008" max*
–SH, –SV, –DV Coplanarity:
(0.15 mm) .006" max*
*(.004" stencil solution may be available; contact IPG@samtec.com)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

Note:
Some lengths, styles and options are non-standard, non-returnable.

SSM – 1 – NO. PINS PER ROW – PLATING OPTION – ROW OPTION – OTHER OPTION

NO. PINS PER ROW
- 02 thru 36 (–SV, – SH, –DH)
- 02 thru 40 (–DV)

PLATING OPTION
- **–F** = Gold flash on contact, Matte Tin on tail
- **–L** = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail
- **–S** = 30 µ" (0.76 µm) Gold on contact, Matte Tin on tail



ALSO AVAILABLE (MOQ Required)
- Alignment pin

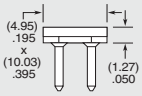
APPLICATIONS



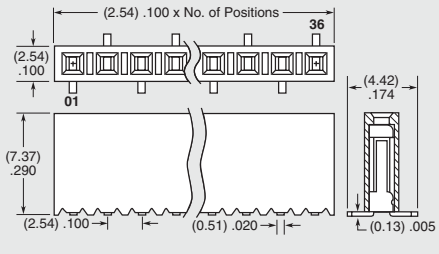
OTHER OPTION
- **–BE** = Bottom Entry (–DV & –SV only)
- **–LC** = Locking Clip (–DV & –SV only) Contact Samtec for –DH & –SH
- **–K** = (6.50 mm) .256" DIA Polyimide film Pick & Place Pad (2 positions min.) –DV & –SV only
- **–"XXX"** = Polarized Position (–BE not available)
- **–TR** = Tape & Reel Packaging (29 positions max.)
- **–M** = Metal Pick & Place Pad (5 positions min.) –DV only



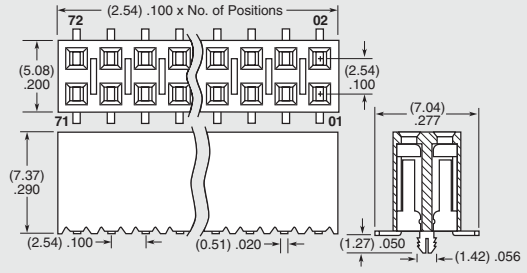
- **–P** = Plastic Pick & Place Pad (–DV & –SV only) (6 pos. minimum. Contact Samtec for availability on smaller positions)



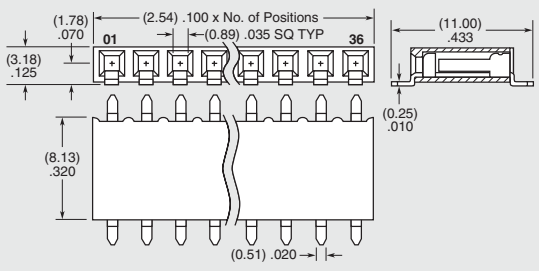
–SV = Single Row Vertical Pin



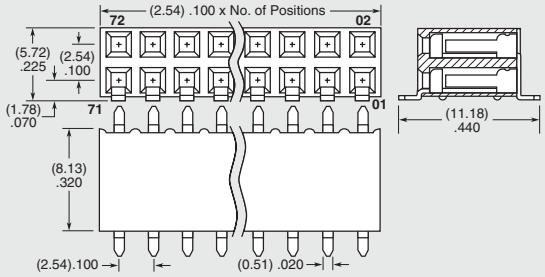
–DV = Double Row Vertical Pin



–SH = Single Row Horizontal Pin



–DH = Double Row Horizontal Pin



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ESW, ESQ SERIES

(2.54 mm) .100"

ELEVATED SOCKET

Mates with:
TSW, MTSW, EW, MTLW, TSS, ZSS, TSM, DW, ZW, HW, TSSH, HTSS

SPECIFICATIONS

For complete specifications see www.samtec.com?ESW or www.samtec.com?ESQ

Insulator Material:
Black Glass Filled Polyester
Contact Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Current Rating (ESW/TSW):
5.2 A per pin
(2 pins powered)
Current Rating (ESQ/TSW):
5.7 A per pin
(2 pins powered)
Voltage Rating:
550 VAC mated with TSW or ESQ
Operating Temp Range:
-55 °C to +125 °C with Gold
-55 °C to +105 °C with Tin
Insertion Depth:
(3.68 mm) .145" to
(6.35 mm) .250"
Normal Force:
Standard = 125 grams (4.4 N)
Max Cycles:
100 with 10 µ" (0.25 µm) Au
RoHS Compliant:
Yes
Lead-Free Solderable:
Wave only

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

TIGER BUY™ CONTACT

ALSO AVAILABLE (MOQ Required)

- Other platings

Note:
Some lengths, styles and options are non-standard, non-returnable.

TYPE STRIP	1	NO. PINS PER ROW	LEAD STYLE	PLATING OPTION	ROW OPTION	OTHER OPTION

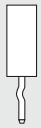
TYPE STRIP
- **ESW** = Solder Tail
- **ESQ** = Square Tail

NO. PINS PER ROW
01 thru 36

PLATING OPTION
- **–L** = 10 µ" (0.25 µm) Gold contact, Matte Tin on tail
- **–G** = 20 µ" (0.51 µm) Gold contact, Gold Flash on Balance
- **–T** = Matte Tin (N/A w/LIF contact)

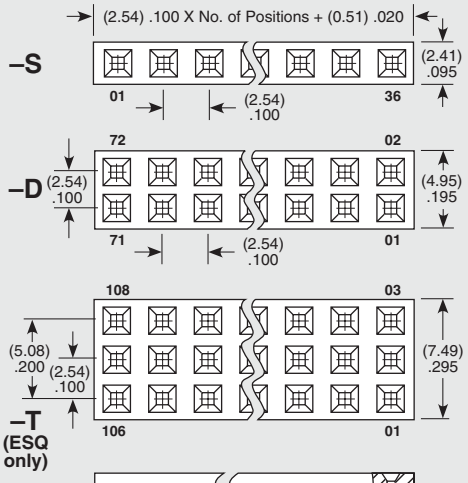
ROW OPTION
- **–S** = Single Row
- **–D** = Double Row
- **–T** = Triple Row (ESQ only)

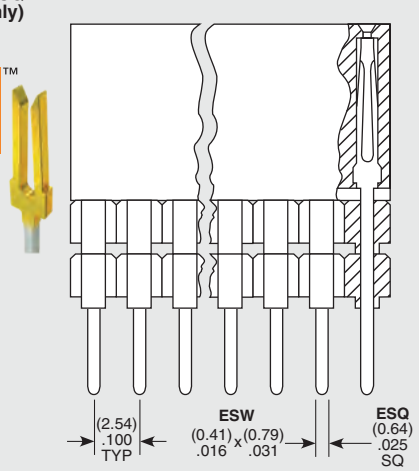
OTHER OPTION
- **–LL** = Locking Lead



Two leads per strip crimped. N/A with single row 1 or 2 positions.

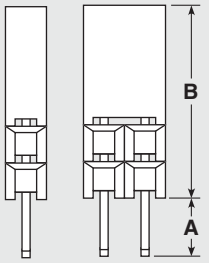
- **–"XXX"** = Polarized





Specify LEAD STYLE from chart below.

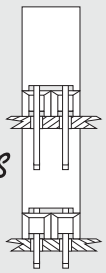
STANDARD INSERTION FORCE	LOW INSERTION FORCE	A	B
– 12	– 37	(2.29) .090	(11.05) .435
– 13	– 38	(7.36) .290	
– 23	– 48	(4.83) .190	(13.59) .535
– 33	– 58	(2.29) .090	(16.13) .635
– 14	– 39	(12.19) .480	(11.05) .435
– 24	– 49	(9.65) .380	(13.59) .535
– 34	– 59	(7.11) .280	(16.13) .635
– 44	– 69	(4.57) .180	(18.67) .735



APPLICATIONS

EMBEDDED-PC PC/104 MODULES

Self Nesting Sockets



(ESQ Series)

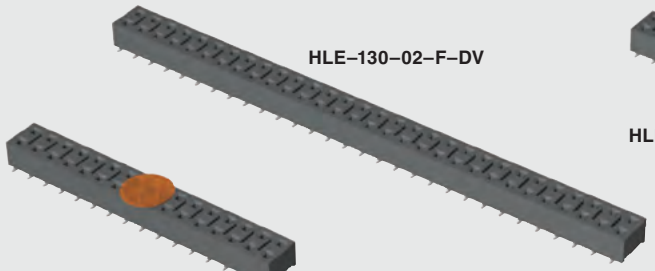
PC/104™ J1/P1 "Stackthrough" Connectors	
Standard Insertion Force	ESQ-132-14-G-D
Low Insertion Force	ESQ-132-39-G-D
PC/104™ J1 "Non-Stackthrough" Connectors	
Standard Insertion Force	ESQ-132-12-G-D
Low Insertion Force	ESQ-132-37-G-D
PC/104™ J2/P2 "Stackthrough" Connectors	
Standard Insertion Force	ESQ-120-14-G-D
Low Insertion Force	ESQ-120-39-G-D

PC/104 is a trademark of the PC/104 Consortium.

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(2.54 mm) .100"

HLE SERIES

COST-EFFECTIVE RELIABLE SOCKET

Mates With:
TSW, MTSW, DW, EW, ZW, TLW, TSM, MTLW, HW

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?HLE

Insulator Material:
Black Liquid Crystal Polymer
Contact Material:
BeCu
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Current Rating (HLE/TSM):
4.1 A per pin
(2 pins powered)
Voltage Rating:
400 VAC
Operating Temp Range:
-55 °C to +125 °C
Insertion Depth:
(1.78 mm) .070" to
(3.43 mm) .135", pass-through,
or (2.59 mm) .102" min
plus board thickness for
bottom entry
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (02-20)
(0.15 mm) .006" max (21-50)*
*(.004" stencil solution
may be available; contact
IPG@samtec.com)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

ALSO AVAILABLE
(MOQ Required)

- Other platings

Note:
Some lengths, styles and options are non-standard, non-returnable.

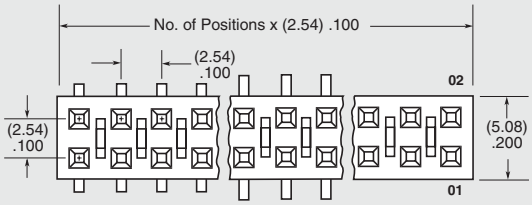
HLE	–	1	NO. PINS PER ROW	–	02	–	PLATING OPTION	–	DV	–	TAIL OPTION	–	OTHER OPTION

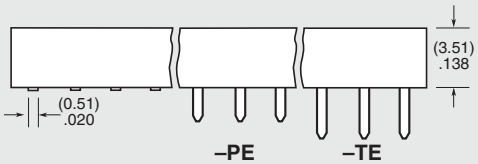
02 thru 50

–F
= Gold flash on contact, Matte Tin on tail

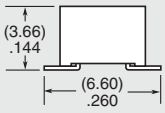
–L
= 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

TIGER™ BEAM CONTACT



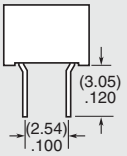


Leave blank for Surface Mount

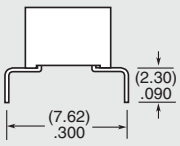


(Requires –BE for Bottom Entry)

–TE
= Through-hole Top Entry



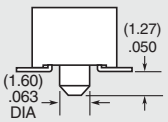
–PE
= Through-hole Pass-through Entry



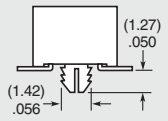
(Requires –BE for Bottom Entry)

–BE
= Bottom Entry (N/A with –TE)

–A
= Alignment Pin (4 positions min.) Metal or plastic at Samtec discretion (N/A with -TE, -PE & -LC)

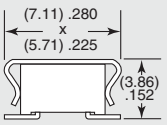


–LC
= Locking Clip (2 positions min.) (N/A with -A) (Manual placement required)



–K
= (6.50 mm) .256" DIA Polyimide Film Pick & Place Pad (3 positions min.) Not available with –TE or –PE tail option

–P
= Metal Pick & Place Pad (3 positions min.)



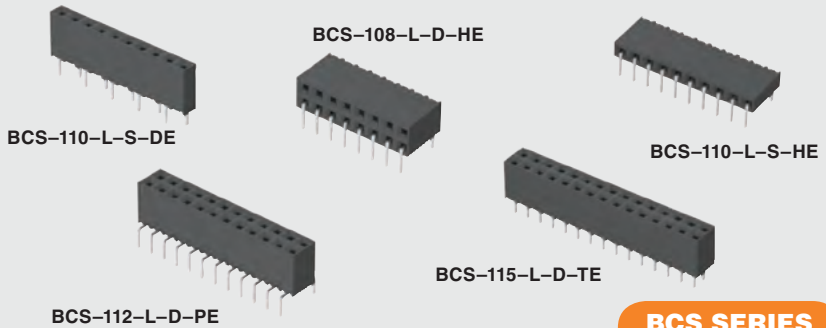
–TR
= Tape & Reel Packaging (29 positions max.)

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10 YEAR MFG WITH 30 µ" GOLD
EXTENDED LIFE PRODUCT
HIGH MATING CYCLES



(2.54 mm) .100"

BCS SERIES

TIGER CLAW™ PASS-THROUGH SOCKET

Mates with:
TSW, MTSW, HTSW, HMTSW, TSS, ZSS, DW, EW, ZW, HW, TSM, MTLW, PHT

SPECIFICATIONS

For complete specifications see www.samtec.com?BCS

Insulator Material:
Black Liquid Crystal Polymer
Contact Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Current Rating (BCS/TSW):
4.6 A per pin
(2 pins powered)
Voltage Rating:
475 VAC
(-TE/-DE/-PE mated with TSM)
450 VAC
(-HE mated with TSW)
Operating Temp Range:
-55 °C to +125 °C
Insertion Depth:
(4.34 mm) .171" to
(7.24 mm) .285" from top,
(5.64 mm) .222" plus
board thickness minimum
from bottom.
–HE is (4.34 mm) .171"
to (6.35 mm) .250"
RoHS Compliant:
Yes
Lead–Free Solderable:
Yes

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

ALSO AVAILABLE
(MOQ Required)

- Other platings

Note:
Some lengths, styles and options are non-standard, non-returnable.

BCS	–	1	NO. PINS PER ROW	–	PLATING OPTION	–	ROW OPTION	–	ENTRY OPTION	–	OTHER OPTION



–F
= Gold flash on contact, Matte Tin on tail

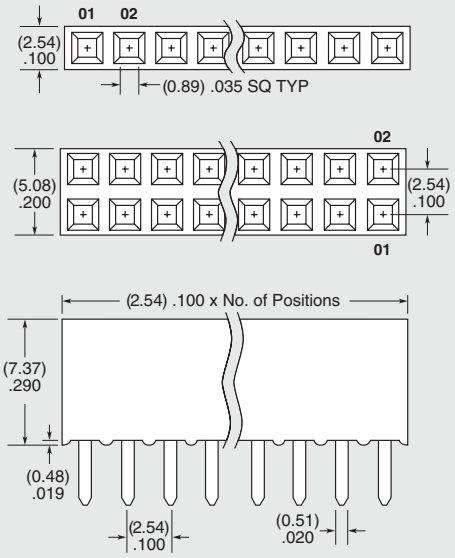
–L
= 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

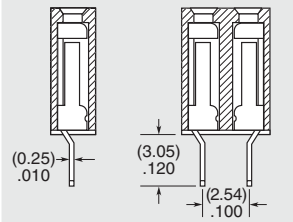
–S
= Single

–D
= Double

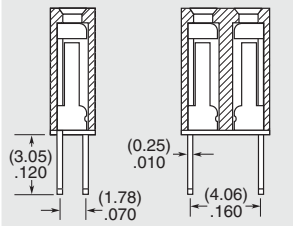
–"XXX"
= Polarized Position (–BE not available)

01 thru 50

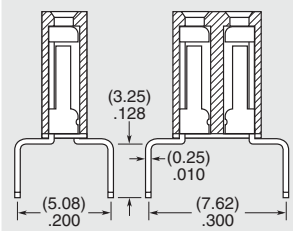




–TE
= Top Entry

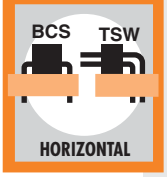


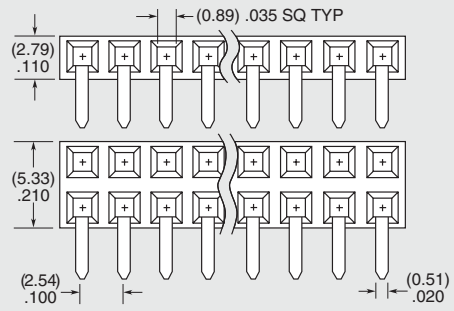
–DE
= Top Entry (For Bottom Entry specify –DE–BE) Cannot be used with plated through-holes

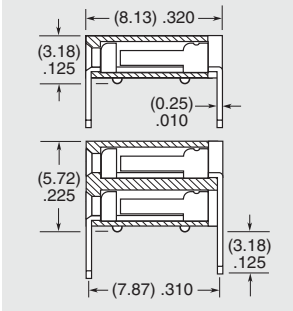


–PE
= Pass-through Entry (For Bottom Entry specify –PE–BE)

APPLICATIONS



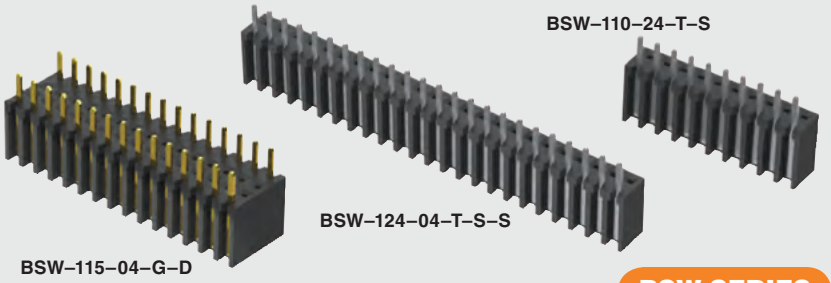




–HE
= Horizontal Entry

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samtec



(2.54 mm) .100"

BSW SERIES

BOTTOM MOUNT SOCKET STRIPS

Mates with:
TSW, MTSW, HTSW, MTLW, TSM, EW, ZW, HW, DW, PHT

FEATURES

- Bottom mount socket strips accept .025" SQ terminals.
- Ideal for soldering and plugging from the same side of the board.
- For low-profile connections and high temperature soldering.

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?BSW

Insulator Material:
Black Thermoplastic
Insulation Resistance:
5000 MΩ min
Contact Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C with Gold
-55 °C to +105 °C with Tin
Withstanding Voltage:
1000 VRMS @ 60 Hz
Insertion Depth:
(3.68 mm) .145" to
(6.35 mm) .250"
RoHS Compliant:
Yes
Lead-Free Solderable:
Wave only

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

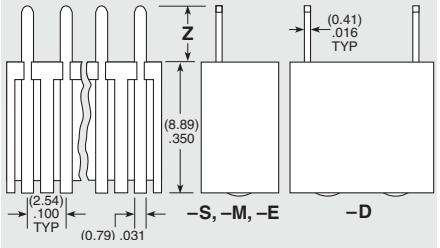
ALSO AVAILABLE (MOQ Required)

- Other platings

Note:
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BSW	–	1	NO. PINS PER ROW	–	LEAD STYLE	–	PLATING OPTION	–	ROW OPTION	–	OTHER OPTION

NO. PINS PER ROW: 02 thru 36



Row Option	Z
–S*	(4.31) .170
–M	(3.43) .135
–E	(2.54) .100
–D*	(4.32) .170

*Less (0.38 mm) .015" with standoffs

LEAD STYLE

–04 = Standard Lead

–24 = Low Insertion Force

PLATING OPTION

–L = 10 µ" (0.25 µm) Gold contact, Matte Tin on tail

–G = 20 µ" (0.51 µm) Gold contact, Gold Flash on tail

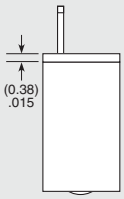
–T = Matte Tin (N/A with Low Insertion Force)

TIGER BUY™ CONTACT



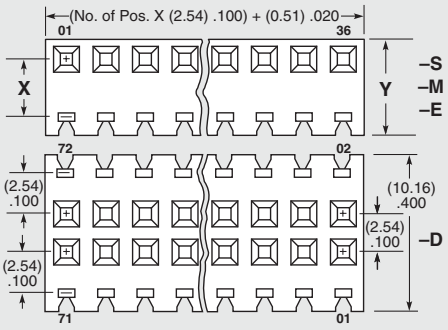
OTHER OPTION

–S = Standoffs for single and double rows only.



(–S & –D only)

ROW OPTION



Row Option	X	Y
–S	(2.54) .100	(5.08) .200
–M	(3.81) .150	(6.35) .250
–E	(4.31) .170	(6.86) .270

Body design may vary slightly from drawing shown.

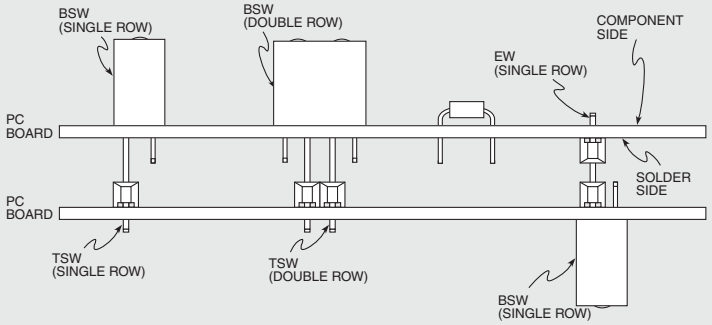
–S = Single Row

–M = Single Row More Plug Space

–E = Single Row Extended Plug Space

–D = Double Row

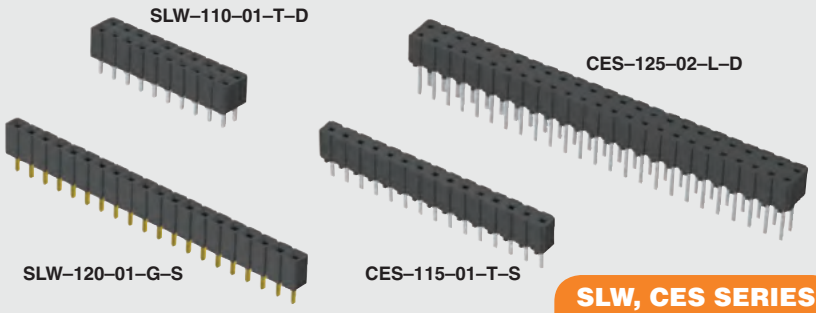
APPLICATIONS



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samtec



(2.54 mm) .100"

SLW, CES SERIES

LOW-PROFILE SOCKET STRIPS

SLW Mates with:
TLW, TSW, MTLW, MTSW, HW, EW, ZW, HTSW, HMTSW, TSM

CES Mates with:
TLW, TSW, MTLW, MTSW, HW, EW, ZW, DW, HTSW, PHT, HMTSW

SPECIFICATIONS

For complete specifications see www.samtec.com?SLW or www.samtec.com?CES

Insulator Material:
Black G.F. Polyester
Contact Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ"(1.27 µm) Ni
SLW Current Rating (SLW/TSW):
5.2 A per pin
(2 pins powered)
CES Current Rating (TSW/CES):
5.5 A per pin
(2 pins powered)
Voltage Rating:
SLW: 406 VAC
CES: 400 VAC
Operating Temp Range:
-55 °C to +125 °C with Gold
-55 °C to +105 °C with Tin
Insertion Depth:
SLW: (2.16 mm) .085" to (2.92 mm) .115"
CES: (2.62 mm) .103" to (4.06 mm) .160"
RoHS Compliant:
Yes
Lead-Free Solderable:
No, Lead Wave only

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

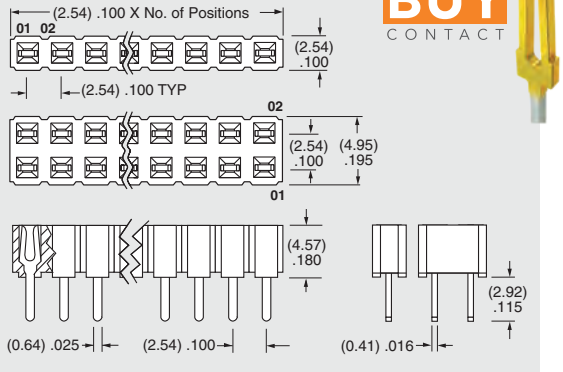
ALSO AVAILABLE (MOQ Required)

- Other platings

Note:
Some lengths, styles and options are non-standard, non-returnable.

SLW – 1 – NO. PINS PER ROW – 01 – PLATING OPTION – ROW OPTION

NO. PINS PER ROW: 01 thru 50



TIGER BUY™ CONTACT



PLATING OPTION

–F = Gold flash on contact, Matte Tin on tail

–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

–G = 20 µ" (0.51 µm) Gold on contact, Gold flash on balance

–T = Matte Tin

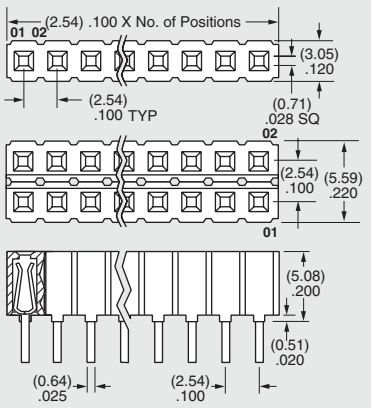
ROW OPTION

–S = Single Row

–D = Double Row

CES – 1 – NO. PINS PER ROW – LEAD STYLE – PLATING OPTION – ROW OPTION – RA OPTION

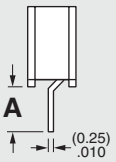
NO. PINS PER ROW: 01 thru 50



LEAD STYLE

–01 = (3.25 mm) .128 "A" Dim.

–02 = (5.66 mm) .223 "A" Dim.



PLATING OPTION

–L = 10 µ" (0.25 µm) Gold contact, Matte Tin on tail

–T = Matte Tin

ROW OPTION

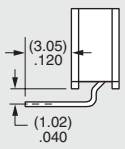
–S = Single Row

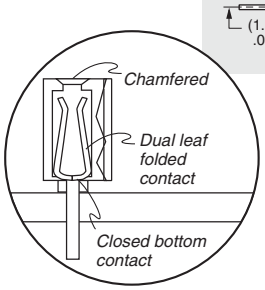
–D = Double Row

RA OPTION

–RA = Right-angle version

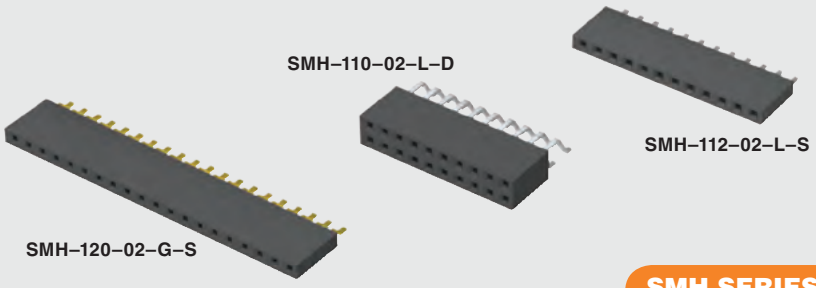
Style –02 only
Single Row only





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(2.54 mm) .100"

SMH SERIES

SMT HORIZONTAL SOCKET

Mates With:
TSW, MTSW, MTLW,
EW, ZW, TSS, ZSS, TSM

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?SMH

Insulator Material:
Black LCP
Contact Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C with Gold
-55 °C to +105 °C with Tin
Insertion Depth:
(3.68 mm) .145" to
(6.35 mm) .250"
Max Cycles:
100 with 10 µ" (0.25 µm) Au
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.15 mm) .006" max (02-24)
(0.20 mm) .008" max (25-36)*
*(.004" stencil solution may be available; contact IPG@samtec.com)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

ALSO AVAILABLE
(MOQ Required)

- Other platings

Important Note:
SMH mated to TSM–DH/–SH not coplanar, SSM–DH/–SH recommended for coplanar applications.

Note:
Some lengths, styles and options are non-standard, non-returnable.

SMH	–	1	NO. PINS PER ROW	–	02	–	PLATING OPTION	–	ROW OPTION	–	OTHER OPTION

PLATING OPTION

–L
= 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

–G
= 20 µ" (0.51 µm) Gold on contact, Gold flash on tail

–T
= Matte Tin

ROW OPTION

–S
= Single Row

–D
= Double Row

OTHER OPTION

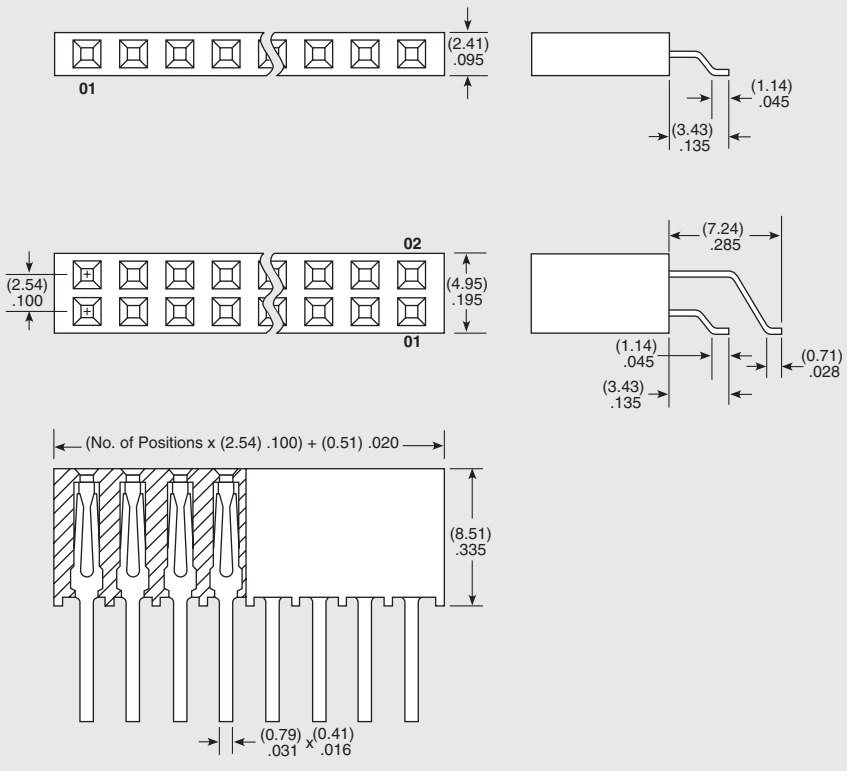
–"XX"
= Polarized Position

–TR
= Tape & Reel Packaging (02-29 positions only)

TIGER BUY™ CONTACT



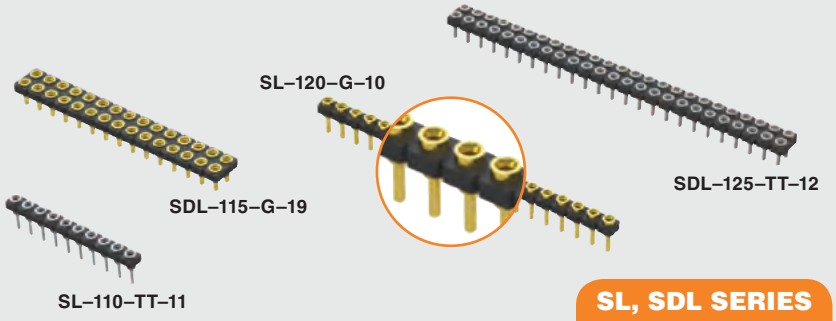
02 thru 36



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(2.54 mm) .100"

SL, SDL SERIES

LOW-PROFILE MACHINED SOCKET STRIPS

FEATURES

- Achieve low-profile without sacrificing insertion depth!
- Choice of four precision screw machined lead styles.
- Exceptionally low-profile, down to (2.11 mm) .083" off of board.
- Mates with BBL or BDL for board stacking spaces down to (3.89 mm) .153"

SPECIFICATIONS

For complete specifications see www.samtec.com?SL or www.samtec.com?SDL

Insulator Material: Black Glass Filled Polyester
Contact/Shell Materials: BeCu/Brass
Plating: Au or Sn over 50 µ" (1.27 µm) Ni
Operating Temp Range: -55 °C to +125 °C with Gold
-55 °C to +105 °C with Tin
RoHS Compliant: Yes
Lead-Free Solderable: Wave only

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

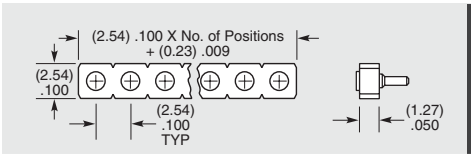
Note: Some lengths, styles and options are non-standard, non-returnable.

Mates with:
TS, TD, HTS, BBS, BBD, BBL, BDL, BHS

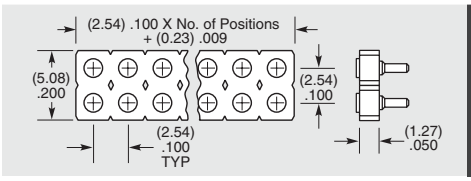
TYPE STRIP – **1** – **NO. PINS PER ROW** – **PLATING OPTION** – **LEAD STYLE**

SL
= Single Row Low-Profile Socket Strip

SDL
= Double Row Low-Profile Socket Strip



01 thru 32



01 thru 36

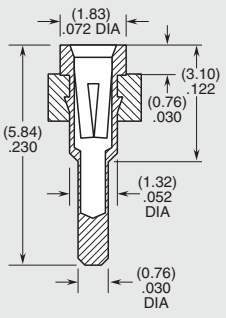
–G
= 30 µ" (0.76 µm) Gold contact, 10 µ" (0.25 µm) Gold shell

–T
= 30 µ"(0.76 µm) Gold contact, Tin shell

–TT
= Tin contact and shell (LIF not available)

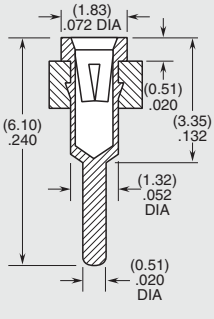
Low Insertion Force (LIF) Available

–10
= Low-Profile (Hollow Leg)



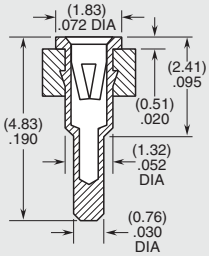
Contact Length = (2.11 mm) .083"
Lead DIA Accepted = (0.38 mm) .015" to (0.51 mm) .020"
Insertion Depth = (2.67 mm) .105" to (4.32 mm) .170"
Style 10 Component Part No. = SC-3P1

–11
= Low-Profile (Standard Mount) For LIF specify –31



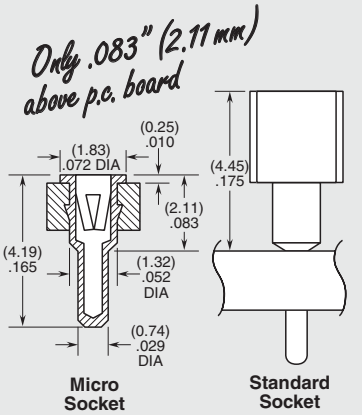
Contact Length = (1.58 mm) .062"
Lead DIA Accepted = (0.41 mm) .016" to (0.53 mm) .021"
Insertion Depth = (2.03 mm) .080" to (2.67 mm) .105"
Style 11 Component Part No. = SC-4P1
Style 31 Component Part No. = EZ-4P1

–12
= Micro-Socket (Hollow Leg)



Contact Length = (1.58 mm) .062"
Lead DIA Accepted = (0.41 mm) .016" to (0.51 mm) .020"
Insertion Depth = (1.65 mm) .065" to (3.81 mm) .150"
Style 12 Component Part No. = SC-5P1

–19
= Micro-Socket (Hollow Leg) For LIF specify –39

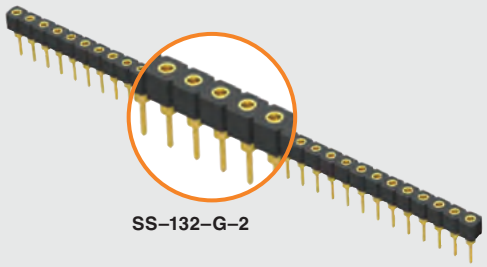


Contact Length = (1.58 mm) .062"
Lead DIA Accepted = (0.41 mm) .016" to (0.51 mm) .020"
Insertion Depth = (1.65 mm) .065" to (3.56 mm) .140"
Style 19 Component Part No. = SC-8P1
Style 39 Component Part No. = EZ-8P1

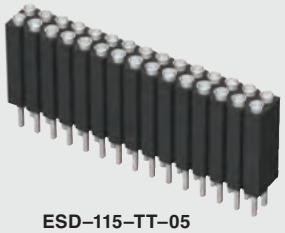
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SS–132–G–2



ESD–115–TT–05

(2.54 mm) .100"

SS, SD, ESD, ESS, HSS SERIES

PRECISION MACHINED SOCKET STRIPS

Mates with:
TS, TD, HTS, BBS, BBD, BBL, BDL, BHS

SPECIFICATIONS

For complete specifications see www.samtec.com?SS, www.samtec.com?ESS, www.samtec.com?SD, www.samtec.com?ESD or www.samtec.com?HSS

Insulator Material:
SS, SD, ESS, ESD= Black G.F. Polyester
HSS= Black Liquid Crystal Polymer
Contact:
BeCu
Shell:
Brass except Style 5A Phosphor Bronze
Plating:
Au over 50 µ" (1.27 µm) Ni or Sn over 50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C
Lead Size Range:
(0.38 mm to 0.56 mm) .015" to .022" DIA and most IC leads
RoHS Compliant:
Yes
Lead-Free Solderable:
Wave only

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

Note:
Some lengths, styles and options are non-standard, non-returnable.

TYPE STRIP	1	NO. PINS PER ROW	PLATING OPTION	LEAD STYLE	OPTION	OTHER OPTION

01 thru 32
= SS, ESS Series

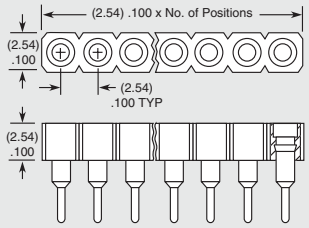
01 thru 36
= HSS, SD & ESD Series

SS
= Standard Single Row Socket

HSS
= High Temp Single Row Socket

ESS
= Elevated Single Row Socket

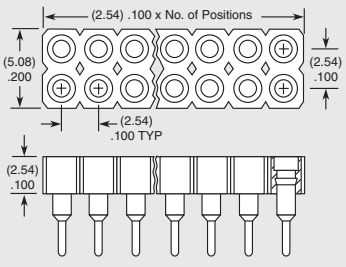
Styles –5A & –05 socket heads not countersunk.



SD
= Standard Double Row Socket

ESD
= Elevated Double Row Socket

Style –5A not available.
Styles –5A & –05 socket heads not countersunk.



–S
= 10 µ" (0.25 µm) Gold contact, Tin shell (Styles 2 & 22 only)

–T
= 30 µ" (0.76 µm) Gold contact, Tin shell

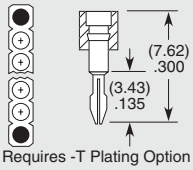
–G
= 30 µ" (0.76 µm) Gold contact, 10 µ" (0.25 µm) Gold shell

–TT
= Tin contact and shell (Styles 1, 2, 4, and 05 except LIF N/A)

LIF= Low Insertion Force

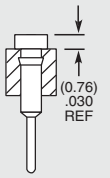
– L = Locking Socket

Add **–L** suffix for locking lead socket in end positions. Requires **Style -2** or **-22** and .035" ± .003 DIA board hole.



Requires -T Plating Option

– N
= Non Flush

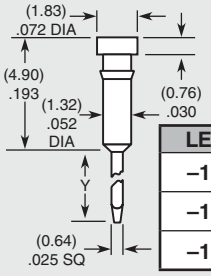


N/A Style –5A

ALSO AVAILABLE
(MOQ Required)

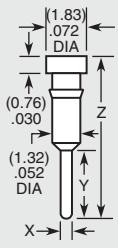
- Locking lead option on ESS and ESD series

–1A, –1B or –1C
For LIF specify –21A, –21B or –21C
(SS, HSS, SD)



LEAD STYLE	Y
–1A or –21A	(9.14) .360
–1B or –21B	(12.95) .510
–1C or –21C	(6.60) .260

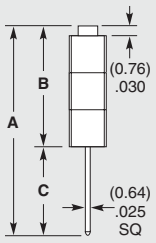
–2, –22*,–5A, or –38*
*For LIF specify –22 or –38 (SS, HSS, SD)



LEAD STYLE	X DIA	Y	Z
–2 or –22	(0.51) .020	(3.18) .125	(7.62) .300
–38	(0.51) .020	(4.57) .180	(8.89) .350
–5A	(0.89) .035	(12.95) .510	(17.86) .703

Locking lead available. See OPTION.

–03, –04, –05
For LIF specify –23
(ESS, ESD)



LEAD STYLE	A	B	C
–05	(17.86) .703	(13.46) .530	(4.39) .173
–03 or –23	(11.51) .453	(8.38) .330	(3.12) .123
–04	(14.05) .553	(10.92) .430	(3.12) .123

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(2.54 mm) .100"

BBS, BBL, BHS, BBD, BDL SERIES

MACHINED BOARD STACKING STRIPS

Mates with:
SS, SD, HSS, SL, SDL, ESS, ESD

FEATURES

- Low-profile design achieves (3.89 mm) .153" board spacings when mated with SL Series.
- Approach the reliability of a permanent connection with the flexibility of a separable connection.

SPECIFICATIONS

For complete specifications see www.samtec.com?BBS, www.samtec.com?BBL, www.samtec.com?BHS www.samtec.com?BBD or www.samtec.com?BDL

Insulator Material:
Black Glass Filled Polyester (BBS, BBD, BBL)
Black High Temp Nylon (BDL)
Black Liquid Crystal Polymer (BHS)
Temperature Range:
-55 °C to +125 °C
Terminal Material:
Phosphor Bronze or Brass
Plating:
Au or Sn over 50 µ" (1.27 µm) Ni
RoHS Compliant:
Yes
Lead-Free Solderable:
Wave only
(BBS, BBD, BBL, BDL)
Wave, or reflow with all Au (BHS)

RECOGNITIONS

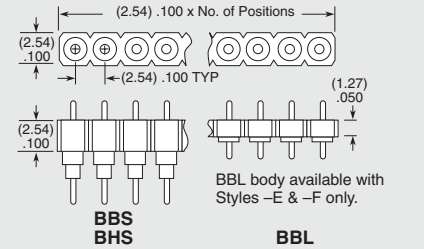
For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

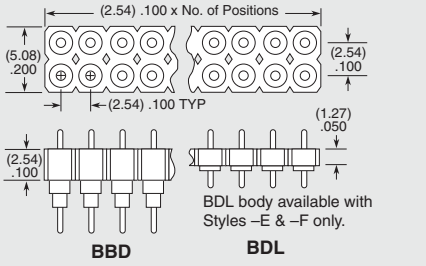
Note: Some lengths, styles and options are non-standard, non-returnable.

TYPE STRIP	–	1	NO. PINS PER ROW	–	PLATING OPTION	–	LEAD STYLE

BBS = Standard Single Row
BBL = Low-Profile Single Row
BHS = High Temp Single Row



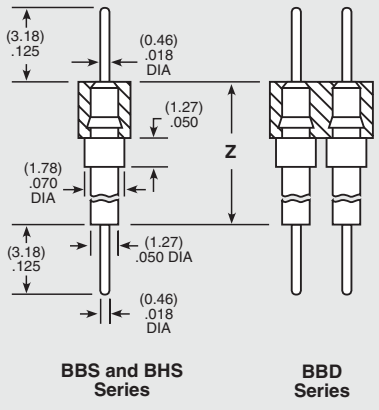
BBD = Standard Double Row
BDL = Low-Profile Double Row

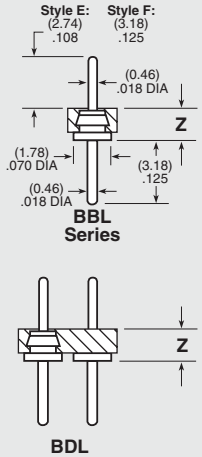


–G =20 µ" (0.51 µm) Gold
–T =Tin

01 thru 32 =BBS & BBL
01 thru 36 =BBD, BDL & BHS

–A	–B	–C	–E	–F
Z = (5.33 mm) .210"	Z = (8.51 mm) .335"	Z = (14.86 mm) .585"	Z = (1.78 mm) .070"	Z = (2.16 mm) .085"

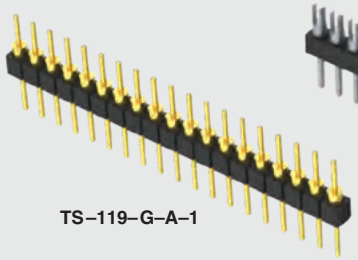


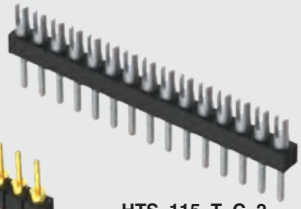


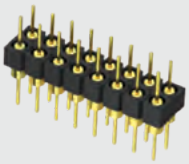
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(2.54 mm) .100"

TS, TD, HTS SERIES

PRECISION MACHINED TERMINAL STRIPS

SPECIFICATIONS

For complete specifications see www.samtec.com?TS, www.samtec.com?TD or www.samtec.com?HTS

Insulator Material:
Black G.F. Polyester (TS, TD)
Black Liquid Crystal Polymer (HTS)
Terminal Material:
Brass, except Style G is Phosphor Bronze
Plating:
Au over 50 µ" (1.27 µm) Ni or Sn over 100 µ" (2.54 µm) Cu or 50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C with Gold
-55 °C to +105 °C with Tin
RoHS Compliant:
Yes
Lead-Free Solderable:
Wave only

RECOGNITIONS

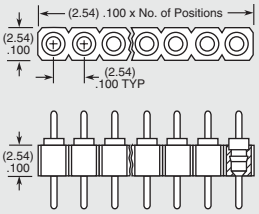
For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

Mates with:
SS, SD, HSS, SL, SDL, ESS, ESD

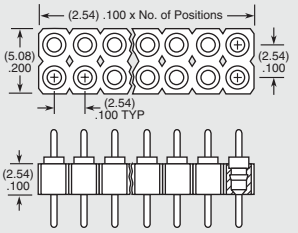
TYPE STRIP	–	1	NO. PINS PER ROW	–	PLATING OPTION	–	LEAD STYLE

TS
= Single Row Terminal Strip



HTS
= Single Row High Temp Terminal Strip

TD
= Double Row Terminal Strip



–G
= 20 µ" (0.51 µm) Gold Except –J & –L are 10 µ" (0.25 µm) Gold

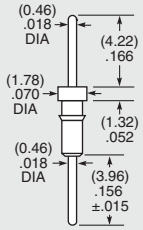
–T
= Tin

01 thru 32
=TS Series

01 thru 36
=HTS & TD Series

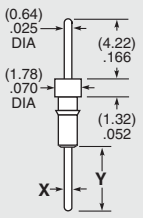
Note: Some lengths, styles and options are non-standard, non-returnable.

–AA



Component No. = T-1R5-

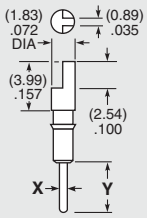
–A, –A–1, –A–2



LEAD STYLE	X (DIA)	Y (±.015)
–A	(0.46) .018	(3.96) .156
–A–1	(0.64) .025	(5.33) .210
–A–2	(0.89) .035	

-A Component No. =T-1R0-
-A-X Component No. =T-1R7

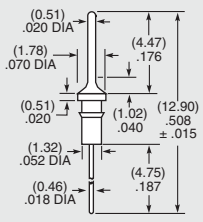
–C, –C–1, –C–2



LEAD STYLE	X (DIA)	Y (±.015)
–C	(0.46) .018	(3.96) .156
–C–1	(0.64) .025	(5.33) .210
–C–2	(0.89) .035	

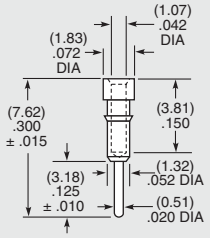
-C Component No. =T-1R2-
-C-X Component No. =T-1R9-

–G–1



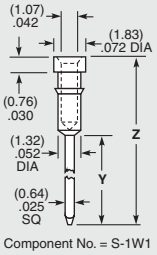
Component No. = T-1R5-

–J



Component No. = S-1P1-

–L–1, –L–2, –L–3



Component No. = S-1W1

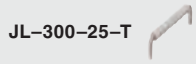
LEAD STYLE	Y (DIA)	Y (±.015)
–L–1	(12.95) .510	(17.86) .703
–L–2	(9.14) .360	(14.05) .553
–L–3	(6.60) .260	(11.51) .453

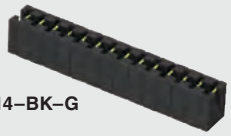
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(2.54 mm) .100"

SNT, MNT, 2SN, SNM, PK, JL SERIES

SHUNTS & JUMPERS

SPECIFICATIONS

SNT/MNT mates with:
TSW, HTSW, MTSW, HMTSW, TLW, DW, EW, ZW, HW, TSM, BST, PHT

SNT
For complete specifications see www.samtec.com?SNT

Insulator Material:
Glass Filled Polyester
Contact Material:
Phosphor Bronze
Current Rating (SNT/TSW):
4.3 A per pin
(1 pin powered per row)
Operating Temp Range:
-55 °C to +125 °C
Insertion Depth:
(4.32 mm) .170" min.
Lead Size accepted:
(0.64 mm) .025" SQ
RoHS Compliant:
Yes

MNT
For complete specifications see www.samtec.com?MNT

Same as SNT except:
Current Rating (MNT/TSM):
3.9 A per pin
(1 pin powered per row)
Working Voltage:
450 VAC

2SN mates with:
TMMH, TMM, MTMM, MMT, TW, LTMM, ZLTMM, TSH, EHT

2SN
For complete specifications see www.samtec.com?2SN

Same as SNT except:
Insertion Depth:
(2.29 mm) .090" min.
Lead Size accepted:
(0.51 mm) .020" SQ

SNM mates with:
TMS, MTMS, DWM

SNM
For complete specifications see www.samtec.com?SNM

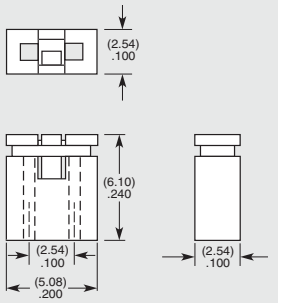
Same as SNT except:
Insertion Depth:
(3.43 mm) .135" min.

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

SNT – 100 – BODY COLOR – PLATING OPTION – HANDLE OPTION

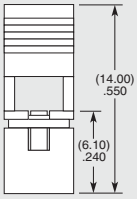


BODY COLOR
- –BK = Black
- –OR = Orange
- –RD = Red
- –BL = Blue
- –YW = Yellow

PLATING OPTION
- –G = 10 µ" (0.25 µm) Gold
- –T = Tin

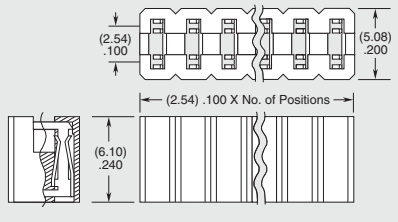
Note: Other Gold plating options available.

HANDLE OPTION
- –H = Handle (Black Only)



MNT – 1 – NO. OF POSITIONS – BODY COLOR – PLATING OPTION

NO. OF POSITIONS
02 thru 20

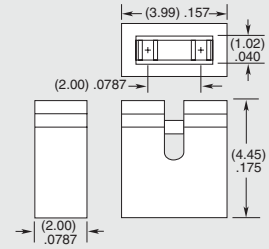


BODY COLOR
- –BK = Black

PLATING OPTION
- –G = 10 µ" (0.25 µm) Gold
- –T = Tin

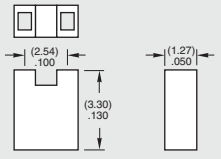
Note: Some lengths, styles and options are non-standard, non-returnable.

2SN



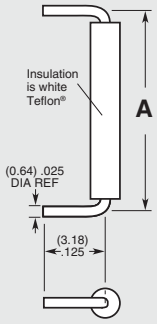
Part No.
2SN–BK–G

SNM



Part No.
SNM–100–BK–G

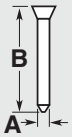
JL



Part No.	A
JL–100–25–T	(2.54) .100
JL–250–25–T	(6.35) .250
JL–400–25–T	(10.16) .400

Note:
For complete specifications see www.samtec.com?JL

PK

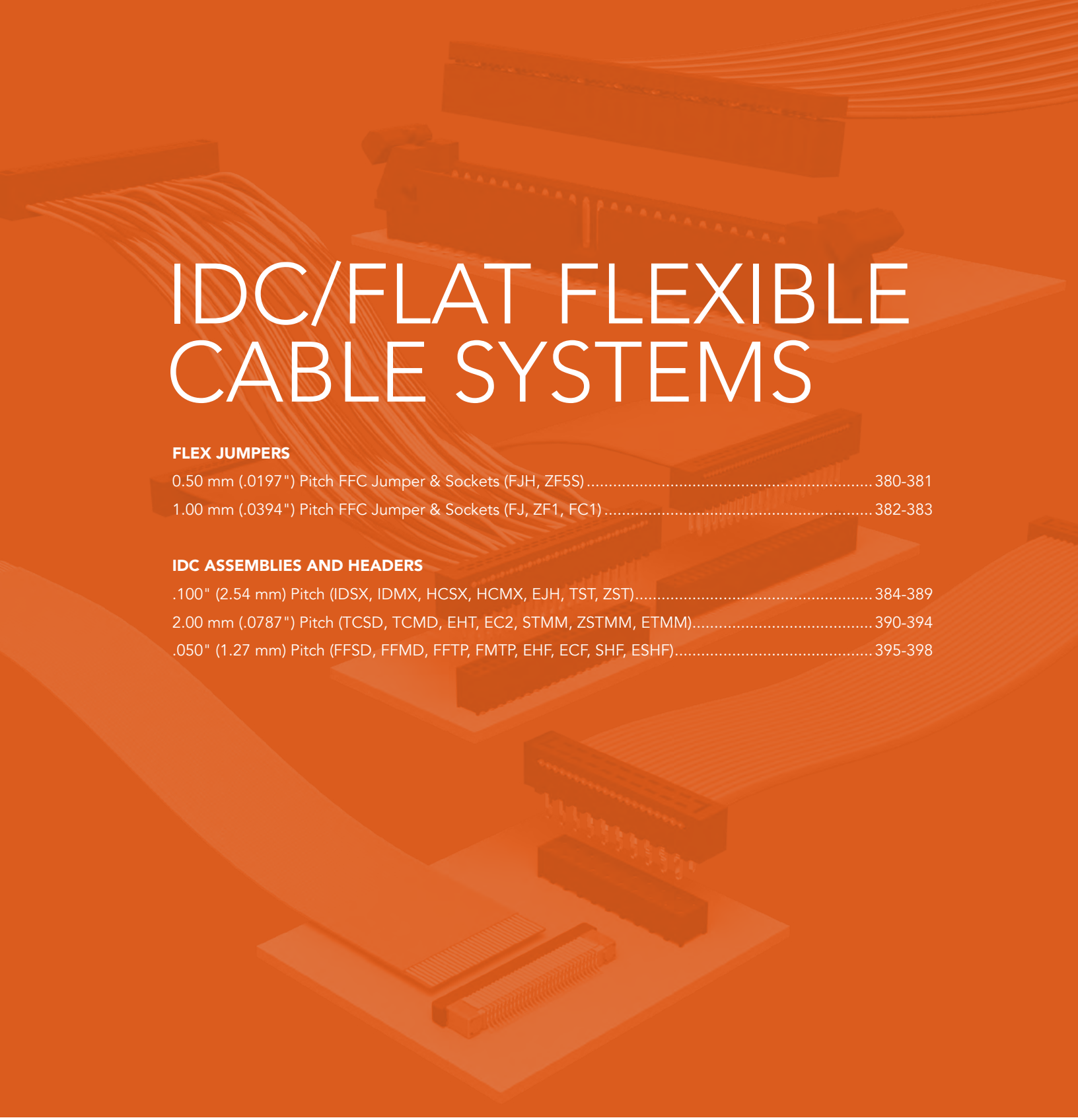


Part No.	A	B
PK–01–06	(0.64) .025 SQ	(5.84) .230
PK–01–07	(0.51) .020 SQ	(3.18) .125

Insulator Material:
Natural Thermoplastic
Note:
Order per wheel.
6 pins per wheel.

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IDC/FLAT FLEXIBLE CABLE SYSTEMS

FLEX JUMPERS

0.50 mm (.0197") Pitch FFC Jumper & Sockets (FJH, ZF5S) 380-381

1.00 mm (.0394") Pitch FFC Jumper & Sockets (FJ, ZF1, FC1) 382-383

IDC ASSEMBLIES AND HEADERS

.100" (2.54 mm) Pitch (IDSX, IDMX, HCSX, HCMX, EJH, TST, ZST) 384-389

2.00 mm (.0787") Pitch (TCSD, TCMD, EHT, EC2, STMM, ZSTMM, ETMM) 390-394

.050" (1.27 mm) Pitch (FFSD, FFMD, FFTP, FMTP, EHF, ECF, SHF, ESHF) 395-398

APPLICATIONS

IDC Cables 44

Modified and Custom 45



(0.50 mm) .0197"

FJH SERIES

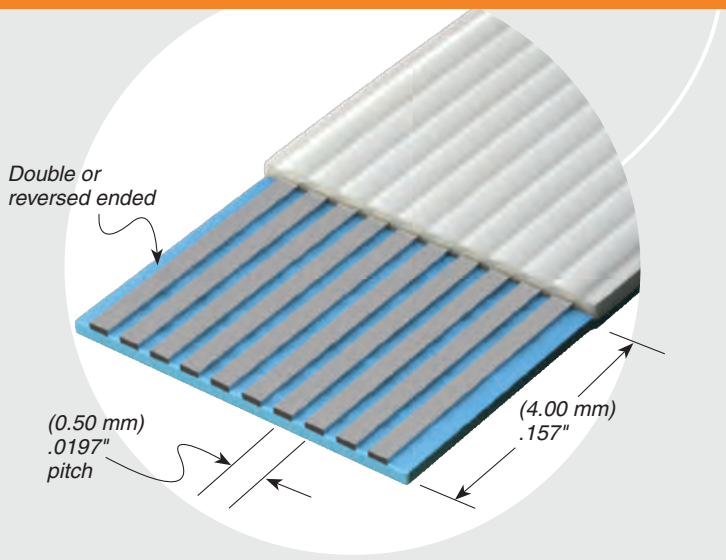
FLAT FLEXIBLE CABLE (FFC) JUMPER

SPECIFICATIONS

For complete specifications see www.samtec.com?FJH

Conductor:
Tin Plated Copper
Conductor Resistance:
1000 Ω/km max
Insulation Resistance:
10 MΩ/km min
(conductor-to-conductor)
Dielectric Test:
400 VAC during 1 minute
(conductor-to-conductor)
Temperature Rating:
-30 °C to +80 °C
Voltage Rating:
60 VAC
RoHS Compliant:
Yes

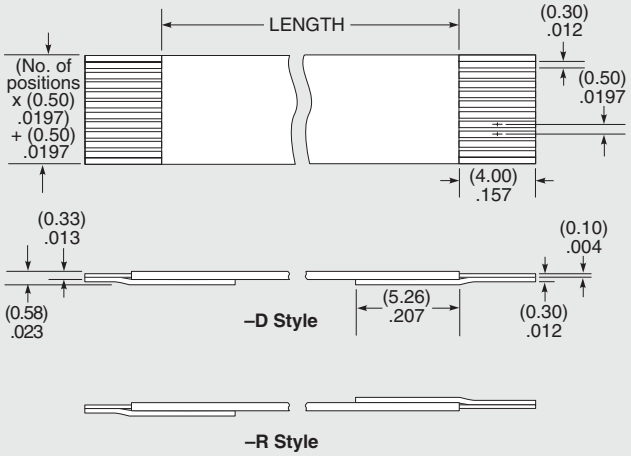
Mates with:
ZF5S



ALSO AVAILABLE
(MOQ Required)

- Other Lengths

FJH	NO. OF POSITIONS	STYLE	LENGTH	STRIP LENGTH
	–10, –15, –20, –25, –30, –40, –43, –50	–D = Double End –R = Reversed End	Length in inches –03.00 = (76.2 mm) 3.00" –06.00 = (152.4 mm) 6.00" –12.00 = (304.8 mm) 12.00" –24.00 = (609.6 mm) 24.00" (Standard Lengths)	–4 = (4.00 mm) .157"

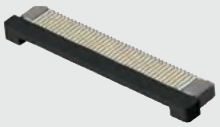


Notes:
Stiffener color will be blue or black at Samtec's discretion. Some sizes, styles and options are non-standard, non-returnable.

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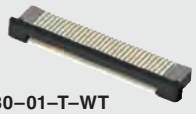
samtec



ZF5S–40–01–T–WT



ZF5S–20–01–T–WT



ZF5S–30–01–T–WT

(0.50 mm) .0197"

ZF5S SERIES

FLAT FLEXIBLE CABLE (FFC) SOCKET

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?ZF5S

Insulator Material:
Natural LCP
Contact Material:
Phosphor Bronze
Plating:
Sn over 50 µ" (1.27 µm) Ni
Weld Tab:
Phosphor Bronze
Operating Temp Range:
-55 °C to +105 °C
Current Rating:
1.8 A per pin
(1 pin powered)
RoHS Compliant:
Yes

PROCESSING

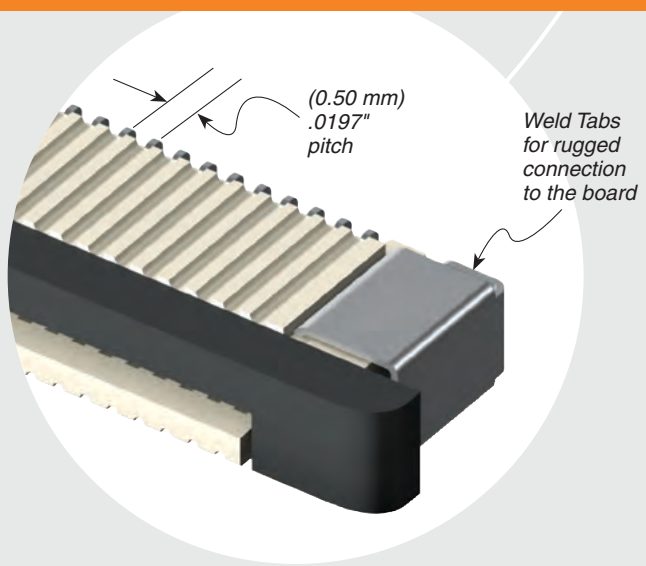
Lead-Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (10-30)
(0.15 mm) .006" max (40-50)*
*(.004" stencil solution may be available; contact IPG@samtec.com)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

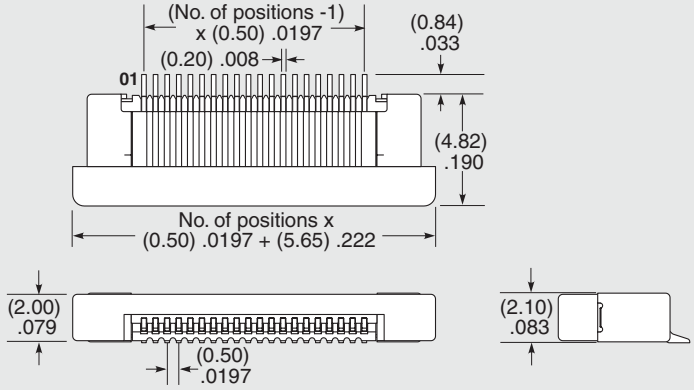
Mates with:
FJH



ZF5S	NO. OF POSITIONS	LEAD STYLE	PLATING OPTION	WT	OPTION
	–10, –15, –20, –25, –30, –40, –43, –50 (Standard sizes)	–01 = Contact Bottom	–T = Matte Tin	–WT = Weld Tab	–K = (3.00 mm) .118" DIA Polyimide Film Pick & Place Pad –TR = Tape & Reel Packaging

ALSO AVAILABLE
(MOQ Required)

- Vertical
- Contact top
- Other positions

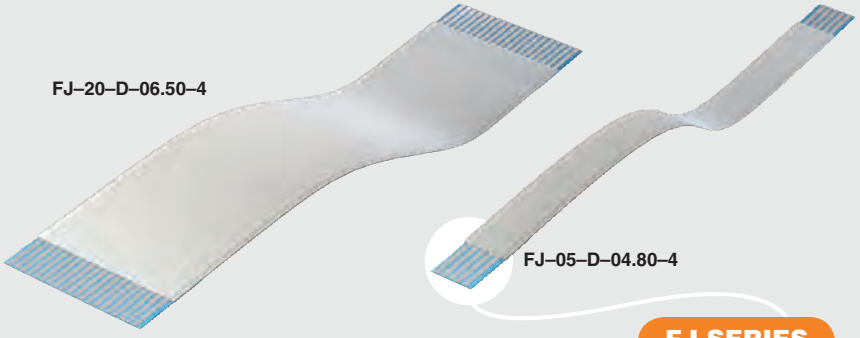


Note:
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(1.00 mm) .0394"

FJ SERIES

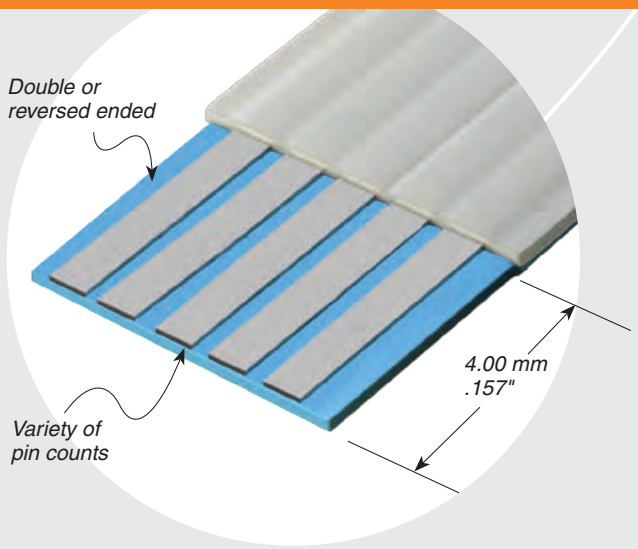
FLAT FLEXIBLE CABLE (FFC) JUMPER

SPECIFICATIONS

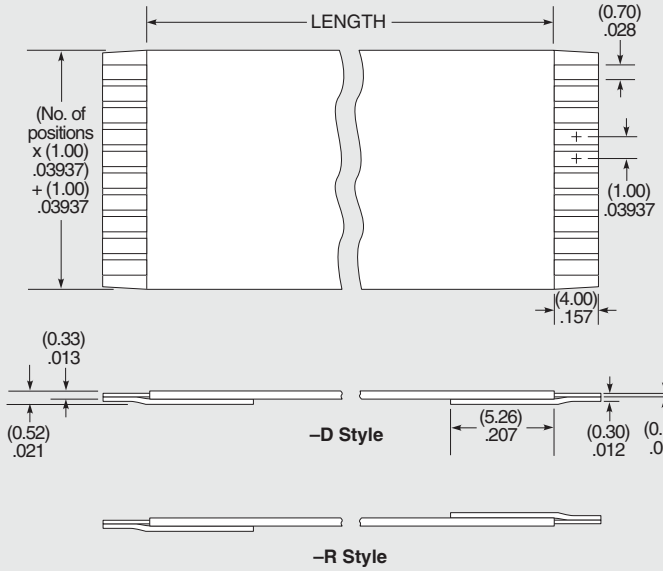
Mates with:
FC1, ZF1

For complete specifications see www.samtec.com?FJ

Conductor:
Tin Plated Copper
Conductor Resistance:
300 Ω/km max
Insulation Resistance:
10 MΩ/km min (conductor-to-conductor)
Dielectric Test:
400 VAC during 1 minute (conductor-to-conductor)
Temperature Rating:
-30 °C to +80 °C
Voltage Rating:
300 VAC
RoHS Compliant:
Yes



FJ	NO. OF POSITIONS	STYLE	LENGTH	STRIP LENGTH
	–05, –10, –15, –20, –25, –30	–D = Double End –R = Reversed End	Length in inches –03.00 = (76.2 mm) 3.00" –06.00 = (152.4 mm) 6.00" –12.00 = (304.8 mm) 12.00" –24.00 = (609.6 mm) 24.00" (Standard Lengths)	–4 = (4.00 mm) .157" (Required for mating with FC1 & ZF1)



ALSO AVAILABLE
(MOQ Required)

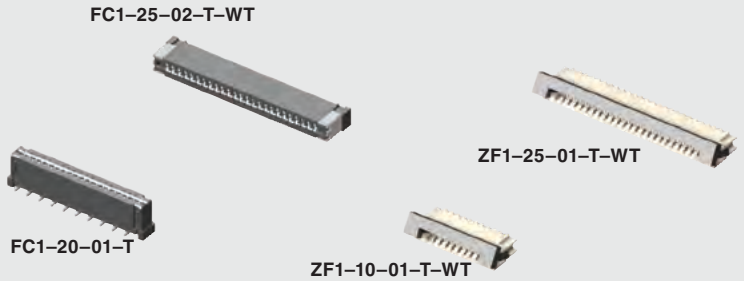
- Other Lengths

Notes:
Stiffener color will be blue or black at Samtec's discretion.

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(1.00 mm) .0394"

ZF1, FC1 SERIES

FLAT FLEXIBLE CABLE (FFC) SOCKET

Mates with:
FJ

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?ZF1

Insulator Material: Liquid Crystal Polymer
Contact Material: Phosphor Bronze
Plating: Sn over 40 µ" (1.02 µm) Ni
Weld Tab: Phosphor Bronze
Operating Temp Range: -55 °C to +105 °C
RoHS Compliant: Yes

PROCESSING

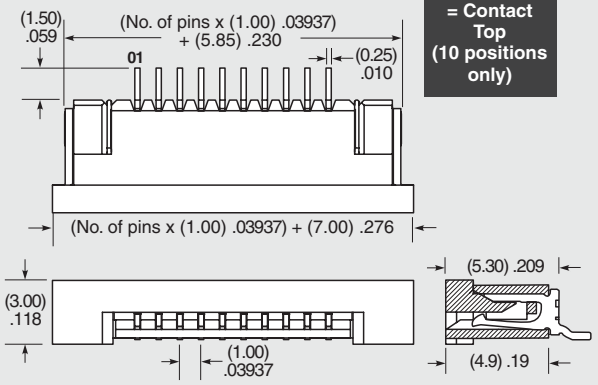
Lead-Free Solderable: Yes
SMT Lead Coplanarity: (0.10 mm) .004" max

RECOGNITIONS

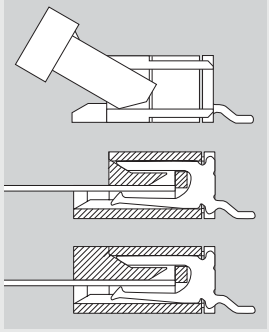
For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

ZF1	NO. OF POSITIONS	LEAD STYLE	PLATING OPTION	WT	OPTION
	–05, –10, –15, –16, –20, –25, –30	–01 = Contact Bottom –02 = Contact Top (10 positions only)	–T = Matte Tin	–WT = Weld Tab	–TR = Tape & Reel Packaging



APPLICATION



ALSO AVAILABLE (MOQ Required)

- Other positions

Note:
Some lengths, styles and options are non-standard, non-returnable.

Mates with:
FJ

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?FC1

Insulator Material: Liquid Crystal Polymer
Contact Material: Phosphor Bronze
Plating: Sn over 50 µ" (1.27 µm) Ni
Operating Temp Range: -55 °C to +105 °C
Max Cycles: 25 with FJ
RoHS Compliant: Yes

PROCESSING

Lead-Free Solderable: Yes
SMT Lead Coplanarity: (0.10 mm) .004" max

RECOGNITIONS

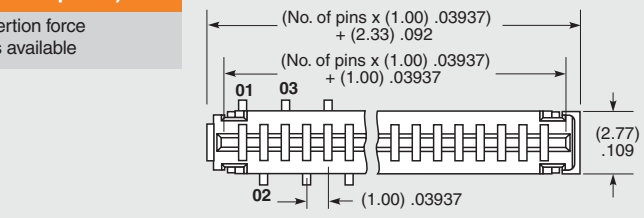
For complete scope of recognitions see www.samtec.com/quality

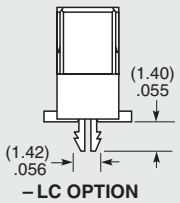
FILE NO. E111594

FC1	NO. OF POSITIONS	LEAD STYLE	PLATING OPTION	OPTIONS
	–05, –10, –15, –20 & –25	–01 = Vertical –02 = Horizontal	–T = Tin	–LC = Locking Clip (Manual placement required) (–01 only) –WT = Weld Tab (–02 only) –K = (4.00 mm) .158" DIA Polyimide film Pick & Place Pad (–01 only) –TR = Tape & Reel Packaging

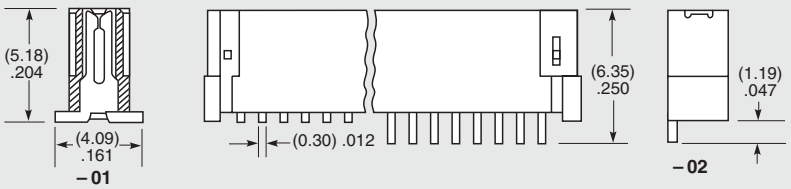
ALSO AVAILABLE (MOQ Required)

- Low insertion force contacts available





–LC OPTION

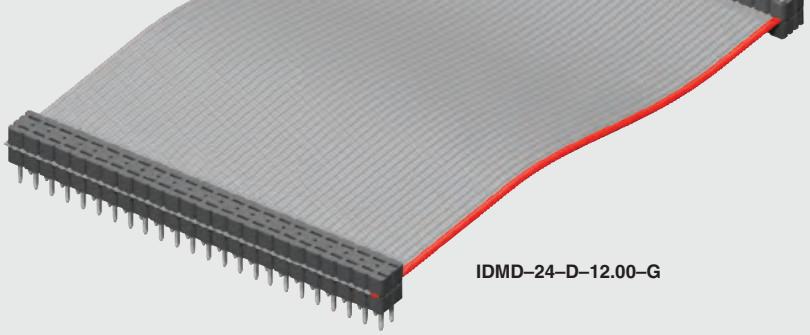


Note:
Some lengths, styles and options are non-standard, non-returnable.

Due to technical progress, all designs, specifications and components are subject to change without notice.

All parts within this catalog are built to Samtec's specifications.
Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.

samtec



IDMD–24–D–12.00–G

(2.54 mm) .100"

SLIM BODY FLAT RIBBON IDC CABLES

SPECIFICATIONS

For complete specifications see www.samtec.com?IDSS, www.samtec.com?IDSD, www.samtec.com?IDMS or www.samtec.com?IDMD

Insulator Material:
Black Glass Filled Polyester
Plating:
Au over 50 µ" (1.27 µm) Ni or Sn over 100 µ" (2.54 µm) Cu or 50 µ" (1.27 µm) Ni
Wire:
28 AWG 7/36 stranded Tinned Copper
Temperature Range:
-20 °C to +105 °C (Rainbow Cable)
-40 °C to +105 °C (Gray Cable)
Contact (IDSS/IDSD):
BeCu
Terminal (IDMS/IDMD):
Phosphor Bronze
Current Rating (IDSD/TST):
3.4 A per pin (2 pins powered)
Current Rating (IDMD):
3 A per pin (2 pins powered)
Lead Size Range:
(0.56 mm) .022" SQ to (0.71 mm) .028" SQ
Lead Insertion Depth:
(5.59 mm) .220" to (6.22 mm) .245"
RoHS Compliant:
Yes

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

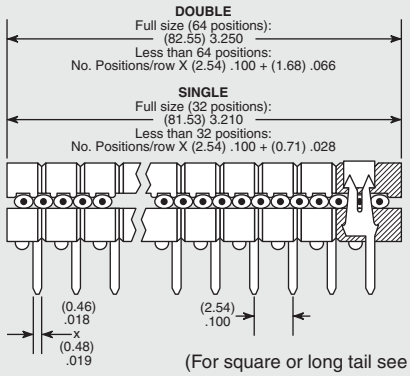
Note:
This Series is non-standard, non-returnable.

Mates with:
TSW, MTSW, TSM, EJH, PHT, HMTSW, HTSW, HW, DW, EW, ZW, MTLW

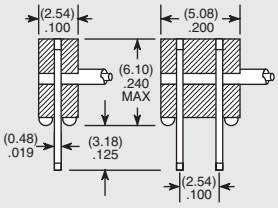
IDSD Mates with:
TST, HTST, ZST, BST, EJH

TYPE STRIP	ROW OPTION	NO. PINS PER ROW	END ASSEMBLY
IDM = Standard Tail Male Plug IDS = Socket	S = Single D = Double (Color coded cable N/A for 31 thru 36 pins/row. See –G option.)	–02 thru –32 –02 thru –36	–S = Single End –D = Double End –T = Transfer End

–02 thru –32

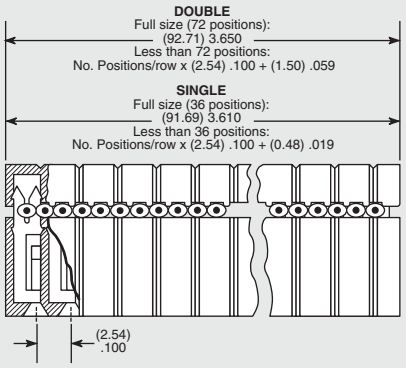


IDMS (Single) IDMD (Double)

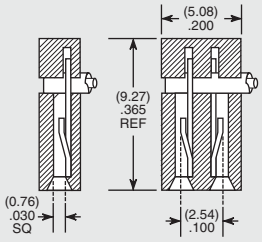


(For square or long tail see HCMX Series)

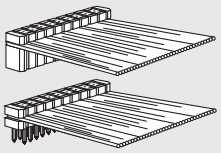
–02 thru –36



IDSS (Single) IDSD (Double)

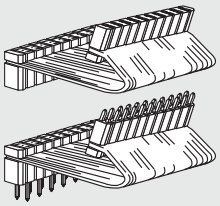


–S = Single End



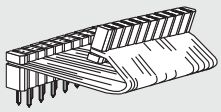
Socket or Male Plug on one end

–D = Double End



Socket or Male Plug on each end

–T = Transfer End

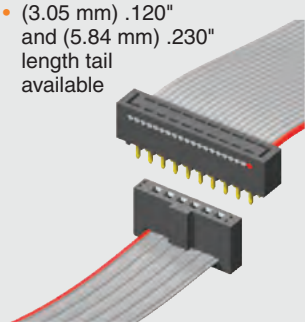


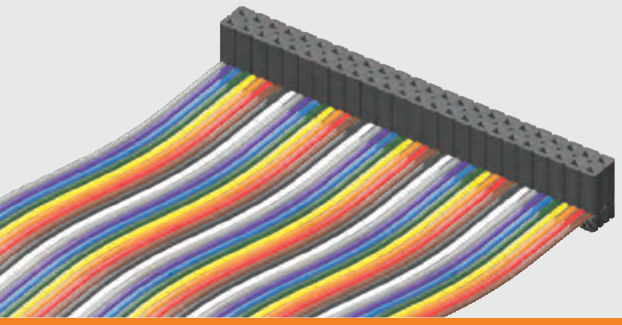
Male Plug on one end with socket on other. **Begin part number with IDM.**

OTHER SOLUTIONS

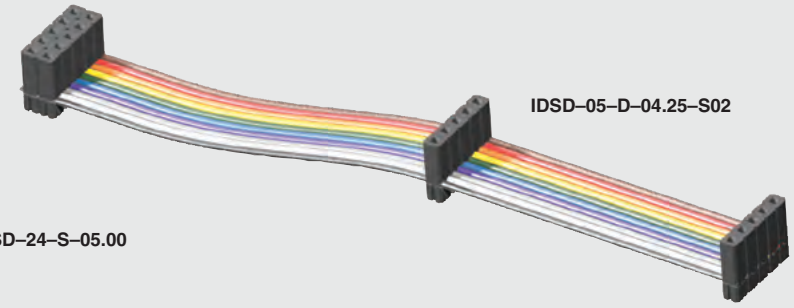
Molded-To-Position IDC Assemblies

- Low profile
- Skinny side locks
- Dual beam contacts
- Single and double row
- (3.05 mm) .120" and (5.84 mm) .230" length tail available





IDSD–24–S–05.00

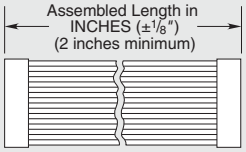


IDSD–05–D–04.25–S02

IDSS, IDSD, IDMS, IDMD SERIES

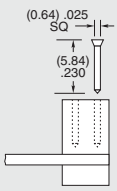
ASSEMBLED LENGTH

– "XX.XX"
= Assembled Length



OPTION

POLARIZING KEY



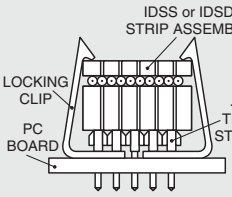
Optional polarizing key for use with IDSS & IDSD Series. Also polarizes SSW, SSQ, ESW & ESQ Series. Black High Temperature Thermoplastic

Order: Part Number PK-01-06
(Available in wheels of six each)

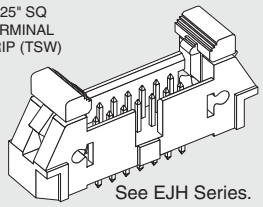
EJECTOR HEADERS & LOCKING CLIPS

RUGGEDIZED BY SAMTEC

- Ejector headers
- Locking clips



See TSW Series.



See EJH Series.

–T = Tin Plating (Both ends)

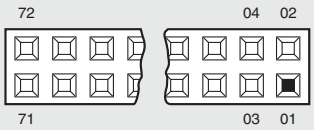
–C = Tin IDM
10 µ" (0.25 µm) Gold IDS
(-T End Assembly Required)

–A = 10 µ" (0.25 µm) Gold IDM
Tin IDS
(-T End Assembly Required)

Standard plating is selective gold over BeCu contact for IDS; Selective gold over phosphor bronze for IDM.

1

–P "XX"
=Polarized



Specify "XX" as position. For Double the same position will be polarized on both ends. (Not available on IDM unless transfer, then only the socket is polarized.)

2

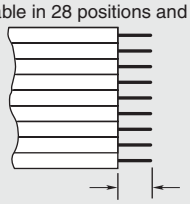
–G
= Gray Cable

Specify –G for Gray cable. Gray cable has one red edge. IDSS and IDMS uses .100" centerline cable. IDSD and IDMD uses .050" centerline cable. Cable is 28 AWG 7/36 copper wire. Standard cable is same as above except color coded.

3

–ST "X"
= Stripped & Tinned

Specify Suffix from table.
All dimensions are ± 1/16".
Not available in 28 positions and higher.

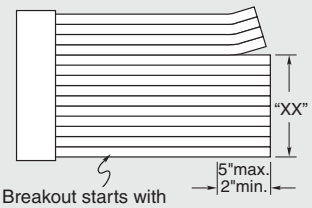


–ST8	1/8" (3.18)
–ST4	1/4" (6.35)
–ST2	1/2" (12.70)
–ST3	3/8" (9.53)

4

–B "XX"
= Breakout

Specify "XX" as number of conductors to be broken out.



Breakout starts with Number 1 lead indicated by brown wire or red stripe. Shown on top side.

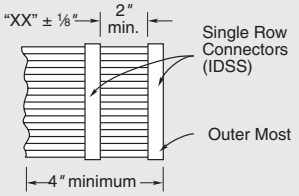
5

–RW
= Reversed Wiring

#1 wire opposite position #1.

6

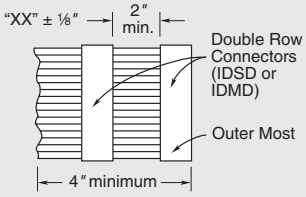
–S "XX"
= Daisy Chain Single



When mating double row connector with two single row connectors, the outer most single will be connected to Conductor #1 and the inside single to Conductor #2.

7

–D "XX"
= Daisy Chain, Double



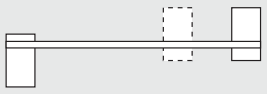
7

–W "XX"
= Wiring Reversed Daisy Chain, Single

Same as –S "XX" except outer strip connected to Conductor #2 and inside strip connected to Conductor #1.

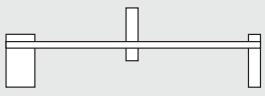
7

–R
= Reversed



8

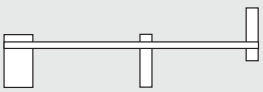
–M
= Middle Reversed



Requires –SXX, –WXX or –DXX

8

–O
= Outside Reversed



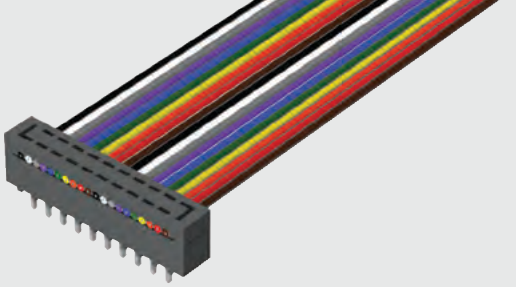
Requires –SXX, –WXX or –DXX

8

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Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.

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HCMD–10–S–03.00–01

(2.54 mm) .100"

IDC SOCKET & TERMINAL CABLE

Mates with:
TSW, MTSW, TST, EW, BST, ZST, MTLW, TSM, EJH-02 (HCSD only)

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?HCSD or www.samtec.com?HCSS

HCSD, HCSS

Insulator Material:
Black Liquid Crystal Polymer
Flammability Rating:
UL 94V-O
Insulation Resistance:
5000 MΩ
Temperature Range:
-20 °C to +105 °C
(Rainbow Cable)
-40 °C to +105 °C (Gray Cable)
Withstanding Voltage:
1000 VRMS @ 60 Hz
Contact:
Phosphor Bronze
Plating:
10 µ" (0.25 µm) Au on contact area, 150 µ" (3.81 µm) Sn on balance over 50 µ" (1.27 µm) Ni.
Lead Size Range:
.024" (0.61 mm) SQ to .026" (0.66 mm) SQ
Lead Insertion Depth:
.185" (4.70 mm) to .250" (6.35 mm)
Wire:
28 AWG 7/36 stranded Tinned Copper
RoHS Compliant:
Yes

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?HCMD or www.samtec.com?HCMS

HCMD, HCMS

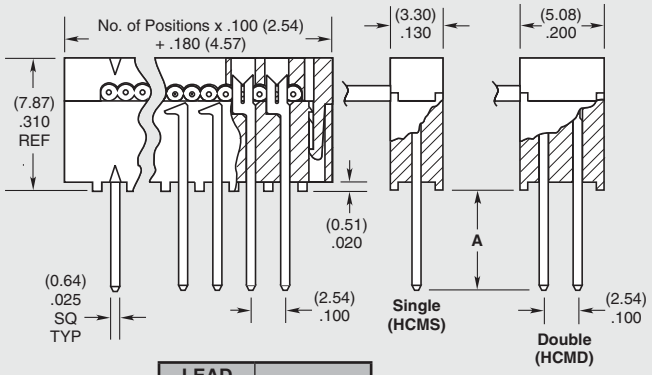
Insulator Material:
Black Liquid Crystal Polymer
Flammability Rating:
UL 94V-O
Insulation Resistance:
5000 MΩ
Temperature Range:
-20 °C to +105 °C
(Rainbow Cable)
-40 °C to +105 °C (Gray Cable)
Withstanding Voltage:
1000 VRMS @ 60 Hz
Terminal:
Phosphor Bronze
Plating:
Sn over 50 µ" (1.27 µm) Ni
Wire:
28 AWG 7/36 stranded Tinned Copper
RoHS Compliant:
Yes

Note:
IDC assemblies are non-standard, non-returnable.

TYPE STRIP	ROW OPTION	NO. PINS PER ROW	END ASSEMBLY	ASSEMBLED LENGTH
	S = Single **D** = Double (Color coded cable N/A for 36 pins/row. See –G option.)	–05, –08, –10, –12, –13, –15, –17, –20		**–"XX.XX"** = Assembled Length

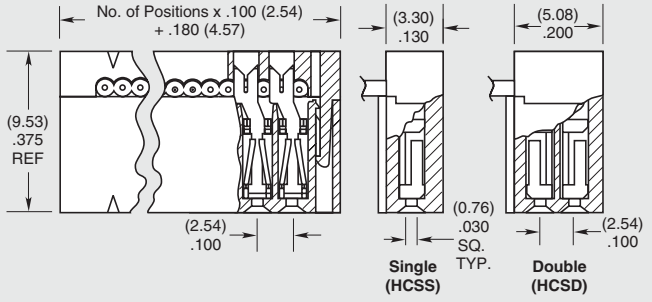
Assembled Length in ←INCHES (±1/8")→
2 inches minimum

HCM
= Male Strip

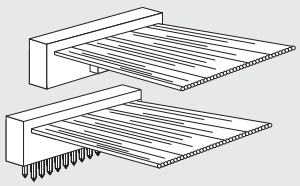


LEAD STYLE	A
–01	(3.05) .120
–02	(5.84) .230

HCS
= Socket Strip

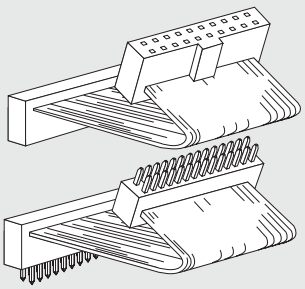


–S = Single End



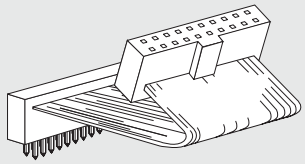
Socket or Male Plug on one end

–D = Double End

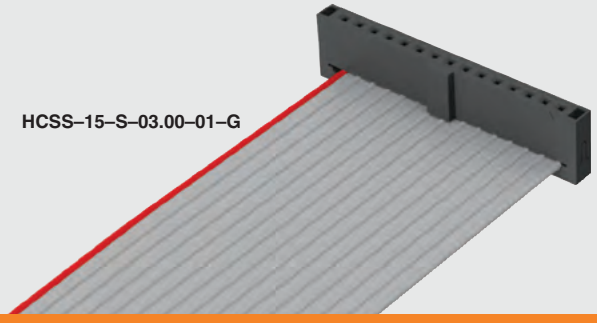


Socket or Male Plug on each end

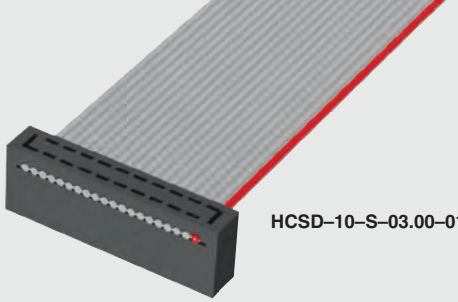
–T = Transfer End



Male Plug on one end with socket on other.
Begin part number with HCM.



HCSS–15–S–03.00–01–G



HCSD–10–S–03.00–01–T–G

HCMD, HCMS, HCSD, HCSS SERIES

LEAD STYLE

–01
= HCSS/HCSD or (3.05 mm) .120" tail for HCMS/HCMD

–02
= (5.84 mm) .230" tail HCMS/HCMD only

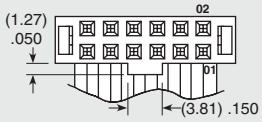
PLATING OPTION

–S
= 10 µ" (0.25 µm) Gold on contact area or tail, Tin on balance (Standard on HCSS & HCSD. Leave blank)

–T
= Tin (Standard on HCMS & HCMD. Leave blank)

NOTCH POLARIZATION

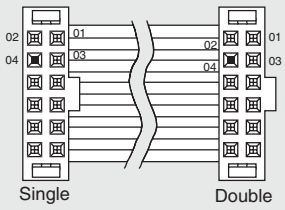
–N = Notch Polarization



Required for HCSS and HCSD. (Not available on HCMS or HCMD, unless Transfer, then only the socket is polarized.)

OTHER OPTIONS

–P "XX"
= Position Polarization



Specify "XX" as position. For Double the same position will be polarized on both ends. (Not available on HCM, unless Transfer, then only the socket is polarized)

1

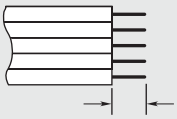
–G
= Gray Cable

Standard cable is color coded. Specify –G for Gray cable with one red edge.

2

–ST "X"
= Stripped & Tinned

Specify Suffix from table. All dimensions are ± 1/16" (1.59 mm). Not available in 28 positions and higher.

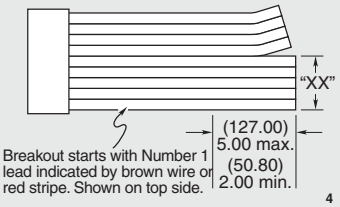


–ST8	1/8" (3.18)
–ST4	1/4" (6.35)
–ST2	1/2" (12.70)
–ST3	3/8" (9.53)

3

–B "XX"
= Breakout

Specify "XX" as number of conductors to be broken out.



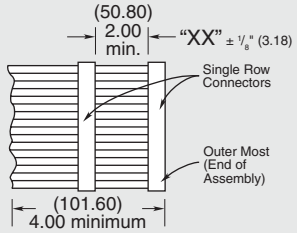
4

–RW
= Reversed Wiring

#1 wire opposite position #1

5

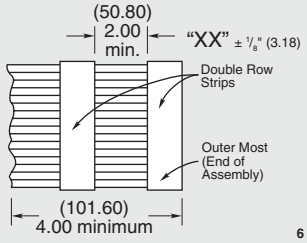
–S "XX"
= Daisy Chain Single



When mating double row connector with two single row connectors, the outer most single will be connected to Conductor #1 and the inside single to Conductor #2.

6

–D "XX"
= Daisy Chain, Double



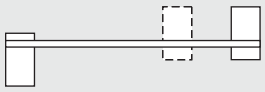
6

–W "XX"
= Wiring Reversed Daisy Chain, Single

Same as –S "XX" except outer strip connected to conductor #2 and inside strip connected to conductor #1.

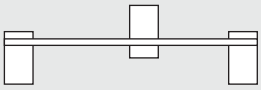
6

–R
= Reversed



7

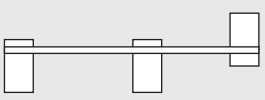
–M
= Middle Reversed



Requires –SXX, –WXX or –DXX

7

–O
= Outside Reversed

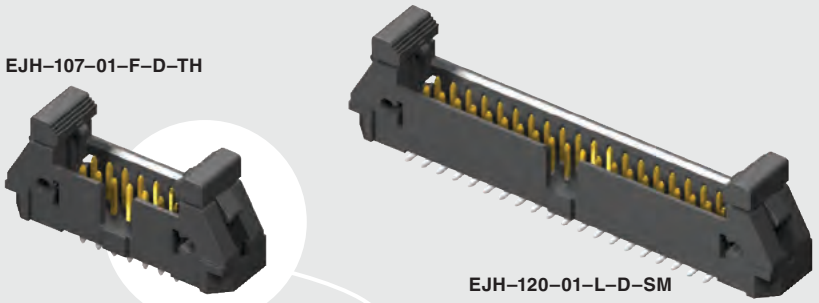


Requires –SXX, –WXX or –DXX

7

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(2.54 mm) .100"

EJH SERIES

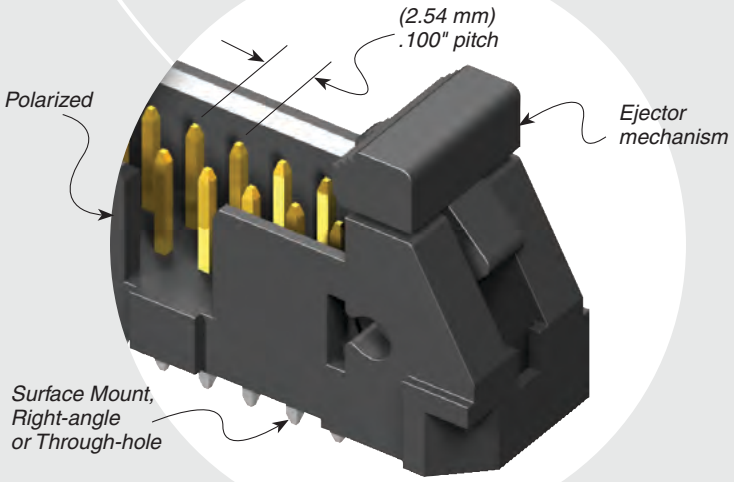
SHROUDED IDC EJECTOR HEADERS

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?EJH

Insulator Material:
-01: Black LCP
-02: Natural LCP
Terminal Material:
Phosphor Bronze
Plating:
Sn or Au over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C
RoHS Compliant:
Yes

Mates with:
IDSD (EJH-01 Required),
HCSD (EJH-02 Required)



PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

ALSO AVAILABLE (MOQ Required)

- Other sizes
- Other platings

EJH	–	1	NO. PINS PER ROW	–	LEAD STYLE	–	PLATING OPTION	–	D	–	TAIL OPTION	–	OTHER OPTION

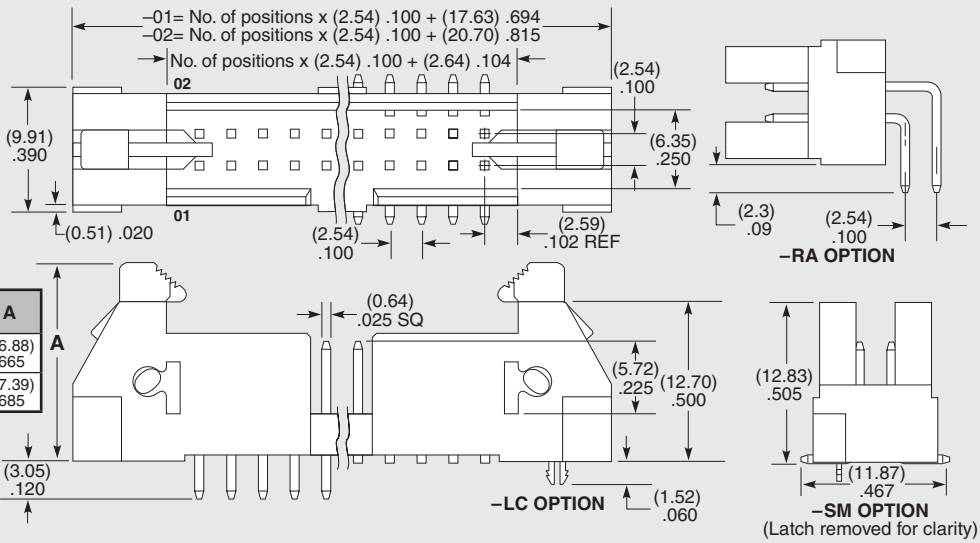
NO. PINS PER ROW
05, 07, 08, 10, 13, 15, 17, 20, 25
(Standard sizes)

LEAD STYLE
–01 = Standard (Mates to IDSD)
–02 = Extended (Mates to HCSD)

PLATING OPTION
–F = Gold flash on post, Matte Tin on tail
–L = 10 µ" (0.25 µm) Gold on post, Matte Tin on tail

TAIL OPTION
–SM = Surface Mount
–TH = Through-hole
–RA = Right-angle

OTHER OPTION
–"XX" = Polarized Position
–LC = Locking Clip (-SM only) (Manual placement required)
–K = .475" (12.00 mm) DIA Polyimide Film Pick & Place Pad (-SM only)
–P = Pick & Place Pad (-SM only)
–TR = Tape & Reel Packaging (-SM only) (25 position not available)



LEAD STYLE	A
–01	(16.88) .665
–02	(17.39) .685

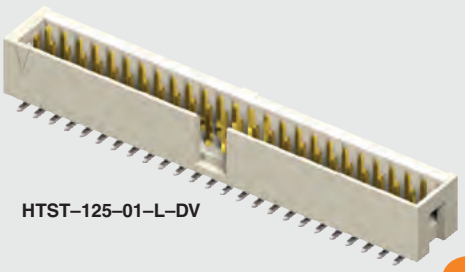
Note: Some lengths, styles and options are non-standard, non-returnable.

Due to technical progress, all designs, specifications and components are subject to change without notice.

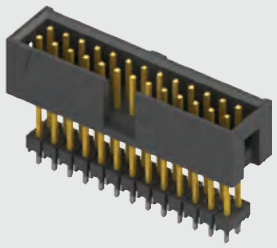
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FLEX STACK



ZST–113–03–F–D–0735



(2.54 mm) .100"

TST, HTST, ZST SERIES

SHROUDED .025" SQ POST IDC HEADERS

Mates with:
IDSD

SPECIFICATIONS

For complete specifications
www.samtec.com?TST,
www.samtec.com?HTST or
www.samtec.com?ZST

Insulator Material:
TST, ZST: Black Glass Filled Polyester
HTST: Natural LCP
Insulation Resistance:
5000 MΩ min
Terminal Material:
Phosphor Bronze
Plating: Au or Sn over 50 µ" (1.27 µm) Ni
Current Rating (IDSD/TST):
3.4 A per pin
(2 pins powered)
Operating Temp Range:
-55 °C to +125 °C with Gold
-55 °C to +105 °C with Tin
Flammability Rating: UL 94V-O
Withstanding Voltage:
1000 VRMS
RoHS Compliant: Yes

PROCESSING

Lead–Free Solderable:
HTST: Yes
TST, ZST: Wave Only
SMT Lead Coplanarity:
(0.10 mm) .004" max (05-15)
(0.15 mm) .006" max (17-36)*
*(.004" stencil solution may be available; contact IPG@samtec.com)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

OTHER SOLUTIONS

- Shrouded board-to-board headers and stackers to mate with SSW, SSQ, ESW, ESQ, SSM and BCS Series. See TSS, HTSS and ZSS Series.

ALSO AVAILABLE (MOQ Required)

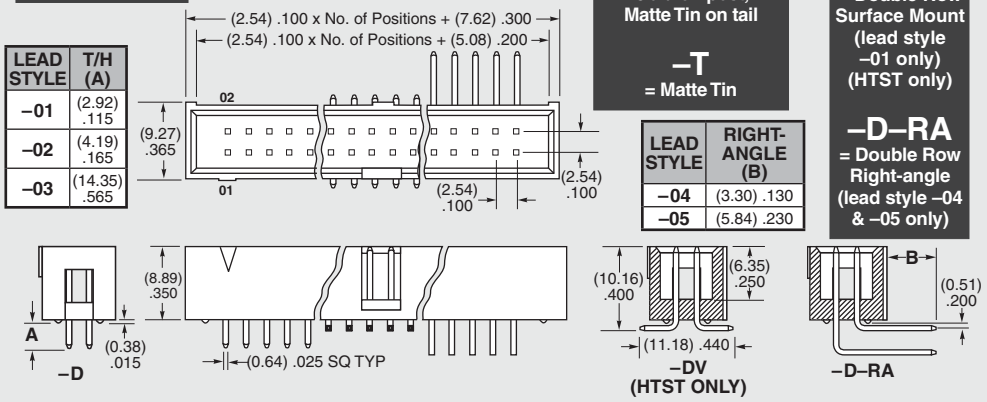
- Other platings & sizes
- Alignment Pins
- Single Row
- Locking Leads
- Polarized

Note: Some lengths, styles and options are non-standard, non-returnable. ZST is non-standard, non-returnable.

TYPE STRIP	1	NO. PINS PER ROW	LEAD STYLE	PLATING OPTION	ROW OPTION	OTHER OPTION
TST = Cable Strip **HTST** = High Temp Cable Strip		05, 07, 08, 10, 12, 13, 15, 17, 20, 25, 32, 36 (Standard sizes)	Specify LEAD STYLE from chart.	**–F** = Gold flash on post, Matte Tin on tail (Not available on –DV) **–L** = 10 µ" (0.25 µm) Gold on post, Matte Tin on tail **–T** = Matte Tin	**–D** = Double Row Through-hole (lead style –01, –02 & –03 only) **–DV** = Double Row Surface Mount (lead style –01 only) (HTST only) **–D–RA** = Double Row Right-angle (lead style –04 & –05 only)	Surface Mount (lead style –01 only) (HTST only) **–P** = Pick & Place Pad **–TR** = Tape & Reel Packaging

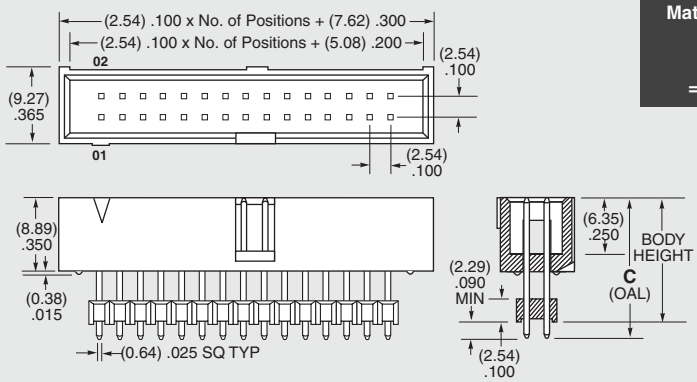
LEAD STYLE	T/H (A)
–01	(2.92) .115
–02	(4.19) .165
–03	(14.35) .565

LEAD STYLE	RIGHT-ANGLE (B)
–04	(3.30) .130
–05	(5.84) .230



ZST	1	NO. PINS PER ROW	LEAD STYLE	PLATING OPTION	D	BODY HEIGHT
		05, 07, 08, 10, 12, 13, 15, 17, 20, 25, 32, 36 (Standard sizes)	Specify LEAD STYLE from chart.	**–F** = Gold flash on post, Matte Tin on tail **–L** = 10 µ" (0.25 µm) Gold on post, Matte Tin on tail **–T** = Matte Tin		**–"XXXX"** = Body Height

LEAD STYLE	C (OAL)	MAX BODY HEIGHT
–01	(16.00) .630	(13.72) .540
–02	(18.54) .730	(16.26) .640
–03	(21.08) .830	(18.80) .740
–04	(23.62) .930	(21.34) .840
–05	(26.16) 1.030	(23.88) .940
–06	(28.70) 1.130	(26.42) 1.040
–07	(31.24) 1.230	(28.96) 1.140
–08	(33.78) 1.330	(31.50) 1.240
–09	(36.32) 1.430	(34.04) 1.340



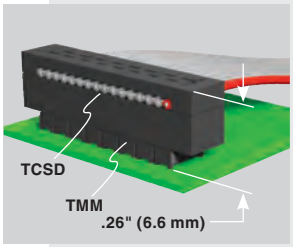
Note: For added mechanical stability, Samtec recommends mechanical board spacers be used in applications with gold or selective gold plated connectors. Contact ipg@samtec.com for more information.

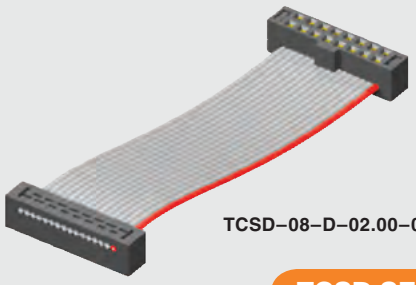
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TIGER™ EYE IDC





TCSD–08–D–02.00–01–N–R

(2.00 mm) .0787"

TCSD SERIES

TIGER EYE™ IDC SOCKET CABLE

Mates with:
TMM, TMMH, STMM, MMT, TW, MTMM, EHT, ETMM (-SR), ZSTMM

SPECIFICATIONS

For complete specifications see www.samtec.com?TCSD

Insulator Material:
Black Glass Filled Polyester
Contact:
BeCu
Plating:
Au or Sn over 50 µ" (1.27 µm) Ni
Wire:
28 AWG 7/36 Stranded, Tinned, Copper with Gray PVC Insulator
Current Rating (TCSD/STMM):
2.8 A per pin (2 pins powered)
Operating Temp Range:
-40 °C to +105 °C
Lead Size Accepted:
(0.48 mm) .019" to (0.53 mm) .021"
Insertion Depth:
(2.87 mm) .113" to (3.17 mm) .125"
RoHS Compliant:
Yes

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

ALSO AVAILABLE (MOQ Required)

- Other sizes
- Other platings

POLARIZING KEY

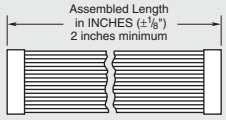
Specify PK-01-07 for polarizing key (Available in wheels of six each). Also polarizes SMM Series socket strips.

Note:
TCSD Series assemblies are non-standard, non-returnable.

TYPE STRIP – NO. PINS PER ROW – END OPTION – LENGTH – 01 – PLATING OPTION – N – OTHER OPTION

–04, –05, –06, –07, –08, –10, –12, –13, –15, –17, –20, –22, –25
(Standard sizes)

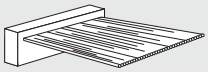
–"XX.XX"
= Assembled Length



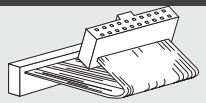
–N
= Notch Polarization

–F = Gold flash on contact
Leave blank for standard plating: 30 µ" (0.76 µm) Gold on contact area

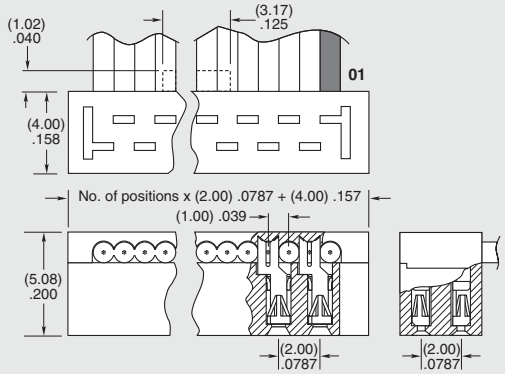
–S
= Single End



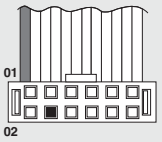
–D
= Double End



TCSD
= Socket Strip



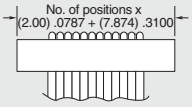
–P "XX"
= Position Polarization



Specify "XX" as position number. Same position will be polarized on both ends.

1

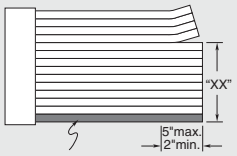
–SR
= Strain Relief



Not available with –O, –M, –R, –DXX or –BXX

–B "XX"
= Breakout

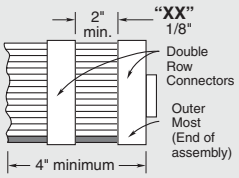
Specify "XX" as number of conductors to be broken out.



Breakout starts with Number 1 lead indicated by brown wire or red stripe. Shown on top side.

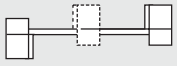
2

–D "XX"
= Daisy Chain



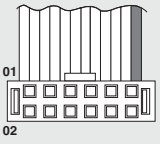
4

–R
= Reversed



5

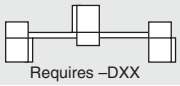
–RW
= Reverse Wiring



Blue or black wire opposite position #1.

3

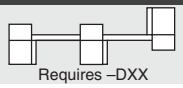
–M
= Middle Reverse



Requires –DXX

5

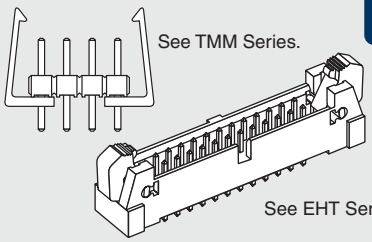
–O
= Outside Reverse



Requires –DXX

5

EJECTOR HEADERS & LOCKING CLIPS



RUGGEDIZED BY SAMTEC

- Ejector headers
- Locking clips
- Strain relief option

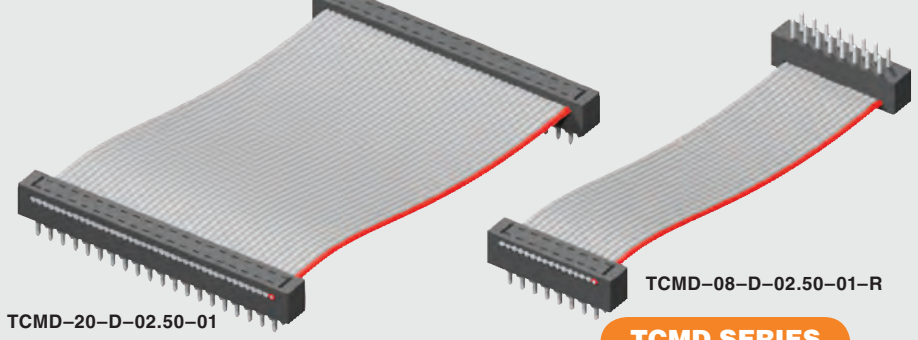
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samtec

TIGER™ EYE IDC

(2.00 mm) .0787"



TCMD SERIES

HIGH-RELIABILITY IDC HEADER CABLE

Mates with:
SMM*, MMS*, ESQT, PTF, SQT, SQW, TLE

SPECIFICATIONS

For complete specifications see www.samtec.com?TCMD

Insulator Material:
Black Glass Filled Polyester
Terminal:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Wire:
28 AWG 7/36 Stranded, Tinned, Copper with Gray PVC Insulator
Current Rating:
2.6 A per pin
(2 pins powered)
Operating Temp Range:
-40 °C to +105 °C
RoHS Compliant:
Yes

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

ALSO AVAILABLE (MOQ Required)

- Other sizes

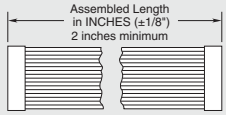
***Note:**
Standard TCMD callout will not mate with SMM, MMS. Must use gold plated callouts. (See drawing on web.)
When mated with a socket, Wire 1 mates with Pin 2; Wire 2 mates with Pin 1, etc.

Note:
TCMD Series assemblies are non-standard, non-returnable.

TYPE STRIP – NO. PINS PER ROW – END OPTION – OVERALL LENGTH – 01 – TRANSFER OPTION – OTHER OPTION

–04, –05, –06, –07, –08, –10, –12, –13, –15, –17, –20, –22, –25
(Standard sizes)

–"XX.XX"
= Assembled Length



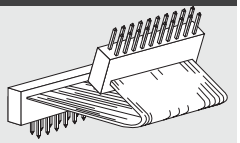
Leave blank for –S and –D End Options. For –T End Option Specify "–N" (Socket has notch polarization)

RUGGEDIZED BY SAMTEC
• Strain relief option

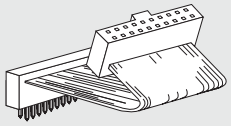
–S = Single End



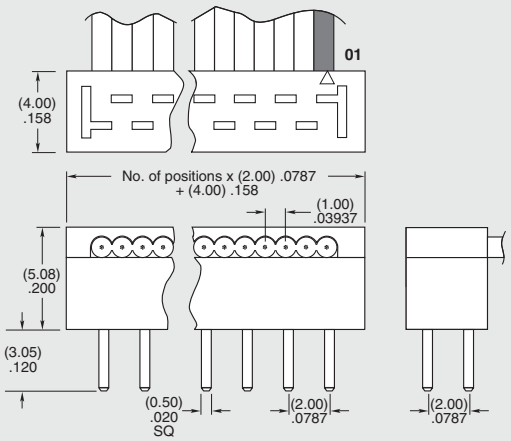
–D = Double End



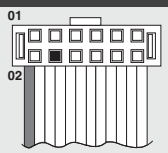
–T =Transfer End



TCMD =Terminal Strip



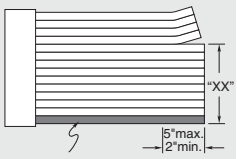
–P "XX"
= Position Polarization



Specify "XX" as position number. Requires Transfer End. Only Socket is polarized. 1

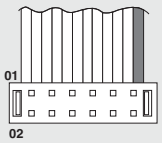
–B "XX"
= Breakout

Specify "XX" as number of conductors to be broken out.



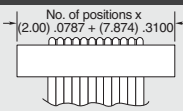
Breakout starts with Number 1 lead indicated by brown wire or red stripe. Shown on top side. 2

–RW
= Reverse Wiring



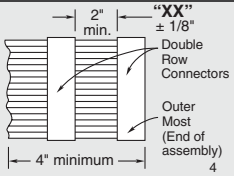
Blue or black wire opposite position #1. 3

–SR
= Strain Relief



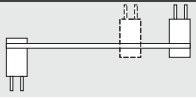
Not available with –O, –M, –R, –DXX or –BXX

–D "XX"
= Daisy Chain



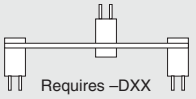
4

–R
= Reversed



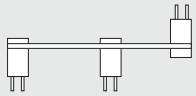
5

–M
= Middle Reverse



Requires –DXX 5

–O
= Outside Reverse

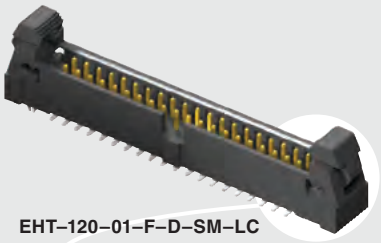


Requires –DXX 5

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(2.00 mm) .0787"

EHT, EC2 SERIES

SHROUDED IDC EJECTOR HEADER

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?EHT

Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Plating:
Sn or Au over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

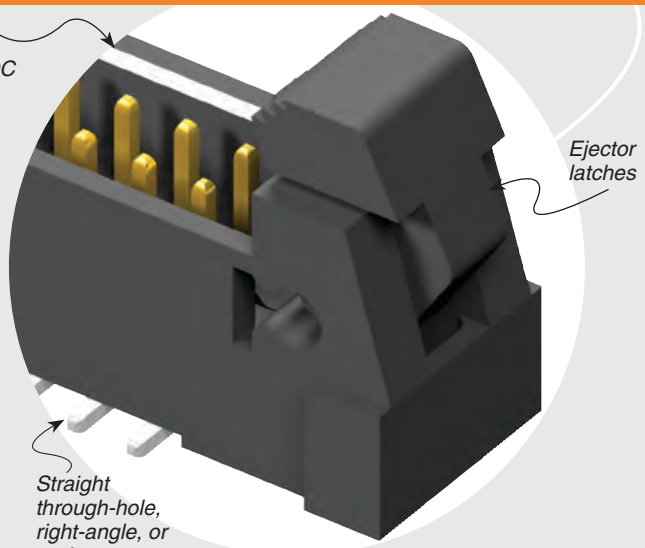
FILE NO. E111594

ALSO AVAILABLE
(MOQ Required)

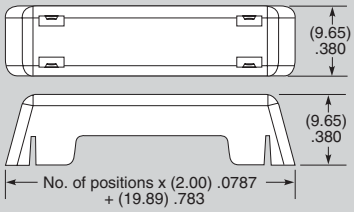
- Other platings

Mates with:
TCSD

Ten standard sizes mate with common 2 mm IDC cable assemblies

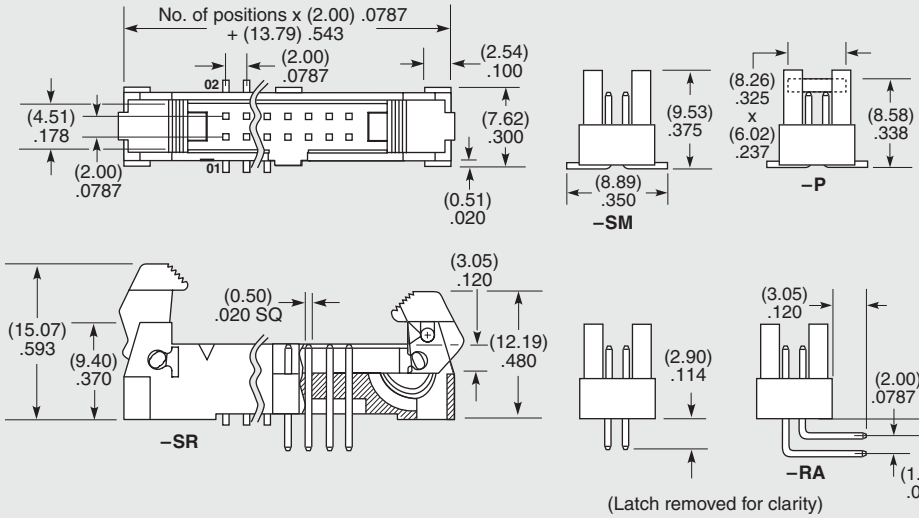


EJECTOR HEADER CAP
(Locks TCSD cable to EHT header)



EC2	NO. PINS PER ROW
	05, 08, 10, 12, 13, 15, 17, 20, 22, 25

EHT	1	NO. PINS PER ROW	01	PLATING OPTION	D	TAIL OPTION	OTHER OPTION
		05, 08, 10, 12, 13, 15, 17, 20, 22, 25		–F = Gold flash on post, Matte Tin on tail –L = 10 µ" (0.25 µm) Gold on post, Matte Tin on tail	Leave blank for Through-hole –RA = Right-angle –SM = Surface Mount		–"XX" = Polarized Position –SR = Strain Relief (Leave Blank for no strain relief) –LC = Locking Clip (–SM only) (Manual placement required) –K = (6.50 mm) .256" DIA Polyimide Film Pick & Place Pad (–SM only) –P = Pick & Place Pad (–SM only) –TR = Tape & Reel (–SM only)



Note: Some lengths, styles and options are non-standard, non-returnable.

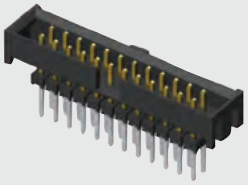
samtec

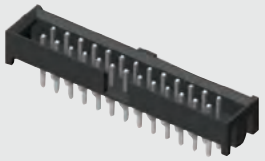
FLEX STACK



STMM–110–02–F–D–RA

ZSTMM–112–75–L–D–285





STMM–113–02–T–D

(2.00 mm) .0787"

STMM, ZSTMM SERIES

SHROUDED IDC HEADER & STACKER

Mates with:
TCSD (except –SR)

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?STMM or www.samtec.com?ZSTMM

Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Plating:
Sn or Au over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +105 °C with Tin;
-55 °C to +125 °C with Gold
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

ALSO AVAILABLE
(MOQ Required)

- Other sizes
- Other platings

OTHER SOLUTIONS

- Shrouded board-to-board headers and stackers to mate with SQT, SQW, ESQ & SMM Series. See LTMM & ZLTMM Series.

Notes:
For added mechanical stability, Samtec recommends mechanical board spacers be used in applications with gold or selective gold plated connectors. Contact ipg@samtec.com for more information.

This Series is non-standard, non-returnable.

STMM	–	1	NO. PINS PER ROW	–	02	–	PLATING OPTION	–	D	–	TAIL OPTION	–	OTHER OPTION

04, 05, 06, 07, 08, 10, 12, 13, 14, 15, 17, 20, 22, 25
(Standard sizes)

–F
= Gold flash on post, Matte Tin on tail

–L
= 10 µ" (0.25 µm) Gold on post, Matte Tin on tail

–T
= Matte Tin

Leave blank for Through-hole

–RA
= Right-angle

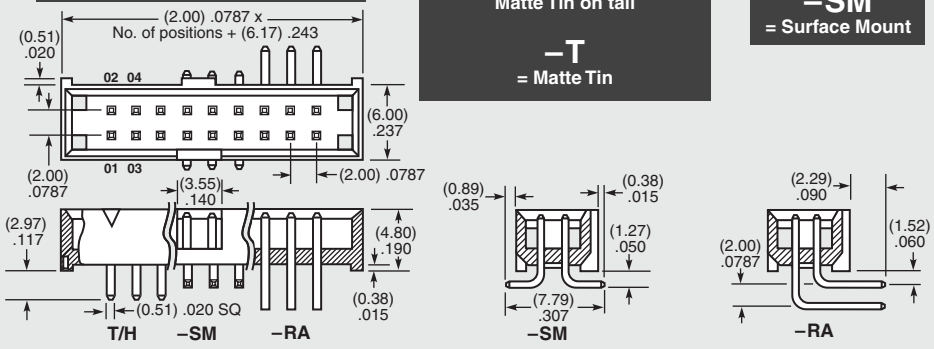
–SM
= Surface Mount

–"XX"
= Polarized Position

–LC
= Locking Clip (-SM only) (Manual placement required)

–K
= (7.50 mm) .295" DIA Film Pick & Place Pad (-SM only)

–TR
= Tape & Reel (–SM only)



ZSTMM	–	1	NO. PINS PER ROW	–	LEAD STYLE	–	PLATING OPTION	–	D	–	BODY HEIGHT	–	OTHER OPTION

04, 05, 06, 07, 08, 10, 12, 13, 14, 15, 17, 20, 22, 25
(Standard sizes)

Specify LEAD STYLE from chart.

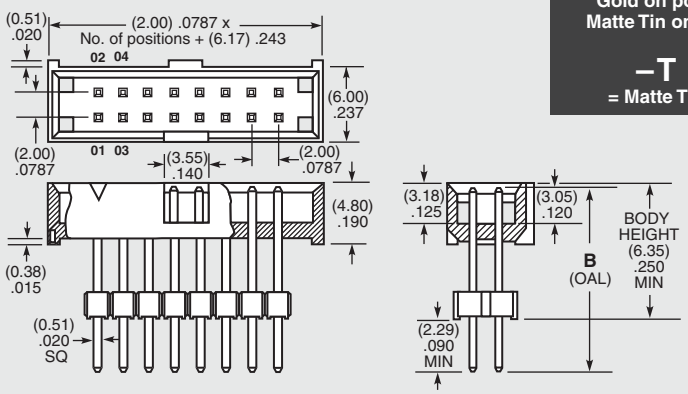
–F
= Gold flash on post, Matte Tin on tail

–L
= 10 µ" (0.25 µm) Gold on post, Matte Tin on tail

–T
= Matte Tin

–"XXX"
= Body Height

–"XX"
= Polarized Position

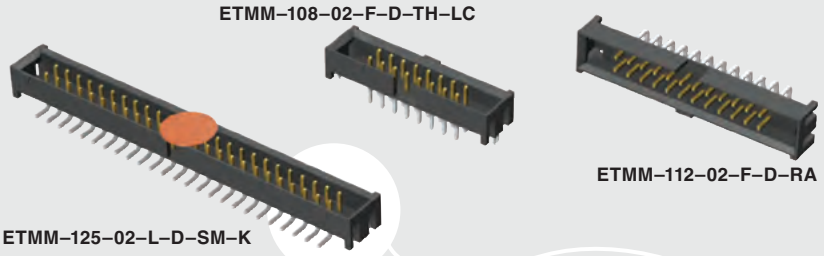


LEAD STYLE	B (OAL)	MAX BODY HEIGHT
–75	(9.58) 0.377	(7.42) 0.292
–62	(10.08) 0.397	(7.92) 0.312
–65	(10.49) 0.413	(8.33) 0.328
–73	(12.09) 0.476	(9.93) 0.391
–63	(14.10) 0.555	(11.94) 0.470
–66	(15.09) 0.594	(12.93) 0.509
–69	(15.60) 0.614	(13.44) 0.529
–74	(17.09) 0.673	(14.94) 0.588
–70	(17.60) 0.693	(15.44) 0.608
–71	(21.08) 0.830	(18.92) 0.745
–72	(21.62) 0.851	(19.46) 0.766

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(2.00 mm) .0787"

ETMM SERIES

SHROUDED STRAIN RELIEF IDC HEADER

SPECIFICATIONS

Mates with:
TCSD, TCMD

For complete specifications see www.samtec.com?ETMM

Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Plating:
Sn or Au over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C
RoHS Compliant:
Yes

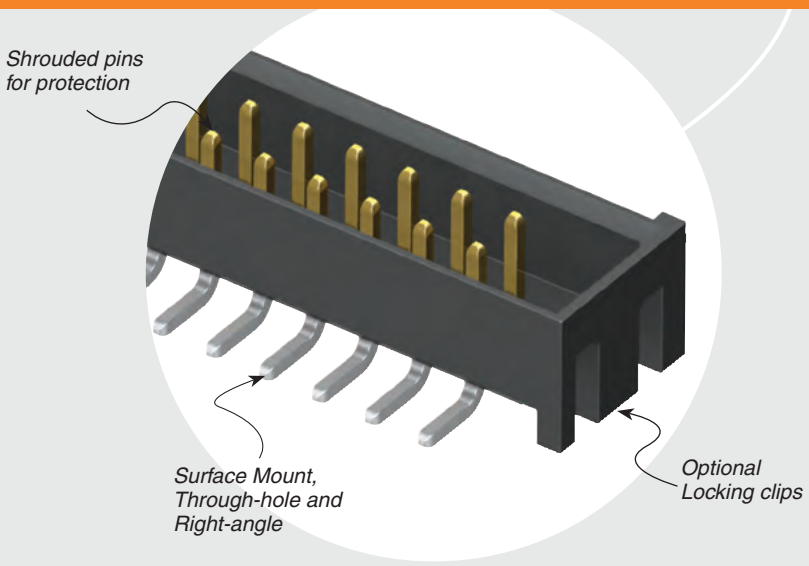
PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.13 mm) .005" max*
*(.004" stencil solution may be available; contact IPG@samtec.com)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594



TYPE STRIP	–	1	NO. OF POSITIONS	–	02	PLATING OPTION	–	D	TAIL OPTION	–	OTHER OPTION

ETMM
= Mates with TCSD and TCMD with Strain Relief

05, 08, 10, 12, 13, 15, 17, 20, 22, 25
(Standard sizes)

–F
= Gold Flash on post, Matte Tin on tail

–L
= 10 µ" (0.25 µm) Gold on post, Matte Tin on tail

–TH
=Through-hole

–RA
= Right -angle

–SM
= Surface Mount

–"XX"
= Polarized Position

–LC
= Locking Clip (Not available for –RA) (Manual placement required)

–TR
= Tape & Reel Packaging (–SM only)

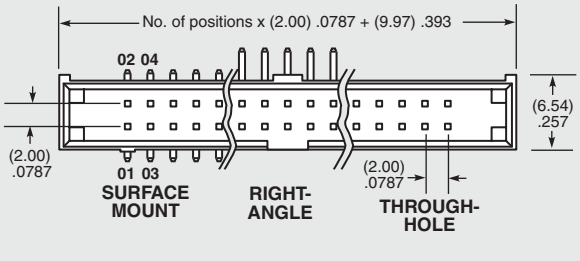
–K
= (7.50 mm) .295" DIA Polyimide Film Pick & Place Pad (–SM only)

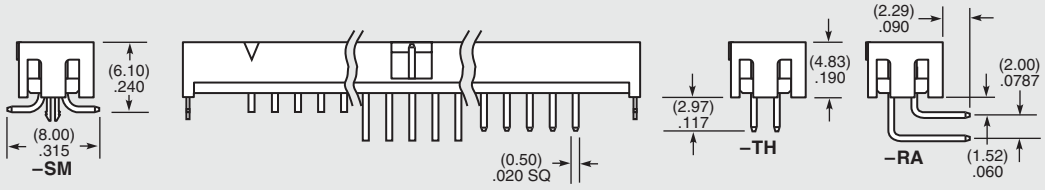
OTHER SOLUTIONS

- TCSD mates without Strain Relief. See STMM Series
- Shrouded header for mating with Connector Strips. See LTMM Series

ALSO AVAILABLE (MOQ Required)

- Other sizes





Note:
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(1.27 mm) .050"

SHF, ESHF, EHF, ECF SERIES

SHROUDED & EJECTOR IDC HEADER

SHF, ESHF Mates with:
FFSD, FFTP (SHF)

EHF Mates with:
FFSD*, FFTP

SPECIFICATIONS

For complete specifications see www.samtec.com?SHF, www.samtec.com?ESHF or www.samtec.com?EHF

Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Plating:
Sn or Au over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

ALSO AVAILABLE
(MOQ Required)

- Other sizes

TYPE STRIP – **1** **NO. PINS PER ROW** – **01** **PLATING OPTION** – **D** – **TAIL STYLE** – **OTHER OPTION**

SHF
= Mates with FFSD without Strain Relief

ESHF
= Mates with FFSD with Strain Relief

04, 05, 06, 08, 10, 11, 12, 13, 15, 17, 20, 25
(Standard sizes)

–L
= 10 µ" (0.25 µm) Gold on post, Matte Tin on tail

–TH
= Through-hole

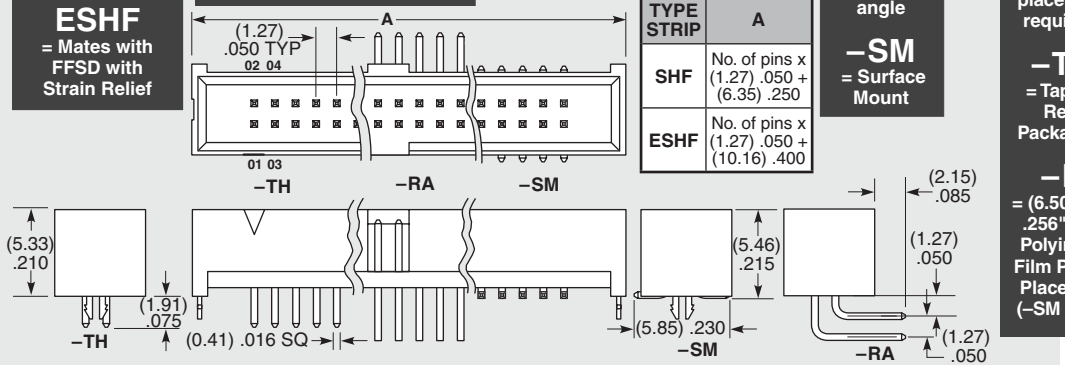
–RA
= Right-angle

–SM
= Surface Mount

–LC
= Locking Clip (Not available with –RA) (Manual placement required)

–TR
= Tape & Reel Packaging

–K
= (6.50 mm) .256" DIA Polyimide Film Pick & Place Pad (–SM only)



TYPE STRIP	A
SHF	No. of pins x (1.27) .050 + (6.35) .250
ESHF	No. of pins x (1.27) .050 + (10.16) .400

EHF – **1** **NO. PINS PER ROW** – **01** **PLATING OPTION** – **D** – **TAIL OPTION** – **OTHER OPTION**

04, 05, 08, 10, 13, 17, 20, 25
(Standard sizes)

–F
= Gold flash on post, Matte Tin on tail

–L
= 10 µ" (0.25 µm) Gold on post, Matte Tin on tail

Leave blank for Through-Hole version

–SM
= Surface Mount

–RA
= Right-angle

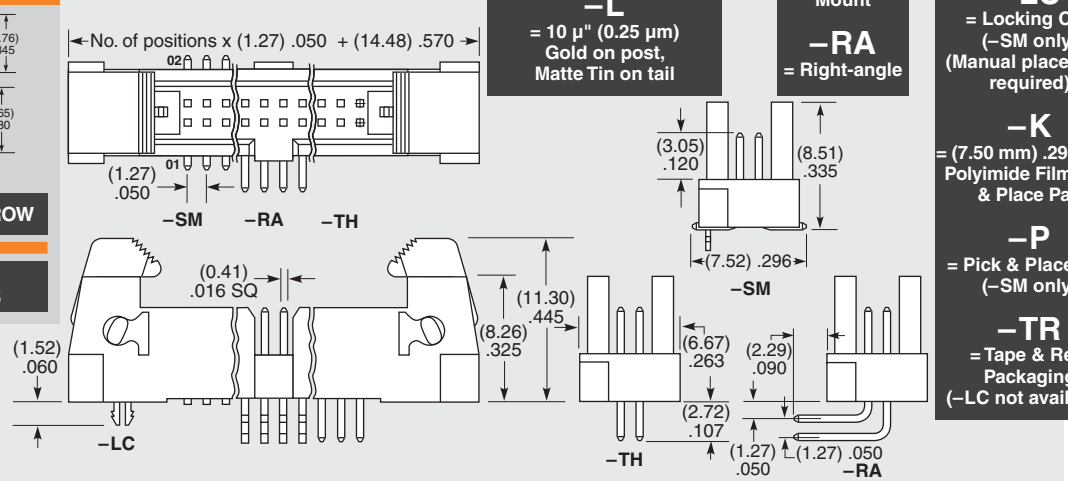
–"XX"
= Polarized Position (–RA not available)

–LC
= Locking Clip (–SM only) (Manual placement required)

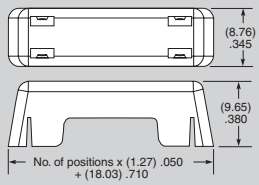
–K
= (7.50 mm) .295" DIA Polyimide Film Pick & Place Pad

–P
= Pick & Place Pad (–SM only)

–TR
= Tape & Reel Packaging (–LC not available)



EJECTOR HEADER CAP
(Locks FFSD cable to EHF header)



ECF – **NO. PINS PER ROW**

05, 08, 10, 13, 17, 20, 25

***Important Note:**
EHF will not mate to FFSD with strain relief (-SR option), see ESHF series.

Note: Some lengths, styles and options are non-standard, non-returnable.

Due to technical progress, all designs, specifications and components are subject to change without notice.

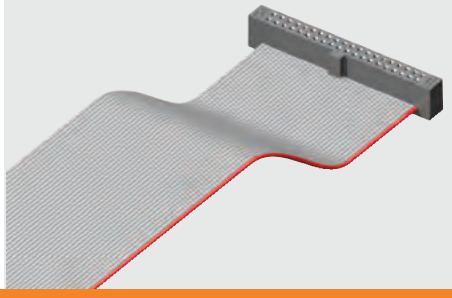
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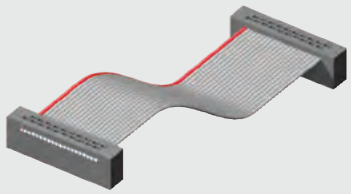
samtec

TIGER™ EYE IDC

(1.27 mm) .050"

FFSD–20–S–10.00–01–N





FFSD–10–D–02.00–01–N

FFSD SERIES

TIGER EYE™ FLAT IDC WIRE CABLES

Mates with:
FTS, FTSH, EHF, SHF, ESHF

SPECIFICATIONS

For complete specifications see www.samtec.com?FFSD

Insulator Material:
PBT
Contact:
BeCu
Plating:
10 µ" (0.25 µm) Au over 50 µ" (1.27 µm) Ni on contact area; Sn over 50 µ" (1.27 µm) Ni on balance
Wire:
30 AWG
Current Rating (FFSD/FTSH):
2.3 A per pin (2 pins powered)
Operating Temp Range:
-40 °C to +105 °C
Lead Size Accepted:
(0.41 mm) .016" SQ
Insertion Depth:
(2.64 mm) .104" to (3.17 mm) .125"
RoHS Compliant:
Yes

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

ALSO AVAILABLE (MOQ Required)

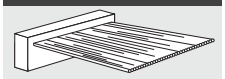
- Other sizes

Note: This Series is non-standard, non-returnable.

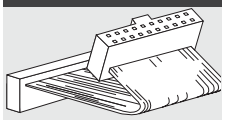
TYPE STRIP – NO. PINS PER ROW – END OPTION – OVERALL LENGTH – 01 – N – OTHER OPTION

–04, –05, –06, –08, –10, –11, –12, –13, –15, –17, –20, –25
(Standard sizes)

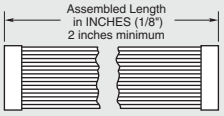
–S
= Single End



–D
= Double End

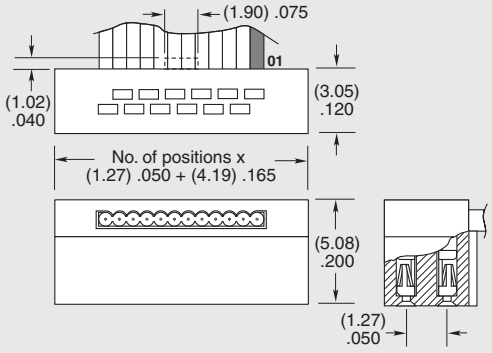


–"XX.XX"
= Assembled Length

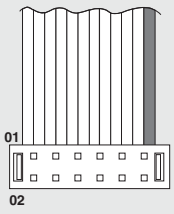


–N
= Notch Polarization Notch option (Not available with -04 position)

FFSD
= Socket Strip



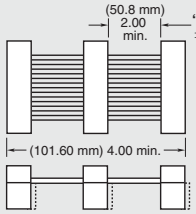
–RW = Reverse Wiring



Red wire opposite position #1.

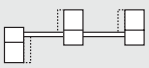
1

–D "XX" = Daisy Chain



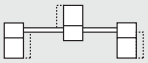
2

–R = Reverse



3

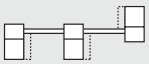
–M = Middle Reverse



Requires –DXX

3

–O = Outside Reverse



Requires –DXX

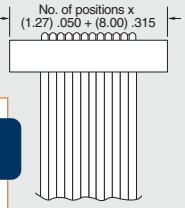
3

RUGGEDIZED BY SAMTEC

• Strain relief option

–SR = Strain Relief

(Mates only with ESHF Series)



Not available with –O, –M, –R or –DXX

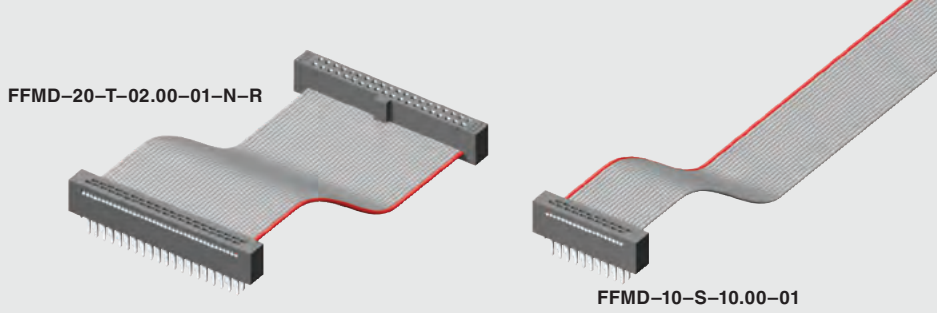
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samtec

TIGER™ EYE IDC

(1.27 mm) .050"



FFMD SERIES

TIGER EYE™ FLAT IDC WIRE CABLES

Mates with:
FLE*, SFMC*,

Transfer End Option
Mates with: FTS, FTSH, EHF, SHF, ESHF

SPECIFICATIONS

For complete specifications see www.samtec.com?FFMD

Insulator Material:
Black Glass Filled Polyester
Terminal:
Phosphor Bronze
Contact:
BeCu (-T)
Plating:
Sn over 50 µ" (1.27 µm) Ni
Wire:
30 AWG
Current Rating:
2.5 A per pin
(2 pins powered)
Operating Temp Range:
-40 °C to +105 °C
Voltage Rating:
215 VAC
304 VDC
RoHS Compliant:
Yes

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

ALSO AVAILABLE (MOQ Required)

- Other sizes

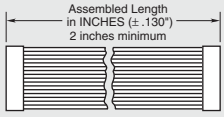
***Note:** Standard FFMD callout will not mate with FLE, SFMC. Must use gold plated callouts. (See drawing on web.) When mated with a socket, Wire 1 mates with Pin 2; Wire 2 mates with Pin 1, etc.

Note: This Series is non-standard, non-returnable.

TYPE STRIP – NO. PINS PER ROW – END OPTION – OVERALL LENGTH – 01 – TRANSFER OPTION – OTHER OPTION

–04, –05, –08, –10, –13, –17, –20, –25
(Standard sizes)

–"XX.XX"
= Assembled Length



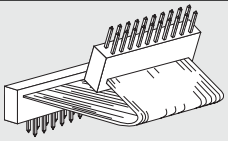
Leave blank for –S and –D End Options.

–N
= Notch Polarization on socket (-T end only) (Not available with -04 position)

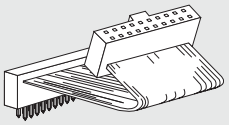
–S = Single End



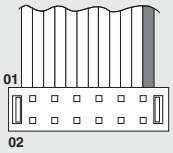
–D = Double End



–T = Transfer End



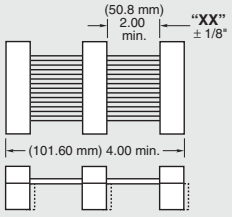
–RW = Reverse Wiring



Red wire opposite position #1.

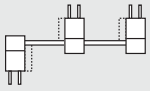
1

–D "XX" = Daisy Chain



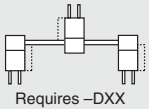
2

–R = Reverse



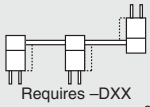
3

–M = Middle Reverse



Requires –DXX 3

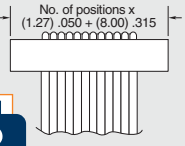
–O = Outside Reverse



Requires –DXX 3

–SR = Strain Relief

(Mates only with ESHF Series)

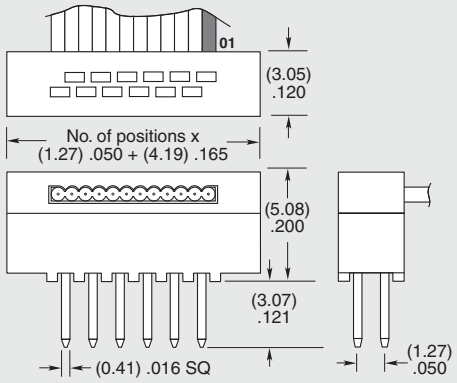


Not available with –O, –M, –R or –DXX

RUGGEDIZED BY SAMTEC

• Strain relief option

FFMD = Terminal Strip

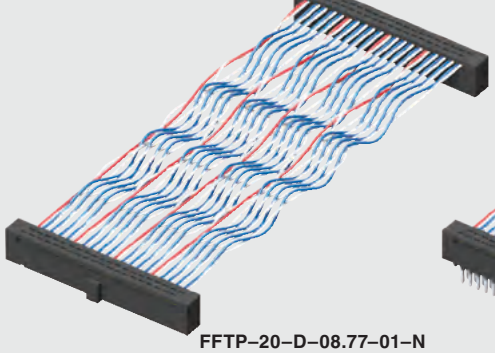


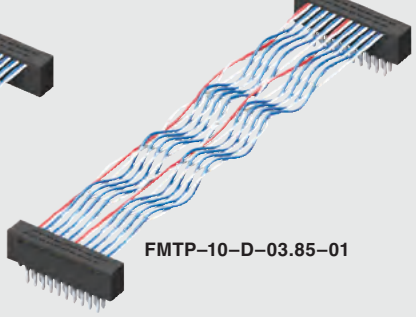
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samtec

TIGER™ EYE IDC

(1.27 mm) .050"





FFTP, FMTP SERIES

TIGER EYE™ TWISTED PAIR IDC CABLES

FFTP Mates with:
FTS, FTSH, EHF, SHF

FMTP Mates with:
FLE*, SFMC*

SPECIFICATIONS

For complete specifications see www.samtec.com?FFTP or www.samtec.com?FMTP

Insulator Material:
PBT
Contact (FFTP):
BeCu
Terminal (FMTP):
Phosphor Bronze
Plating (FFTP):
10 µ" (0.25 µm) Au over 50 µ" (1.27 µm) Ni on contact area; Sn over 50 µ" (1.27 µm) Ni on balance
Plating (FMTP):
Sn over 50 µ" (1.27 µm) Ni
Wire:
30 AWG 7/38, Tinned, Twisted Pair with PVC insulator
Operating Temp Range:
-40 °C to +105 °C
Lead Size Accepted:
(0.41 mm) .016" SQ
Insertion Depth (FFTP):
(2.64 mm) .104" to (3.17 mm) .125"
RoHS Compliant:
Yes

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

ALSO AVAILABLE (MOQ Required)

- Other sizes
- Other cable lengths

***Note:** Standard FMTP callout will not mate with FLE, SFMC. Must use gold plated callouts. (See drawing on web.) When mated with a socket, Wire 1 mates with Pin 2; Wire 2 mates wth Pin 1, etc.

Note: This Series is non-standard, non-returnable.

FFTP – PINS PER ROW – END ASSEMBLY – ASSEMBLY LENGTH – 01 – N – OPTION

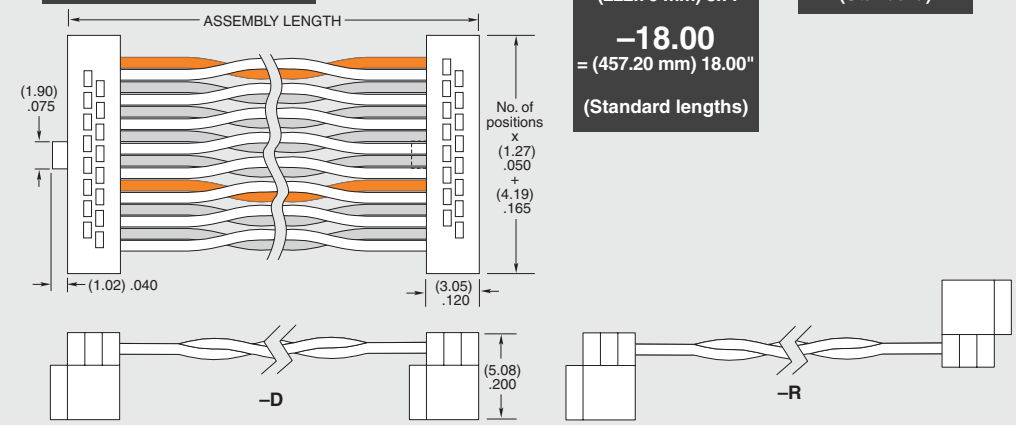
PINS PER ROW: –05, –08, –10, –13, –17, –20, –25 (Standard sizes)

END ASSEMBLY: –D = Double End

ASSEMBLY LENGTH:
–03.85 = (97.79 mm) 3.85"
–08.77 = (222.76 mm) 8.77"
–18.00 = (457.20 mm) 18.00"
(Standard lengths)

01: –N = Notch Polarization (Standard)

OPTION: –R = Reverse Connector



FMTP – PINS PER ROW – END ASSEMBLY – ASSEMBLY LENGTH – 01 – TRANSFER OPTION – OPTION

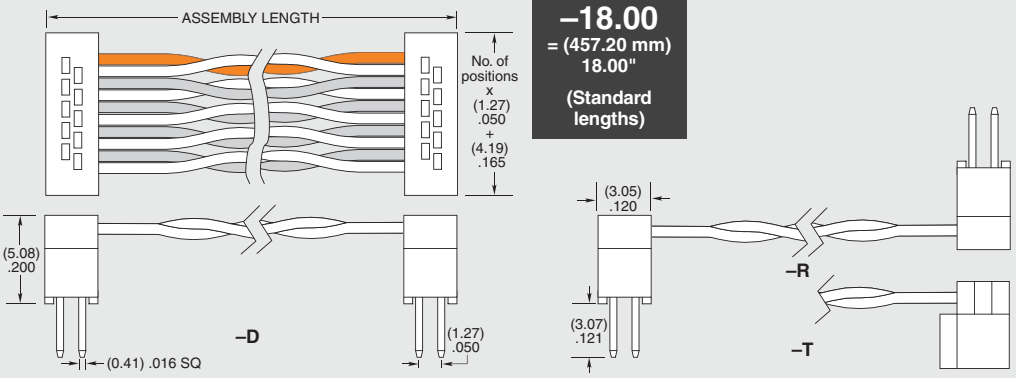
PINS PER ROW: –05, –08, –10, –13, –17, –20, –25 (Standard sizes)

END ASSEMBLY: –D = Double End; –T = Transfer End

ASSEMBLY LENGTH:
–03.85 = (97.79 mm) 3.85"
–08.77 = (222.76 mm) 8.77"
–18.00 = (457.20 mm) 18.00"
(Standard lengths)

01: Leave blank for –D End Assembly. For –T End Assembly Specify "–N" (Socket has notch polarization)

TRANSFER OPTION: –R = Reverse Connector



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HIGH-SPEED CHANNEL PERFORMANCE

Speed Testing That Accounts For The Entire System

Samtec uses a channel-based approach to estimate connector performance in a system. The result is a realistic one number designation for all of Samtec's high-speed interconnects, called Channel Performance Metric (CPM).

This one number designation allows for a side-by-side comparison of Samtec components. Noise contributions from, and interactions with, other parts of a pre-defined channel are considered. An example of a pre-defined channel is shown below.

Samtec's CPM reports connector capability that is more representative of actual performance in a system, replacing the connector only data of the past.

This real-world approach factors in all impairments, such as the crosstalk and reflections, inherent in a complete channel. Through Samtec's use of a common set of channel assumptions, relative comparison can then be made across the entire Samtec offering which is practical and realizable. Because Samtec's CPM is a function of necessary channel assumptions made, it is important to note that Samtec's CPM can and will vary from a customer specific application.

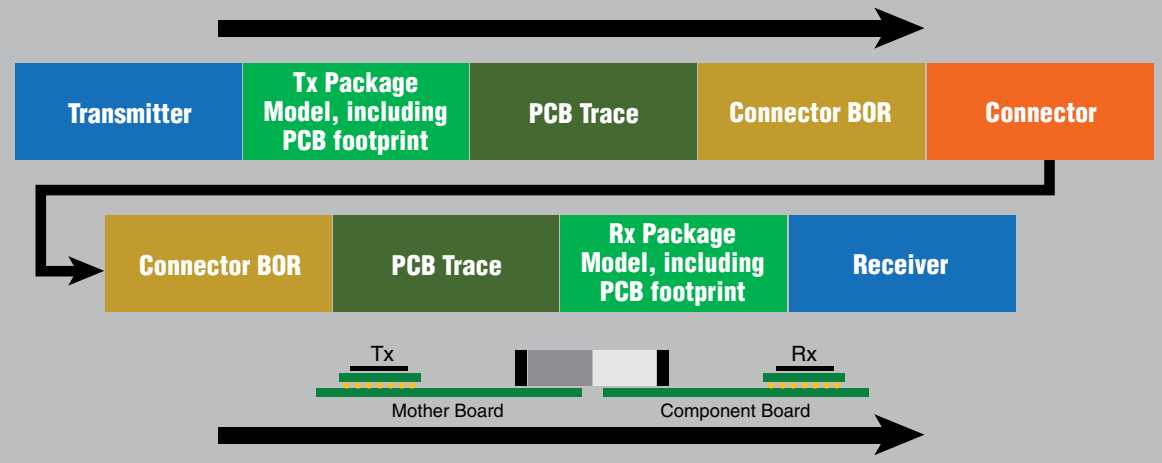
Throughout the high-speed sections of this catalog, look for charts indicating Samtec's CPM one number rating for specific product series, which resemble:



For more information on Samtec's CPM or complete SI performance data, visit **samtec.com** or contact **SIG@samtec.com**.

Pre-Defined Channel

Board-to-Board



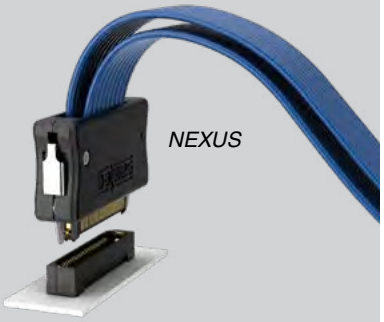
*Moderate levels of equalization are applied.

INDUSTRY STANDARDS

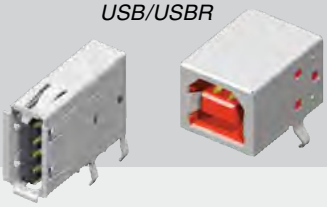


VITA 57.4


PCI/104-Express™


NEXUS


QSFP


USB/USBR

V42 XMC
- Rugged mezzanine system designed for use in high-performance VPX card cages
- 3.125 Gbps performance rating
- 10 mm & 12 mm stack heights
- 96 total pins (6 x 16 configuration)
- Drop-in ready JSOM ejector jackscrews available

V57.1 FMC
- Leading VPX mezzanine system, allowing advanced FPGA integration
- FPGA Industry Standard connector for development applications
- 10 Gbps performance
- HPC & LPC versions (400 & 160 selectively loaded pins)
- 8.5 mm & 10 mm stack heights
- Many high-speed cable & loopback card options available
- Optional JSOM ejector jackscrews available

V57.4 FMC+
- Advances FMC to the state-of-the-art in FPGA mezzanine integration
- HSPC Main Connector has 560 pins (14 x 40 configuration), 24 multi-gigabit interfaces, up to 28 Gbps
- HSPCe Extension Connector has 80 pins (4 x 20 configuration) adding 8 multi-gigabit interfaces, 32 in total
- 8.5 mm & 10 mm stack heights
- User friendly JSOM ejector jackscrews available

V74 VNX
- Small Form Factor, NanoATR™ module technology
- Rugged, high-performance, scalable, low power consumption embedded controllers
- 200 & 400 pin connector choices (Right-angle SEARAY™)
- 12.5 mm & 19 mm module height

PCI/104-Express™ and PCIe/104™ OneBank
- Rugged, stackable, scalable embedded computers
- Q2™ connectors with ground planes
- 3-banks have 156 signal pins, OneBank has 52 pins
- 2.5 Gbps performance
- 15.24 mm & 22 mm stack heights

NEXUS
- Rugged test, debug, and programming Standard
- High-speed Edge Rate® contact technology
- 20-80 pin ERM8/ERF8 connectors
- Board-to-board & cable solutions
- Positive retention latching

QSFP
- Compact, hot-pluggable transceiver I/O connector
- Flyover solution for optimized signal integrity
- Cage and 38-pin connector
- 30 AWG 100 ohm twinax cable
- 4 high-speed Tx pairs, 4 high-speed Rx pairs
- 28+ Gbps performance

USB/USBR
- Type A, Type B, and Mini
- High retention and sealed versions
- IP68 sealed circular and rectangular cable systems

Standard	Product	Series	Page
VITA 42 XMC	SamArray®	YFS/YFT, JSOM	Contact Samtec.
VITA 57.1 FMC	SEARAY™	SEAM/SEAF, JSOM	58-61, 107
VITA 57.4 FMC+	SEARAY™	SEAM/SEAF, JSOM	58-61, 107
VITA 74 VNX	SEARAY™	SEAM/SEAF, JSOM	58-61, 107
PCI/104-Express™ & PCI/104-Express™ OneBank	Q2™	QMS/QFS	90-95
NEXUS	Edge Rate®	ERM8/ERF8	102-105
QSFP	QFSP	FQSFP/QSFPC	166
USB/USBR	USB/AccliMate™	USB/USBR/MUSB/MUSBS/SPM, RCU/SCRU/SCPU/RPCU/RPBU/SCRUS	197-198, 289, 291

For more industry standards and products that meet them visit samtec.com/fmc or samtec.com/standards

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EXTENDED LIFE PRODUCT™ SOLUTIONS

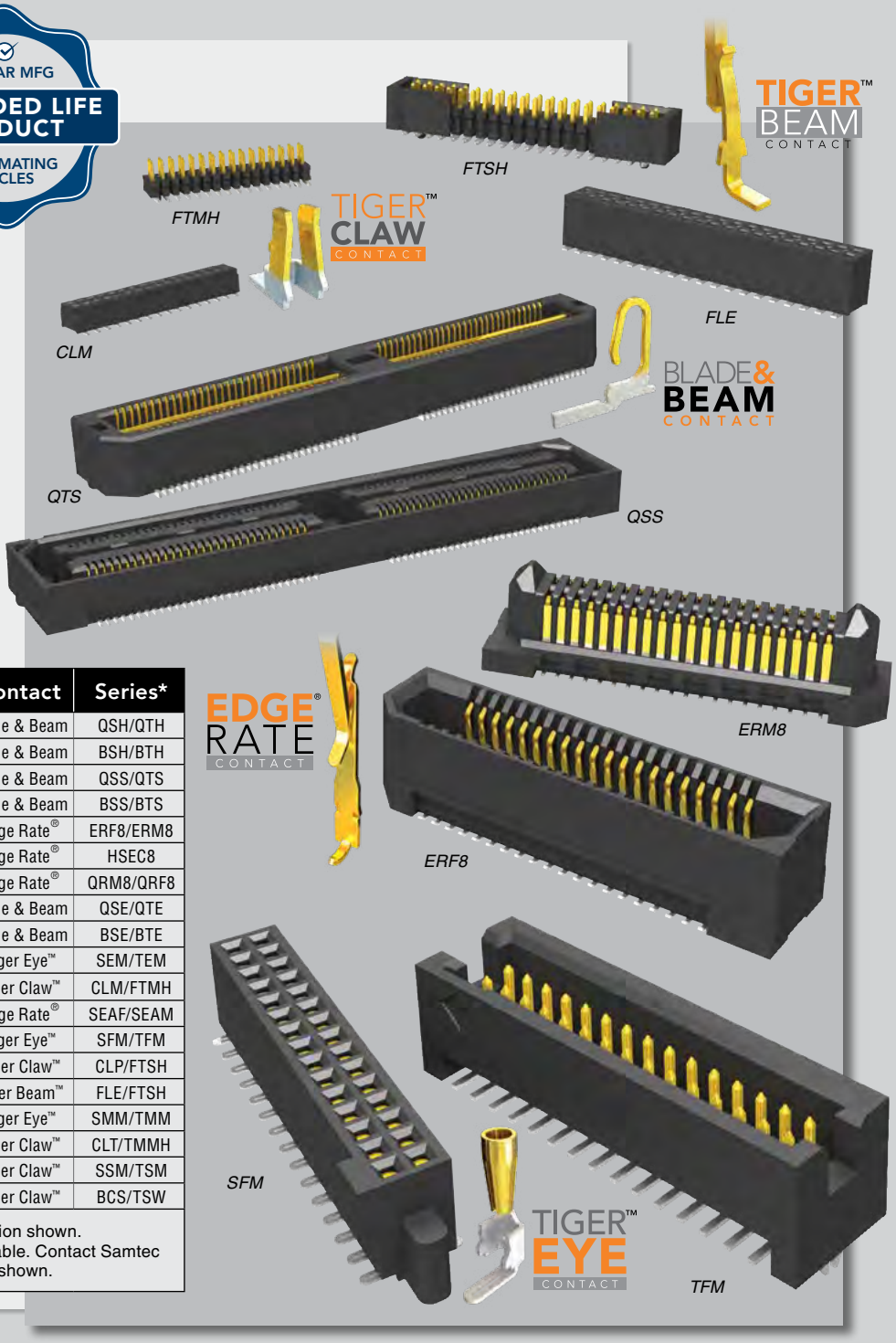
10 YEAR MFG
EXTENDED LIFE PRODUCT
HIGH MATING CYCLES

E.L.P.™ Products are tested to rigorous standards which evaluate contact resistance in simulated storage and field conditions.

- 10 year Mixed Flowing Gas (MFG)
- High Mating Cycles (250 to 2,500)
- Certain plating and/or contact options will apply
- For complete details on Samtec's E.L.P.™ program and test results for Extended Life Product, please visit **www.samtec.com/ELP** or email the Customer Engineering Support Group at **CES@samtec.com**

Pitch	Type	Contact	Series*
0.50 mm	Q Series® Strip	Blade & Beam	QSH/QTH
	Basic Strip	Blade & Beam	BSH/BTH
0.635 mm	Q Series® Strip	Blade & Beam	QSS/QTS
	Basic Strip	Blade & Beam	BSS/BTS
0.80 mm	Edge Rate® Strip	Edge Rate®	ERF8/ERM8
	Edge Card	Edge Rate®	HSEC8
	Q Rate® Strip	Edge Rate®	QRM8/QRF8
	Q Series® Strip	Blade & Beam	QSE/QTE
	Basic Strip	Blade & Beam	BSE/BTE
	Strip	Tiger Eye™	SEM/TEM
1.00 mm	Strip	Tiger Claw™	CLM/FTMH
1.27 mm	SEARAY™ Array	Edge Rate®	SEAF/SEAM
	Strip	Tiger Eye™	SFM/TFM
	Strip	Tiger Claw™	CLP/FTSH
	Strip	Tiger Beam™	FLE/FTSH
2.00 mm	Strip	Tiger Eye™	SMM/TMM
	Strip	Tiger Claw™	CLT/TMMH
2.54 mm	Strip	Tiger Claw™	SSM/TSM
	Strip	Tiger Claw™	BCS/TSW

* Tested socket/terminal combination shown. Other mating headers also available. Contact Samtec if header design you need is not shown.



SPECIFICATIONS & TESTING

SPECIFICATIONS AND STANDARD TEST PROCEDURES

Samtec products are subject to the following general specifications and standard test procedures.*

Quality Assurance

Quality Program Certifications	IATF 16949 and/or ISO-9001
UL File Number	Go to http://www.samtec.com/quality
Sampling procedures	ANSI/ASQ Z1.4
Calibration system requirements	Per IATF 16949

Insulator

Specifications	
Molding plastics. Thermoplastic polyesters	MIL-M-24519 Rev E
Applied tests* **	
Dielectric Breakdown Voltage	ASTM/ISO
AC Loss Characteristics	ASTM/ISO
Impact Resistance of Plastics	ASTM/ISO
DC Resistance	ASTM/ISO
High-Voltage, Low-Current Arc Resistance	ASTM/ISO
Water Absorption of Plastics	ASTM/ISO
Test for Tensile Properties of Plastics	ASTM/ISO
Deflection Temperature of Plastics	ASTM/ISO
Compressive Properties of Plastics	ASTM/ISO
Coefficient of Linear Thermal Expansion	ASTM/ISO
Shear Strength of Plastics	ASTM/ISO
Rockwell Hardness of Plastics	ASTM/ISO
Flexural Properties of Plastics	ASTM/ISO
Specific Gravity and Density of Plastics	ASTM/ISO

Plating

Specifications	
Gold	ASTM-B488
Tin	ASTM-B545**
Under plating specifications	
Nickel	QQ-N-290**
Copper	AMS 2418
Applied tests	
Coating thickness (X-ray Fluorescence)	ASTM-A-754-79

Contact & Terminal

Specifications***	
Brass	ASTM/ISO
Phosphor Bronze	ASTM/ISO
Beryllium Copper	ASTM/ISO

Assembly

Testing specifications	
Test methods for electrical connectors	EIA-364
Test methods for electronic/electrical components	EIA-364
Connections, electrical, solderless, wrapped	EIA-364
Environmental Test Methods	EIA-364
Sockets (lead, electronic components), general	EIA-364
Sockets, plug-in electronic components, general	EIA-364
Packaging specifications	
Tape and Reel Packaging of Connectors	EIA-481
Tray Packaging of Connectors	ANSI/EIA-960
Packaging Materials for ESD Sensitive Items	ANSI/ESD S541
Package Testing Procedures	ISTA-3A

Other Specifications

Insulation Resistance	5000 MΩ min
Flammability Rating	UL 94V-0 (Typically)

Product Environmental Compliance

The majority of Samtec's products are compliant with the EU WEEE (2012/19/EU) and RoHS/ RoHS2 (2011/65/EU) Directives as they are currently written. In addition, we confirm that the intentional composition of Samtec products are in compliance with the European Union REACH Regulation (EC 1907/2006) as currently written.

Samtec has offered both lead-bearing and lead-free products for many years and will continue to support customers requiring products not compliant with the EU Directives, such as those specified for military, aerospace and specialty applications.

Proposition 65 statement: These products could expose you to chemicals which are known to the State of California to cause birth defects or other reproductive harm. For more information go to **www.P65Warnings.ca.gov**

For more information on Product Environmental Compliance see: **www.samtec.com/Quality** or email the Product Environmental Compliance Group: **PEC@samtec.com**

Lead Free Processing Guidelines

Lead-Free Wave Solderable	This product is compatible with wave solder pot temperatures between 260 °C and 270 °C with maximum exposure of the termination pins to the solder wave for 4 seconds.
Lead-Free Reflow Solderable	This product can withstand a maximum peak temperature of 260 °C; 255 °C for up to 30 seconds, and the longer dwell times required for lead-free reflow processing.

Automotive Certification (ACD Series)

Samtec offers design and manufacture of electronic connectors, marketed as "ACD Series" (Automotive Certified Designs) for printed circuit boards. Samtec shall only comport with ISO/IATF 16949 on products it certifies as Automotive Custom Design ("ACD") or those designated with "A-" in the Samtec part number preface of the Automotive Solutions Catalog. Download the Automotive Solutions catalog at **www.samtec.com/catalog**, or contact **AutomotiveSolutions@samtec.com** for qualifying products and alternative automotive application solutions.

Notes: *Products with specifications other than those listed above are noted on the individual product pages.
**With the exception of thickness.
***As dictated by material grade.

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INDEX BY BRAND NAME

AcceleRate® & AcceleRate® HD
ADM6 0.635 mm AcceleRate® HD 4-Row Header 110
ADF6 0.635 mm AcceleRate® HD 4-Row Socket 111
ARC6 0.635 mm AcceleRate® Slim Body Cable 158
ARF6 0.635 mm AcceleRate® Slim Body Socket 159

AccliMate™
ACP-12 AccliMate™ IP68 Sealed 12 mm Cable Assembly 274
ACR-12 AccliMate™ IP68 Sealed 12 mm Panel Assembly 276
ACP-16 AccliMate™ IP68 Sealed 16 mm Cable Assembly 278
ACR-16 AccliMate™ IP68 Sealed 16 mm Panel Assembly 280
ACP-22 AccliMate™ IP68 Sealed 22 mm Cable Assembly 282
ACR-22 AccliMate™ IP68 Sealed 22 mm Panel Assembly 284
CCP-12 AccliMate™ IP68 Crimped 12 mm Cable Assembly 286
CCR-12 AccliMate™ IP68 Crimped 12 mm Panel Assembly 287
MCP AccliMate™ IP67 Mini Push-Pull Cable Assembly 288
MCR AccliMate™ IP67 Mini Push-Pull Panel Assembly 288
SCRUS AccliMate™ IP68 Sealed Circular USB 2.0 Panel Mount Socket 289
SCRES AccliMate™ IP68 Sealed Circular Ethernet Cable Socket 289
RPBE AccliMate™ IP68 Sealed Ethernet Panel Mount Socket 290
RPCE AccliMate™ IP68 Sealed Ethernet Panel Mount Socket Cable 290
RPBU AccliMate™ IP68 Sealed USB Panel Mount Socket 291
RPCU AccliMate™ IP68 Sealed USB Panel Mount Cable 291

Edge Rate®
ERM5 0.50 mm Edge Rate® Rugged High-Speed Header 98
ERF5 0.50 mm Edge Rate® Rugged High-Speed Socket 99
ERM6 0.635 mm Edge Rate® Rugged High-Speed Header 100
ERF6 0.635 mm Edge Rate® Rugged High-Speed Socket 101
ERM8 0.80 mm Edge Rate® Rugged High-Speed Header 102, 103
ERF8 0.80 mm Edge Rate® Rugged High-Speed Socket 104, 105
HSEC8 0.80 mm Edge Rate® Card Socket 127, 128, 129, 131, 132, 133
RU8 0.80 mm RiseUp® High-Speed Edge Card Connector Kit 130
ECDP 0.80 mm Twinax Edge Card Cable Assembly 176
ERDP 0.80 mm Edge Rate® Twinax Cable Assembly 178
ERCD 0.80 mm Edge Rate® Coax Cable Assembly 183

ExaMAX®
EBTM 2 mm ExaMAX® Vertical Header 148, 149
EBTF-RA 2 mm ExaMAX® Right-Angle Socket 150, 151
EBDM-RA 2 mm ExaMAX® Direct Mate Orthogonal Header 152
EPT(X) ExaMAX® Power Module 153
EGB(X) 2 mm ExaMAX® Guide Module 154

Eye Speed® I/O, Eye Speed® HD
HDLSP 0.635 mm Eye Speed® HD I/O High-Speed Cable System 190
HDC/HDI6 Eye Speed® HD I/O Cage & Socket for HDLSP 191
EPLSP 0.80 mm Eye Speed® Rugged Latching High-Speed Cable System 192
ERC 0.80 mm Eye Speed® Cage for ERI8-RA 193
ERI8-RA 0.80 mm Eye Speed® Right-Angle Edge Rate® Socket 193
SFPE SFP+ Copper I/O Cable Assembly 194
SFPC SFP+ Transceiver Cage 196
SFPK SFP+ Cage and Connector Kit 196

FireFly™ & Flyover™
FQSFP Flyover™ QSFP28 Cable System 166
FQSFP-DD Flyover™ QSFP28 Double Density System 168
ECUE FireFly™ 38 AWG Copper Micro Flyover™ Cable 170
PCUE PCIe®-over-FireFly™ Copper Flyover™ Cable 171
UCC8 FireFly™ Positive Latching Receptacle 172
UEC5 FireFly™ Edge Card Socket 172
DCH 2 mm High-Speed Press-Fit Twinax Cable Assembly 173
ECUO FireFly™ Optical Micro Flyover™ Cable Assembly 200
ETUO FireFly™ Extended Temp Active Optical Micro Flyover™ Cable 201
PCUO PCIe®-over-Fiber FireFly™ Optical Cable 202
PTUO Extended Temp PCIe®-Over-Fiber FireFly™ Optical Cable 203
PCOA PCIe®-Over-Fiber FireFly™ Adaptor Card 204

Flex Stack
AW 0.80 mm Flex Stack, Surface Mount Micro Board Stacker 306
MW 1 mm Flex Stack, Surface Mount Micro Board Header 310
FW 1.27 mm Flex Stack, Micro Board Stacker 318, 319
HMTMS 1.27 mm Flex Stack, High Temp Modified Micro Header 323
MTMS 1.27 mm Flex Stack, Modified Micro Header 323
ZML 1.27 mm Flex Stack, Shrouded Elevated Stacker 325
DWM 1.27 mm Flex Stack, Flexible Micro Board Stacker 326
HDWM 1.27 mm Flex Stack, High Temp Micro Board Stacker 326
LTMM 2 mm Flex Stack, Shrouded Terminal Strip 338
ZLTMM 2 mm Flex Stack, Shrouded Elevated Terminal Strip 338
TW-SM 2 mm Flex Stack, Flexible Board Stacker, SMT 340
HMTSW 2.54 mm Flex Stack, High Temp Modified SQ Post Header 356, 357
MTSW 2.54 mm Flex Stack, Modified SQ Post Header 356, 357
MTLW 2.54 mm Flex Stack, Low-Profile .025" SQ Post Header 359
TLW 2.54 mm Flex Stack, Low-Profile .025" SQ Post Header 359
DW 2.54 mm Flex Stack, Flexible Board Stacker, .110" Tail 360
EW 2.54 mm Flex Stack, Flexible .025" SQ Board Stacker 360
ZW 2.54 mm Flex Stack, Flexible .025" SQ Board Stacker 360
HW 2.54 mm Flex Stack, Flexible Board Stacker 360, 361
HTSS 2.54 mm High Temp Shrouded Terminal 363
TSS 2.54 mm Flex Stack, Shrouded Header 363
ZSS 2.54 mm Flex Stack, Elevated Shrouded Header 363
HTST 2.54 mm High Temp Shrouded Cable Terminal 389
TST 2.54 mm Flex Stack, Shrouded Cable Header 389
ZST 2.54 mm Flex Stack, Elevated Shrouded Cable Header 389
STMM 2 mm Flex Stack, Shrouded Terminal Cable Strip 393
ZSTMM 2 mm Flex Stack, Shrouded Elevated Cable Header 393

FleXYZ™
TMM-TH 2 mm FleXYZ™ Low-Profile Through-Hole Header 331
MTMM 2 mm FleXYZ™ Modified Through-Hole Header 332
TMMH-TH 2 mm FleXYZ™ Flexible Through-Hole Header 336, 337
TW-TH 2 mm FleXYZ™ Flexible Board Stacker, Through-Hole 341
SQW 2 mm FleXYZ™ Cost-Effective Rugged Socket, Solder Tail 344
SQT 2 mm FleXYZ™ Cost-Effective Rugged Socket, Square Tail 345
ESQT 2 mm FleXYZ™ Flexible Elevated Socket Strip 346

FOURRAY™
FOLC 1.27 mm FOURRAY™ High-Density Tiger Eye™ Socket 218
MOLC 1.27 mm FOURRAY™ High-Density High-Reliability Header 219
SOLC 0.635 mm FOURRAY™ Quad Row SMT Socket 312
TOLC 0.635 mm FOURRAY™ Quad Row SMT Terminal 313

LP Array™
LPAM 1.27 mm LP Array™ High-Speed Open-Pin-Field Terminal 52
LPAF 1.27 mm LP Array™ High-Speed Open-Pin-Field Socket 53

Mini Mate®
MMSX(T) 2.54 mm Mini Mate® Discrete Wire Cable 237
IPL1 2.54 mm Mini Mate® Shrouded Power Cable Terminal 238
IPT1 2.54 mm Mini Mate® Isolated Power Connector Terminal 266
IPS1 2.54 mm Mini Mate® Isolated Power Connector Socket 267

NovaRay™
NVAM NovaRay™ Extreme Density & Performance Terminal 50
NVAF NovaRay™ Extreme Density & Performance Socket 51
NVAC NovaRay™ Extreme Density & Performance Cable 160
NVAM-C NovaRay™ Terminal for NVAC Series 161

Power Eye
FHP 3.96 mm Power Eye Socket 269
HPF 5.08 mm Power Socket 271

PowerStrip™
MPSS 5 mm PowerStrip™/30 Amp Power Cable Assembly 240
MPCC PowerStrip™/30 Amp Combo Cable Assembly 241
PESS 6.35 mm PowerStrip™/40 Amp Cable Assembly 242
LPHT PowerStrip™ EXTreme LPHPower™ Terminal 246
LPHS PowerStrip™ EXTreme LPHPower™ Socket 247
ET60T PowerStrip™ EXTreme Ten60Power™ Terminal 248, 249
ET60S PowerStrip™ EXTreme Ten60Power™ Socket 250, 251
PES 6.35 mm PowerStrip™/40 Amp High Power Socket 252
PET 6.35 mm PowerStrip™/40 Amp High Power Terminal 252
PESC PowerStrip™/40 Amp Signal/Power Socket 253
PETC PowerStrip™/40 Amp Signal/Power Terminal 253
MPT 5 mm PowerStrip™/30 Amp Dual Blade Terminal 254
MPS 5 mm PowerStrip™/30 Amp Dual Leaf Socket 255
MPSC PowerStrip™/30 Amp Signal/Power Combo Socket 257, 258
MPTC PowerStrip™/30 Amp Signal/Power Combo Terminal 257, 258
MPPT 5 mm PowerStrip™/30 Amp Hermaphroditic Power System 259
FMPS 5 mm PowerStrip™/30 Amp "Hinging" Power Socket 260
FMPT 5 mm PowerStrip™/30 Amp "Hinging" Power Terminal 260
UPPT 3.81 mm PowerStrip™/20 Amp Hermaphroditic Power System 261
UPT 3.81 mm PowerStrip™/20 Amp Dual Blade Power Terminal 262
UPS 3.81 mm PowerStrip™/20 Amp Dual Leaf Power Socket 263

Power Mate®
PMSX(T) 4.19 mm Power Mate® Discrete Wire Power Cable 239
IPBT 4.19 mm Power Mate® Isolated Power Terminal 264
IPBS 4.19 mm Power Mate® Isolated Power Socket 265

Q Series®, Q Strip®, Q Pairs®
QTH 0.50 mm Q Strip® High-Speed Ground Plane Header 76, 77
QSH 0.50 mm Q Strip® High-Speed Ground Plane Socket 78, 79
QTE 0.80 mm Q Strip® High-Speed Ground Plane Header 80
QSE 0.80 mm Q Strip® High-Speed Ground Plane Socket 81
QTS 0.635 mm Q Strip® High-Speed Ground Plane Header 82, 83
QSS 0.635 mm Q Strip® High-Speed Ground Plane Socket 84, 85
EQDP 0.80 mm Q Pairs® Twinax Cable Assembly 177
HQDP 0.50 mm Q Pairs® Twinax Cable Assembly 177
EQCD 0.80 mm Q Strip® Coax Cable Assembly 180, 181
HQCD 0.50 mm Q Strip® Coax Cable Assembly 180, 181

Q Rate®
QRM8 0.80 mm Q Rate® Slim Body Ground Plane Header 86, 87
QRF8 0.80 mm Q Rate® Slim Body Ground Plane Socket 88, 89
EQRD 0.80 mm Q Rate® Coax Cable Assembly 182

Q2™
QMS 0.635 mm Q2™ Rugged Ground Plane Header 90, 91, 92
QFS 0.635 mm Q2™ Rugged Ground Plane Socket 93, 94, 95
QMSS 0.635 mm Q2™ Shielded Ground Plane Header 96
QFSS 0.635 mm Q2™ Shielded Ground Plane Socket 97

Razor Beam™
LSHM 0.50 mm Razor Beam™ High-Speed Hermaphroditic Strip 112, 113
LSS 0.635 mm Razor Beam™ High-Speed Hermaphroditic Strip 114
LSEM 0.80 mm Razor Beam™ High-Speed Hermaphroditic Strip 115
HLCD 0.50 mm Razor Beam™ High-Speed Cable Assembly 179

Razor Beam™ LP
ST4 0.40 mm Razor Beam™ LP Ultra-Fine Pitch Header 116
SS4 0.40 mm Razor Beam™ LP Ultra-Fine Pitch Socket 116
ST5 0.50 mm Razor Beam™ LP Ultra-Fine Pitch Header 117
SS5 0.50 mm Razor Beam™ LP Ultra-Fine Pitch Socket 117
SLH 0.50 mm Razor Beam™ LP Ultra-Low Profile Socket 118
TLH 0.50 mm Razor Beam™ LP Ultra-Low Profile Header 118

SEARAY™ 0.80 mm
SEAM8 0.80 mm SEARAY™ Ultra-High Density Open-Pin-Field Terminal 54
SEAF8 0.80 mm SEARAY™ Ultra-High Density Open-Pin-Field Socket 55, 56
ESCA 0.80 mm SEARAY™ High-Speed Cable Assembly 184

SEARAY™
SEAM 1.27 mm SEARAY™ High-Density Open-Pin-Field, Terminal 58, 60
SEAF 1.27 mm SEARAY™ High-Density Open-Pin-Field, Socket 59, 61
SEAR 1.27 mm SEARAY™ High-Density Riser, 85 Ω 62
SEAMI 1.27 mm SEARAY™ 85 Ω-tuned High-Density Open-Pin-Field 63
SEAMP 1.27 mm SEARAY™ Press-Fit High-Density Open-Pin-Field 64
SEAFP 1.27 mm SEARAY™ Press-Fit High-Density Open-Pin-Field 65, 66
SEAC 1.27 mm SEARAY™ High-Speed/High-Density Jumper 185

SkyRay™
TPAF 1.50 x 1.75 mm High-Speed Elevated Array Receptacle 68
TPAR 1.50 x 1.75 mm High-Speed Elevated Riser 69

Tiger Beam™
CLE 0.80 mm Cost-Effective Micro Socket 305
MLE 1 mm Tiger Beam™ Cost-Effective Micro Socket 311
FLE 1.27 mm Tiger Beam™ Cost-Effective Reliable Socket 321
TLE 2 mm Tiger Beam™ Cost-Effective Reliable Socket 350
HLE 2.54 mm Tiger Beam™ Cost-Effective Reliable Socket 369

Tiger Buy™
SLM 1.27 mm Tiger Buy™ Low-Profile Through-Hole Micro Socket 329
SMS 1.27 mm Tiger Buy™ Through-Hole Micro Socket 329
SQW 2 mm FleXYZ™ Cost-Effective Rugged Socket, Solder Tail 344
SQT 2 mm FleXYZ™ Cost-Effective Rugged Socket, Square Tail 345
ESQT 2 mm FleXYZ™ Flexible Elevated Socket Strip 346
LS2 2 mm Self-Mating Hermaphroditic Strip 351
SSQ 2.54 mm Tiger Buy™ Socket .025" SQ Post 364, 365
SSW 2.54 mm Tiger Buy™ Socket 364, 365, 366
ESQ 2.54 mm PC/104™ Elevated Socket 368
ESW 2.54 mm PC/104™ Elevated Socket 368
BSW 2.54 mm Bottom Mount Socket Strip 371
SLW 2.54 mm Tiger Buy™ Low-Profile Socket Strip 372
SMH 2.54 mm SMT Horizontal Socket 373

Tiger Claw™
CLM 1 mm Tiger Claw™ Rugged Reliable Micro Socket 311
CLP 1.27 mm Low-Profile Dual Wipe Socket 320
MMS 2 mm Tiger Claw™ Socket Strip 347
CLT 2 mm Low-Profile Dual Wipe Socket 348
SSM 2.54 mm Tiger Claw™ Pass-Through SMT Socket 367
BCS 2.54 mm Tiger Claw™ Pass-Through Through-Hole Socket 370

Tiger Eye™
SEM 0.80 mm Tiger Eye™ Micro Socket 210
SFM 1.27 mm Tiger Eye™ High-Reliability Socket 212, 213
SFML 1.27 mm Tiger Eye™ High-Reliability Locking Socket 212, 213
SFC 1.27 mm Tiger Eye™ Cost-Effective Reliable Socket 216
S2M 2 mm Tiger Eye™ Discrete Wire Cable Socket 221
SFMC 1.27 mm Tiger Eye™ Flexible Pin Count Socket 222
SESDT 0.80 mm Tiger Eye™ Discrete Wire Socket Cable 226
SFSX(T) 1.27 mm Tiger Eye™ Discrete Wire Cable 232, 233
SS2SD(T) 2 mm Tiger Eye™ Shielded Discrete Wire Cable 234
ST2M 2 mm Tiger Eye™ Shielded Terminal 235
S2SD(T) 2 mm Tiger Eye™ Discrete Wire Socket Cable 236
SMM 2 mm Tiger Eye™ High-Reliability Socket 349
TCSD 2 mm Tiger Eye™ IDC Socket Cable 390
TCMD 2 mm Tiger Eye™ IDC High-Reliability Header Cable 391
FFSD 1.27 mm Tiger Eye™ IDC Ribbon Cable Assembly, Female 396
FFMD 1.27 mm Tiger Eye™ IDC Ribbon Cable Assembly, Male 397
FFTP 1.27 mm Tiger Eye™ IDC Twisted Pair Cable, Female 398
FMTP 1.27 mm Tiger Eye™ IDC Twisted Pair Cable, Male 398

XCede® HD
HDTM 1.80 mm XCede® HD Vertical Backplane Header 144, 145
HDTF 1.80 mm XCede® HD Right-Angle Backplane Receptacle 146
HPTS XCede® HD Power Module 147

Z-Ray®
ZA8 0.80 mm Z-Ray® Ultra-Low Profile Micro Arrays 70
ZA8H 0.80 mm Z-Ray® High-Speed Micro Arrays 71
ZA1 1 mm Z-Ray® Ultra-Low Profile Micro Arrays 72

All parts within this catalog are built to Samtec's specifications.
Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.

samtec

INDEX BY SERIES

Series	Description	Page
ACD	Automotive Certified Design	402
ACP-12	AcciMate™ IP68 Sealed 12 mm Cable Assembly	274
ACP-16	AcciMate™ IP68 Sealed 16 mm Cable Assembly	278
ACP-22	AcciMate™ IP68 Sealed 22 mm Cable Assembly	282
ACPK-12	AcciMate™ IP68 Sealed 12 mm Field Termination Kit	275
ACPK-16	AcciMate™ IP68 Sealed 16 mm Field Termination Kit	279
ACPK-22	AcciMate™ IP68 Sealed 22 mm Field Termination Kit	283
ACR-12	AcciMate™ IP68 Sealed 12 mm Panel Assembly	276
ACR-16	AcciMate™ IP68 Sealed 16 mm Panel Assembly	280
ACR-22	AcciMate™ IP68 Sealed 22 mm Panel Assembly	284
ACRK-12	AcciMate™ IP68 Sealed 12 mm Field Termination Kit	277
ACRK-16	AcciMate™ IP68 Sealed 16 mm Field Termination Kit	281
ACRK-22	AcciMate™ IP68 Sealed 22 mm Field Termination Kit	285
ADF6	**0.635 mm AcceleRate® HD 4-Row Socket**	**111**
ADM6	**0.635 mm AcceleRate® HD 4-Row Header**	**110**
ARC6	**0.635 mm AcceleRate® Slim Body Cable**	**158**
ARF6	**0.635 mm AcceleRate® Slim Body Socket**	**159**
ASP	Application Specific Product	45
ATS	Tail Shroud for PC/104-*Plus*™ Socket (ESQT Series)	343
AW	0.80 mm Flex Stack, Surface Mount Micro Board Stacker	306
BBD	2.54 mm Double Row, Machined Terminal Strip	376
BBL	2.54 mm Low-Profile Single Row, Machined Terminal Strip	376
BBS	2.54 mm Single Row, Machined Terminal Strip	376
BCS	2.54 mm Tiger Claw™ Pass-through Through-Hole Socket	370
BDL	2.54 mm Low-Profile Double Row, Machined Terminal Strip	376
BDRA	20 GHz Bulls Eye® Double Row Assembly	**
BE40A	**50 GHz Bulls Eye® Double Row Assembly**	**188**
BHS	2.54 mm High Temp Single Row, Machined Terminal Strip	376
BKS	1 mm Polarized Micro Socket	307
BKT	1 mm Polarized Micro Terminal	307
BNC5	50 Ω BNC Jacks & Plugs	**
BNC7T	75 Ω Optimized BNC Jacks & Plugs	**
BQRA	20 GHz Bulls Eye® Quad Row Assembly	**
BSE	0.80 mm Basic Blade & Beam Socket	303
BSH	0.50 mm Basic Blade & Beam Socket	301
BSS	0.635 mm Basic Blade & Beam Socket	302
BSW	2.54 mm Bottom Mount Socket Strip	371
BTE	0.80 mm Basic Blade & Beam Header	303
BTH	0.50 mm Basic Blade & Beam Header	300
BTS	0.635 mm Basic Blade & Beam Header	302
CC03	Tiger Eye™ Contact for ISDF	224
CC09	Contact for ISS1/ISD1	224
CC10	PowerStrip™ Contact for IPS6	225
CC396	Tiger Eye™ Contact for ISDE	224
CC46	PowerStrip™ Contact for IMS5 and IMSC5	225
CC69	Power Mate® Contact for IPBD	225
CC79	Mini Mate® Contact for IPD1	225
CC81	Tiger Eye™ Contact for ISD2, IMSC5 and CCX	225
CCP-12	AcciMate™ IP68 Crimped 12 mm Cable Assembly	286
CCR-12	AcciMate™ IP68 Crimped 12 mm PanelAssembly	287
CCRB-12	AcciMate™ IP68 Crimped 12 mm Panel Receptacle	287
CES	2.54 mm Closed Entry Low-Profile Socket Strip	372
CLE	0.80 mm Cost-Effective Micro Socket	305
CLM	1 mm Tiger Claw™ Rugged Reliable Micro Socket	311
CLP	1.27 mm Low-Profile Dual Wipe Socket	320
CLT	2 mm Low-Profile Dual Wipe Socket	348
DCH	**2 mm High-Speed Press-Fit Twinax Cable Assembly**	**173**
DIN7A	75 Ω DIN 1.0/2.3 Components	**
DW	2.54 mm Flex Stack, Flexible Board Stacker, .110" Tail	360
DWM	1.27 mm Flex Stack, Flexible Micro Board Stacker	326
EBCB	**ExaMAX® Panel Retention Bracket**	**164**
EBCF	**ExaMAX® Backplane Cable Socket**	**162**
EBCL	**ExaMAX® Vertical Latching Shroud**	**165**
EBCM	**ExaMAX® Backplane Cable Header**	**162**
EBDM-RA	**2 mm ExaMAX® Direct Mate Orthogonal Header**	**152**
EBTF-RA	2 mm ExaMAX® Socket, Right-Angle	150
EBTM	2 mm ExaMAX® Header	148
EC2	2 mm Shrouded IDC Ejector Header Cap	392
ECDP	0.80 mm Twinax Edge Card Cable Assembly	176
ECF	1.27 mm Shrouded & Ejector IDC Header Cap	395
ECUE	FireFly™ 38 AWG Copper Micro Flyover™ Cable	170
ECUO	FireFly™ Optical Micro Flyover™ Cable Assembly	200
EGBF	ExaMAX® Socket Guide Module	154
EGBM	ExaMAX® Terminal Guide Module	154
EHF	1.27 mm Shrouded IDC Ejector Header	395
EHT	2 mm Shrouded IDC Ejector Header	392
EJH	2.54 mm Shrouded IDC Ejector Header	388
EPLSP	0.80 mm Eye Speed® Rugged Latching High-Speed System	192
EPTS	ExaMAX® Socket Power Module	153
EPTT	ExaMAX® Terminal Power Module	153
EQCD	0.80 mm Q Strip® Coax Cable Assembly	180
EQDP	0.80 mm Q Pairs® Twinax Cable Assembly	177
EQRD	0.80 mm Q Rate® Coax Cable Assembly	182
ERC	0.80 mm Eye Speed® Cage for ERI8-RA	193
ERCD	0.80 mm Edge Rate® Coax Cable Assembly	183
ERDP	0.80 mm Edge Rate® Twinax Cable Assembly	178
ERF5	0.50 mm Edge Rate® Rugged High-Speed Socket	99
ERF6	0.635 mm Edge Rate® Rugged High-Speed Socket	101
ERF8	0.80 mm Edge Rate® Rugged High-Speed Socket	104
ERF8-EM	0.80 mm Edge Rate® Rugged Edge Mount Socket	105
ERF8-RA	0.80 mm Edge Rate® Rugged Right-Angle Socket	105
ERI8-RA	0.80 mm Eye Speed® Right-Angle Edge Rate® Socket	193
ERM5	0.50 mm Edge Rate® Rugged High-Speed Header	98
ERM6	0.635 mm Edge Rate® Rugged High-Speed Header	100
ERM8	0.80 mm Edge Rate® Rugged High-Speed Header	102
ERM8-EM	0.80 mm Edge Rate® Rugged Edge Mount Header	103
ERM8-RA	0.80 mm Edge Rate® Rugged Right-Angle Header	103
ESCA	0.80 mm SEARAY™ High-Speed Cable Assembly	184
ESD	2.54 mm Elevated Double Row Screw Machined Socket	375
ESHF	1.27 mm Shrouded Ejector IDC Header	395
ESQ	2.54 mm PC/104™ Elevated Socket	368
ESQT	2 mm FleXYZ™ Flexible Elevated Socket Strip	346
ESQT-368	2 mm PC/104-*Plus*™ Self-Nesting Socket	343
ESS	2.54 mm Elevated Single Row Screw Machined Socket	375
ESW	2.54 mm PC/104™ Elevated Socket	368
ET60S	2.54 mm PowerStrip™ EXTreme Ten60Power™ Socket	250
ET60T	2.54 mm PowerStrip™ EXTreme Ten60Power™ Terminal	248
ETMM	2 mm Shrouded Strain Relief IDC Header	394
ETUO	FireFly™ Extended Temp Active Optical Flyover™ Cable	201
EW	2.54 mm Flex Stack, Flexible .025" SQ Board Stacker	360
FC1	1 mm Flat Flexible Cable (FFC) Socket	383
FCDP	**0.50 mm High-Speed Edge Card Socket for FEDP**	**175**
FEDP	**0.50 mm High-Speed Edge Card Cable Assembly**	**174**
FCF8	0.80 mm High-Speed Cost-Effective Coax Cable Assembly	187
FCS8	0.80 mm High-Speed Cost-Effective Coax Cable Socket	187
FFMD	1.27 mm Tiger Eye™ IDC Ribbon Cable Assembly, Male	397
FFSD	1.27 mm Tiger Eye™ IDC Ribbon Cable Assembly, Female	396
FFTP	1.27 mm Tiger Eye™ IDC Twisted Pair Cable, Female	398
FHP	3.96 mm Power Eye Socket	269
FJ	1 mm Flat Flexible Cable (FFC) Jumper	382
FJH	0.50 mm Flat Flexible Cable (FFC) Jumper	380
FLE	1.27 mm Tiger Beam™ Cost-Effective Reliable Socket	321
FMPS	5 mm PowerStrip™/30 Amp "Hinging" Power Socket	260
FMPT	5 mm PowerStrip™/30 Amp "Hinging" Power Header	260
FMTP	1.27 mm Tiger Eye™ IDC Twisted Pair Cable, Male	398
FOLC	1.27 mm FOURRAY™ High-Density Tiger Eye™ Socket	218
FOPC	Fiber Optical Patch Cable	205
FQSFP	Flyover™ QSFP28 Cable System	166
FQSFP-DD	**Flyover™ QSFP28 Double Density Cable System**	**168**
FS5	0.50 mm High-Speed Floating Contact Socket	299
FSI	1 mm One-Piece Interface	294
FT5	0.50 mm High-Speed Floating Contact Terminal	299
FTE	0.80 mm SMT Micro Header	304
FTM	1 mm SMT Micro Low-Profile Terminal Strip	308
FTMH	1 mm SMT Micro Terminal Strip	308
FTR	1.27 mm SMT Micro Terminal Strip	327
FTS	1.27 mm Micro Low-Profile Terminal Strip	317
FTSH-MT	1.27 mm SMT Mixed Technology Micro Terminal Strip	314
FTSH-SM	1.27 mm SMT Micro Terminal Strip	314
FTSH-TH	1.27 mm Through-Hole Micro Terminal Strip	316
FWJ	3.96 mm Power Terminal Strip	268
FW-SM	1.27 mm Flex Stack, SMT Micro Board Stacker	318
FW-TH	1.27 mm Flex Stack, Through-Hole Micro Board Stacker	319
GMI	Low-Profile One-Piece Array	74
GRF1	50 Ω Ganged Micro-Mini RF System	**
GRF1H-C	50 Ω Ganged Hybrid Micro-Mini RF Cable	**
GRF7H-C	75 Ω Ganged Hybrid Micro-Mini RF Cable	**
HCMD	2.54 mm IDC Terminal Cable, Double Row	386
HCMS	2.54 mm IDC Terminal Cable, Single Row	386
HCSD	2.54 mm IDC Socket Cable, Double Row	386
HCSS	2.54 mm IDC Socket Cable, Single Row	386
HDBNC	75 Ω High-Density BNC Jack & Plug	**
HDC	Eye Speed® HD I/O Cage for HDLSP/HDI6	191
HDI6	0.635 mm Eye Speed® HD I/O Socket for HDLSP	191
HDLSP	0.635 mm Eye Speed® HD I/O High-Speed Cable System	190
HDWM	1.27 mm Flex Stack, High Temp Micro Board Stacker	326
HDTF	**1.80 mm XCede® HD Right-Angle Backplane Receptacle**	**146**
HDTM	**1.80 mm XCede® HD Vertical Backplane Header**	**144**
HFWJ	3.96 mm High Temp Power Header	268
HLCD	0.50 mm Razor Beam™ High-Speed Cable Assembly	179
HLE	2.54 mm Tiger Beam™ Cost-Effective Reliable Socket	369
HMTMS	1.27 mm Flex Stack, High Temp Modified Micro Header	323
HMTSW	2.54 mm Flex Stack, High Temp Modified SQ Post Header	356
HPF	5.08 mm Power Socket	271
HPM	5.08 mm Power Header	270
HPTS	**XCede® HD Power Module**	**147**
HPW	5.08 mm Power Board Stacker	270
HQCD	0.50 mm Q Strip® Coax Cable Assembly	180
HQDP	0.50 mm Q Pairs® Twinax Cable Assembly	177
HSC8	0.80 mm High-Speed Riser Card	130
HSEC1-DV	1 mm Edge Rate® Vertical Card Socket	136
HSEC8-DP	0.80 mm Edge Rate® Differential Pair Card Socket	129
HSEC8-DV	0.80 mm Edge Rate® Vertical Card Socket	128
HSEC8-EM	0.80 mm Edge Rate® Edge Mount Card Socket	133
HSEC8-PE	0.80 mm Edge Rate® Pass-Through Card Socket	131
HSEC8-PV	0.80 mm Edge Rate® Power/Signal Combo Socket	127
HSEC8-RA	0.80 mm Edge Rate® Right-Angle Card Socket	132
HS-QSFP	**Heat Sink for QSFPC**	**167**
HS-QSFP-DD	**Heat Sink for QSFPC-DD**	**169**
HSS	2.54 mm High Temp Single Row Machined Socket	375
HTMS	1.27 mm High Temp Through-Hole Micro Terminal	322
HTS	2.54 mm High Temp Single Row Machined Terminal	377
HTSS	2.54 mm High Temp Shrouded Terminal	363
HTST	2.54 mm High Temp Shrouded Cable Terminal	389
HTSW	2.54 mm High Temp Terminal	352
HW-SM	2.54 mm Flex Stack, Board Stacker, Surface Mount	361
HW-TH	2.54 mm Flex Stack, Board Stacker, Through-Hole	360
IDMD	2.54 mm Slim Double Row IDC Ribbon Cable, Male	384
IDMS	2.54 mm Slim Single Row IDC Ribbon Cable, Male	384
IDSD	2.54 mm Slim Double Row IDC Ribbon Cable, Female	384
IDSS	2.54 mm Slim Single Row IDC Ribbon Cable, Female	384
IJ5	4 mm IsoRate® 50 Ω High Isolation RF Jacks	**
IJ5C	4 mm IsoRate® 50 Ω High Isolation RF Cable Assembly	**
IJ5H	4 mm IsoRate® 50 Ω Hybrid RF Cable Assembly	**
IP5	4 mm IsoRate® 50 Ω High Isolation RF Plugs	**
IMS5	PowerStrip™/30 Amp Discrete Wire Socket Housing	225
IMSC5	PowerStrip™/30 Amp Discrete Wire Combo Housing	225
IPBD	4.19 mm Power Mate® Discrete Wire Socket Housing	225
IPBS	4.19 mm Power Mate® Isolated Power Socket	265
IPBT	4.19 mm Power Mate® Isolated Power Terminal	264
IPD1	2.54 mm Mini Mate® Discrete Wire Socket Housing	225
IPL1	2.54 mm Mini Mate® Shrouded Power Cable Terminal	238
IPS1	2.54 mm Mini Mate® Isolated Power Connector Socket	267
IPS6	6.35 mm PowerStrip™/40 Amp Discrete Wire Header	225
IPT1	2.54 mm Mini Mate® Isolated Power Connector Terminal	266
ISD1	1 mm Discrete Wire Double Row Socket Housing	224
ISD2	2 mm Tiger Eye™ Discrete Wire Socket Housing	224
ISDE	0.80 mm Tiger Eye™ Discrete Wire Socket Housing	224
ISDF	1.27 mm Tiger Eye™ Discrete Wire Socket Housing	224
ISS1	1 mm Discrete Wire Single Row Socket Housing	224
JL	2.54 mm Jumper Link	378
JSO	Jack Screws Precision Board Stacking Standoff	67
JSOM	Micro Jack Screw Precision Board Stacking Standoff	107
JW	3.96 mm Flex Stack, Power Board Stacker	268
LPAF	1.27 mm LP Array™ High-Speed Open-Pin-Field Array	53
LPAM	1.27 mm LP Array™ High-Speed Open-Pin-Field Array	52
LPHS	PowerStrip™ EXTreme LPHPower™ Socket	247
LPHT	PowerStrip™ EXTreme LPHPower™ Terminal	246
LP-FQSFP	**Light Pipe for QSFPC and HS-QSFP**	**167**
LS2	2 mm Self-Mating Hermaphroditic Strip	351
LSEM	0.80 mm Razor Beam™ High-Speed Hermaphroditic Strip	115
LSH	0.50 mm Low-Profile Blade & Beam Socket	298
LSHM-DH	0.50 mm Razor Beam™ Right-Angle Hermaphroditic Strip	113
LSHM-DV	0.50 mm Razor Beam™ High-Speed Hermaphroditic Strip	112
LSHM-RH	0.50 mm Razor Beam™ Reversed -RA Hermaphroditic Strip	113
LSS	0.635 mm Razor Beam™ High-Speed Hermaphroditic Strip	114
LTH	0.50 mm Low-Profile Blade & Beam Terminal	298
LTMM	2 mm Shrouded Terminal Strip	338
MCX	50 Ω MCX Mini Jacks & Plugs	**
MCX7	75 Ω Optimized MCX Jacks & Plugs	**
MCP	AcciMate™ IP67 Mini Push-Pull Cable Assembly	288
MCR	AcciMate™ IP67 Mini Push-Pull Panel Assembly	288
MEC1-DV	1 mm Micro Edge Card Socket, Vertical	134
MEC1-EM	1 mm Micro Edge Card Socket, Edge Mount	135
MEC1-RA	1 mm Micro Edge Card Socket, Right-Angle	135
MEC2-DV	2 mm Micro Edge Card Socket, Vertical Surface Mount	141
MEC2-TH	2 mm Micro Edge Card Socket, Vertical Through-Hole	142
MEC5-DV	0.50 mm Mini Edge Card Socket, Vertical	120
MEC5-RA	0.50 mm Mini Edge Card Socket, Right-Angle	121
MEC6-DV	0.635 mm Mini Edge Card Socket, Vertical	122
MEC6-RA	0.635 mm Mini Edge Card Socket, Right-Angle	123
MEC8-DV	0.80 mm Mini Edge Card Socket, Vertical	124

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GENERAL POLICY

The information contained in this catalog is accurate to the best of our knowledge. Due to technical progress, it is subject to change without notice. Application information is informational in nature and shall not be construed to warrant suitability of products for any particular purpose as performance may vary with the conditions encountered. Any cut strip or custom made items or options are considered "special," non-returnable items. Samtec products are warranted for 30 days and the warranty is limited strictly to replacement of products with defective workmanship.

Federal Supply Code: 55322

Most older products not shown in this catalog are still available.
Visit www.samtec.com and use the homepage search bar for availability and specifications.

** Product available in RF catalog or website. Go to www.samtec.com/catalog to order or view the RF Interconnect Catalog.

New products highlighted in bold.

Series	Description	Page
MEC8-RA	0.80 mm Mini Edge Card Socket, Right-Angle	126
MEC8-EM	0.80 mm Mini Edge Card Socket, Edge Mount	126
MEC8-VP	0.80 mm Mini Edge Card Socket, Press-Fit	125
MECF	1.27 mm Micro Edge Card Socket, Vertical	140
MECT	0.80 mm SFP+ Edge Card Connector	195
MH081	Micro High Frequency RF Cable Assembly, .81 mm Dia. Coax	**
MH113	Micro High Frequency RF Cable Assembly, 1.13 mm Dia. Coax	**
MLE	1 mm Tiger Beam™ Cost-Effective Micro Socket	311
MMCX	50 Ω Micro-Mini Jacks & Plugs	**
MMCX7	75 Ω Micro-Mini Jacks & Plugs	**
MMS	2 mm Tiger Claw™ Socket Strip	347
MMSD(T)	2.54 mm Mini Mate® Discrete Wire Cable, Double Row	237
MMSS(T)	2.54 mm Mini Mate® Discrete Wire Cable, Single Row	237
MMT	2 mm Horizontal Surface Mount Terminal	333
MNT	2.54 mm Multi-Position Shunt	378
MOLC	1.27 mm FOURRAY™ High-Density High-Reliability Header	219
MPCC	PowerStrip™/30 Amp Combo Assembly	241
MPPT	5 mm PowerStrip™/30 Amp Hermaphroditic Power System	259
MPS	5 mm PowerStrip™/30 Amp Dual Leaf Socket	255
MPS-RA	5 mm PowerStrip™/30 Amp Right-Angle Power Socket	256
MPSC	PowerStrip™/30 Amp Signal/Power Combo Socket	257
MPSC-RA	PowerStrip™/30 Amp Right-Angle Signal/Power Socket	258
MPSS	5 mm PowerStrip™/30 Amp Power Cable	240
MPT	5 mm PowerStrip™/30 Amp Dual Blade Terminal	254
MPT-RA	5 mm PowerStrip™/30 Amp Right-Angle Power Terminal	256
MPTC	PowerStrip™/30 Amp Signal/Power Combo Terminal	257
MPTC-RA	PowerStrip™/30 Amp Right-Angle Signal/Power Terminal	258
MTLW	2.54 mm Flex Stack, Low-Profile .025" SQ Post Header	359
MTMM	2 mm FleXYZ™ Modified Through-Hole Header	332
MTMS	1.27 mm Flex Stack, Modified Micro Header	323
MTSW	2.54 mm Flex Stack, Modified SQ Post Header	356
MW	1 mm Flex Stack, Surface Mount Micro Board Header	310
NTPE	50 Ω N Type RF Cable Components	**
NVAC	**NovaRay™ Extreme Density & Performance Cable**	**160**
NVAF	**NovaRay™ Extreme Density & Performance Socket**	**51**
NVAM	**NovaRay™ Extreme Density & Performance Terminal**	**50**
NVAM-C	**NovaRay™ Terminal for NVAC Series**	**161**
OPA	Optical Patch Adaptor	205
PCIE	1 mm PCI Express® Edge Card Socket	138
PCIE-LP	1 mm PCI Express® Low-Profile Edge Card Socket	139
PCIEC	1 mm PCI Express® Internal Cable Assembly	186
PCIEO	PCIe® Active Optical Cable Assembly	206
PCOA	**PCIe®-Over-Fiber FireFly™ Adaptor Card**	**204**
PCUE	PCIe®-Over-FireFly™ Copper Flyover™ Cable	171
PCUO	**PCIe®-Over-Fiber FireFly™ Optical Cable**	**202**
PES	6.35 mm PowerStrip™/40 Amp High Power Socket	252
PESC	PowerStrip™/40 Amp Signal/Power Socket	253
PESS	6.35 mm PowerStrip™/40 Amp Cable Assembly	242
PET	6.35 mm PowerStrip™/40 Amp High Power Terminal	252
PETC	PowerStrip™/40 Amp Signal/Power Terminal	253
PHF	2.54 mm Press-Fit Socket	358
PHT	2.54 mm Press-Fit Terminal	358
PMSD(T)	4.19 mm Power Mate® Discrete Wire Cable, Double Row	239
PMSS(T)	4.19 mm Power Mate® Discrete Wire Cable, Single Row	239
PTF	2 mm Press-Fit Socket	342
PTHF	2 mm PC/104-*Plus*™ Self-Nesting Socket	343
PTT	2 mm Press-Fit Terminal	342
PTUO	Extended Temp PCIe®-Over-Fiber FireFly™ Optical Cable	203
QFS	0.635 mm Q2™ Rugged Ground Plane Socket	93
QFS-EM	0.635 mm Q2™ Ground Plane Socket, Edge Mount	95
QFS-RA	0.635 mm Q2™ Ground Plane Socket, Right-Angle	94
QFSS	0.635 mm Q2™ Shielded Ground Plane Socket	97
QMS	0.635 mm Q2™ Rugged Ground Plane Header	90
QMS-EM	0.635 mm Q2™ Ground Plane Header, Edge Mount	92
QMS-RA	0.635 mm Q2™ Ground Plane Header, Right-Angle	91
QMSS	0.635 mm Q2™ Shielded Ground Plane Header	96
QRF8	0.80 mm Q Rate® Slim Body Ground Plane Socket	88
QRF8-RA	0.80 mm Q Rate® Slim Body Socket, Right-Angle	89
QRM8	0.80 mm Q Rate® Slim Body Ground Plane Header	86
QRM8-RA	0.80 mm Q Rate® Slim Body Header, Right-Angle	87
QSE	0.80 mm Q Strip® High-Speed Ground Plane Socket	81
QSFPC	**Cage for FQSFP**	**167**
QSFPC-DD	**Cage for FQSFP-DD**	**169**
QSH	0.50 mm Q Strip® High-Speed Ground Plane Socket	78
QSH-RA	0.50 mm Q Strip® High-Speed Socket, Right-Angle	79
QSS	0.635 mm Q Strip® High-Speed Ground Plane Socket	84
QSS-RA	0.635 mm Q Strip® Ground Plane Socket, Right-Angle	85
QTE	0.80 mm Q Strip® High-Speed Ground Plane Header	80
QTH	0.50 mm Q Strip® High-Speed Ground Plane Header	76
QTH-RA	0.50 mm Q Strip® High-Speed Header, Right-Angle	77
QTS	0.635 mm Q Strip® High-Speed Ground Plane Header	82
QTS-RA	0.635 mm Q Strip® Ground Plane Header, Right-Angle	83
RF047	50 Ω Flexible RF Cable Assembly, (.047" DIA) 30 AWG	**
RF058	50 Ω RF Cable Assembly, RG 58 Cable	**
RF174	50 Ω RF Cable Assembly, RG 174 Cable	**
RF178	50 Ω RF Cable Assembly, RG 178 Cable	**
RF179	75 Ω RF Cable Assembly, RG 179 Cable	**
RF23C	50 Ω RF Cable, 23 AWG Solid Dielectric with Copper Shield	**
RF23S	50 Ω Microwave Cable Assembly, 23 AWG Solid FEP Dielectric	**
RF25S	50 Ω Microwave Cable Assembly, 25 AWG Solid FEP Dielectric	**
RF316	50 Ω RF Cable Assembly, RG 316 Cable	**
RF402	50 Ω Semi-Flexible Cable Assembly, (.141" DIA) 19 AWG	**
RF405	50 Ω Semi-Flexible Cable Assembly, (.086" DIA) 24 AWG	**
RF40G	50 Ω 40 GHz RF Cable Assembly	**
RFA6T	75 Ω RF Cable Assembly, RG 6 Cable	**
RFB6T	75 Ω RF Cable Assembly, 1694A Cable	**
RFB8T	75 Ω RF Cable Assembly, 1855A Cable	**
RPBE	AcciMate™ IP68 Sealed Ethernet Panel Mount Socket	290
RPBU	AcciMate™ IP68 Sealed USB Panel Mount Socket	291
RPCE	AcciMate™ IP68 Sealed Ethernet Panel Mount Socket Cable	290
RPCU	AcciMate™ IP68 Sealed USB Panel Mount Cable	291
RS316	50 Ω RF Cable Assembly, Double Shielded RG 316 Cable	**
RSM	1.27 mm Surface Mount Micro Socket	328
RU8	0.80 mm RiseUp® High-Speed Edge Card Connector Kit	130
S1SD(T)	1 mm Double Row Discrete Wire Socket Cable	229
S1SS(T)	1 mm Single Row Discrete Wire Socket Cable	228
S2M	2 mm Tiger Eye™ Discrete Wire Cable Socket	221
S2SD(T)	2 mm Tiger Eye™ Discrete Wire Socket Cable	236
SAL1	1 mm High-Speed Micro Plane Socket	137
SCRES	AcciMate™ IP68 Sealed Circular Ethernet Cable Socket	289
SCRUS	AcciMate™ IP68 Sealed Circular USB 2.0 Panel Mount Socket	289
SD	2.54 mm Double Row Screw Machined Socket	375
SDL	2.54 mm Double Row Low-Profile Screw Machined Socket	374
SEAC	1.27 mm SEARAY™ High-Speed/High-Density Jumper	185
SEAF	1.27 mm SEARAY™ High-Density Open-Pin-Field, Socket	59
SEAF-RA	1.27 mm SEARAY™ Right-Angle Open-Pin-Field Socket	61
SEAF8	0.80 mm SEARAY™ Ultra-High Density Open-Pin-Field	55
SEAF8-RA	0.80 mm SEARAY™ Right-Angle Open-Pin-Field Socket	56
SEAFP	1.27 mm SEARAY™ Press-Fit Open-Pin-Field Array	65
SEAFP-RA	1.27 mm SEARAY™ Press-Fit Right-Angle Open-Pin-Field	66
SEAM	1.27 mm SEARAY™ High-Speed/High-Density Open-Pin-Field	58
SEAM-GP	1.27 mm SEARAY™ High-Density Open-Pin-Field, Guide Post	60
SEAM-RA	1.27 mm SEARAY™ Right-Angle Open-Pin-Field, Header	60
SEAM8	0.80 mm SEARAY™ Ultra-High Density Open-Pin-Field	54
SEAMI	1.27 mm SEARAY™ 85 Ω-tuned High-Density Open-Pin-Field	63
SEAMP	1.27 mm SEARAY™ Press-Fit High-Density Open-Pin-Field	64
SEAR	1.27 mm SEARAY™ High-Speed/High-Density Riser, 85 Ω	62
SEI	1 mm Single Row One-Piece Interface	297
SEM	0.80 mm Tiger Eye™ Micro Socket	210
SEML	0.80 mm Tiger Eye™ Friction Lock Micro Socket	210
SEMS	0.80 mm Tiger Eye™ Slim Micro Socket	210
SESDT	0.80 mm Tiger Eye™ Discrete Wire Socket Cable Assembly	226
SFC	1.27 mm Tiger Eye™ Cost-Efficient Reliable Socket	216
SFM	1.27 mm Tiger Eye™ High-Reliability Socket	212
SFMC	1.27 mm Tiger Eye™ Flexible Pin Count Socket	222
SFML	1.27 mm Tiger Eye™ High-Reliability Locking Socket	212
SFPC	SFP+ Transceiver Cage	196
SFPE	SFP+ Copper I/O Cable Assembly	194
SFPK	SFP+ Cage and Connector Kit	196
SFSD(T)	1.27 mm Tiger Eye™ Discrete Wire Cable, Double Row	233
SFSS(T)	1.27 mm Tiger Eye™ Discrete Wire Cable, Single Row	232
SHF	1.27 mm Shrouded IDC Header	395
SIB	2.54 mm One-Piece Interfaces	296
SIBF	1.27 mm One-Piece Interfaces	297
SIR1	2.54 mm One-Piece Right-Angle Interfaces	296
SL	2.54 mm Low-Profile Single Row Machined Socket	374
SLH	0.50 mm Razor Beam™ LP Ultra-Low Profile Socket	118
SLM	1.27 mm Tiger Buy™ Low-Profile Through-Hole Micro Socket	329
SLW	2.54 mm Tiger Buy™ Low-Profile Socket Strip	372
SMA	50 Ω SMA Jacks & Plugs	**
SMB5	50 Ω SMB Jacks & Plugs	**
SMB7H	75 Ω Optimized SMB Jacks & Plugs	**
SMH	2.54 mm SMT Horizontal Socket	373
SMM	2 mm Tiger Eye™ High-Reliability Socket	349
SMP	50 Ω SMP Jacks/Plugs & Adaptor	**
SMS	1.27 mm Through-Hole Micro Socket	329
SNM	2.54 mm Micro Shunt	378
SNT	2.54 mm Shunt	378
SO	Precision Board Stacking Standoff	106
SOLC	0.635 mm FOURRAY™ Quad Row SMT Socket	312
SQT	2 mm FleXYZ™ Cost-Effective Rugged Socket, Square Tail	345
SQW	2 mm FleXYZ™ Cost-Effective Rugged Socket, Solder Tail	344
SS	2.54 mm Single Row Screw Machined Socket	375
SS4	0.40 mm Razor Beam™ LP Ultra-Fine Pitch Socket	116
SS5	0.50 mm Razor Beam™ LP Ultra-Fine Pitch Socket	117
SSM	2.54 mm Tiger Claw™ Pass-Through SMT Socket	367
SSQ	2.54 mm Tiger Buy™ Socket .025" SQ Post	364
SSW	2.54 mm Tiger Buy™ Through-Hole Socket	364
SSW-SM	2.54 mm Tiger Buy™ SMT Socket	366
SS2SD(T)	**2 mm Tiger Eye™ Shielded Discrete Wire**	**234**
ST2M	**2 mm Tiger Eye™ Shielded Terminal**	**235**
ST4	0.40 mm Razor Beam™ LP Ultra-Fine Pitch Header	116
ST5	0.50 mm Razor Beam™ LP Ultra-Fine Pitch Header	117
STMM	2 mm Flex Stack, Shrouded Terminal Cable Strip	393
T1M	1 mm Discrete Wire Terminal	227
T2M	2 mm High-Reliability Discrete Wire Cable Header	220
TCMD	2 mm Tiger Eye™ IDC High-Reliability Header Cable	391
TCSD	2 mm Tiger Eye™ IDC Socket Cable	390
TD	2.54 mm Double Row Screw Machine Terminal	377
TEM	0.80 mm Tiger Eye™ Micro Header	211
TEMS	0.80 mm Tiger Eye™ Micro Header, Slim	211
TFC	1.27 mm Tiger Eye™ Cost-Effective Reliable Header	217
TFM	1.27 mm Tiger Eye™ High-Reliability Header	214
TFML	1.27 mm Tiger Eye™ High-Reliability Locking Header	214
TLE	2 mm Tiger Beam™ Cost-Effective Reliable Socket	350
TLH	0.50 mm Razor Beam™ LP Ultra-Low Profile Terminal	118
TLW	2.54 mm Flex Stack, Low-Profile .025" SQ Post Header	359
TML	1.27 mm Shrouded Micro Header	324
TMM-SM	2 mm Low-Profile SMT Header	330
TMM-TH	2 mm FleXYZ™ Low-Profile Through-Hole Header	331
TMMH-SM	2 mm Flexible SMT Header	334
TMMH-TH	2 mm FleXYZ™ Flexible Through-Hole Header	336
TMMS	2 mm Shrouded Quad Row Header	339
TMS	1.27 mm Through-Hole Micro Header	322
TNC	50 Ω TNC Jacks	**
TOLC	0.635 mm FOURRAY™ Quad Row SMT Terminal	313
TPAF	1.50 x 1.75 mm High-Speed Elevated Array Receptacle	68
TPAR	1.50 x 1.75 mm High-Speed Elevated Array Riser	69
TS	2.54 mm Single Row Screw Machined Terminal	377
TSH	2 mm Shrouded Header	339
TSM	2.54 mm SMT .025" SQ Post Header	354
TSS	2.54 mm Flex Stack, Shrouded Header	363
TSSH	2.54 mm Shrouded .025" SQ Post Header	362
TST	2.54 mm Flex Stack, Shrouded Cable Header	389
TSW	2.54 mm Through-Hole .025" SQ Post Header	352
T1PD(T)	**1 mm Discrete Wire Panel Mount Terminal, Double Row**	**231**
T1PS(T)	**1 mm Discrete Wire Panel Mount Terminal, Single Row**	**230**
T1SD(T)	**1 mm Discrete Wire Terminal, Double Row**	**231**
T1SS(T)	**1 mm Discrete Wire Terminal, Single Row**	**230**
TW-SM	2 mm Flex Stack, Flexible Board Stacker, SMT	340
TW-TH	2 mm FleXYZ™ Flexible Board Stacker, Through-Hole	341
292	50 Ω Passivated Stainless Steel 2.92 Jacks	**
2SN	2 mm Shunt	378
UBPT	SEARAY™ Power Module Terminal	57
UBPS	SEARAY™ Power Module Socket	57
UCC8	FireFly™ Positive Latching Receptacle	172
UEC5	FireFly™ Edge Card Socket Assembly	172
UMPT	**Ultra Micro Power Terminal**	**244**
UMPS	**Ultra Micro Power Socket**	**245**
UPPT	3.81 mm PowerStrip™/20 Amp Hermaphroditic Power System	261
UPS	3.81 mm PowerStrip™/20 Amp Dual Leaf Power Socket	263
UPT	3.81 mm PowerStrip™/20 Amp Dual Blade Power Terminal	262
USB-A	Standard USB 2.0, A-Type	197
USB-AM	Standard USB 2.0, A-Type Plug	197
USB-B	Standard USB 2.0, B-Type	198
USBR-A	High-Retention USB 2.0 Interface, A-Type	197
USBR-B	High-Retention USB 2.0 Interface, B-Type	198
ZA1	1 mm Z-Ray® Ultra-Low Profile Micro Array	72
ZA8	0.80 mm Z-Ray® Ultra-Low Profile Micro Array	70
ZA8H	0.80 mm Z-Ray® High-Speed Micro Array	71
ZD	Z-Ray® Alignment Dowel	73
ZF1	1 mm Flat Flexible Cable (FFC) Socket	383
ZF5S	0.50 mm Flat Flexible Cable (FFC) Socket	381
ZHSI	Z-Ray® Press-Fit Alignment Hardware	73
ZLTMM	2 mm Flex Stack, Shrouded Elevated Terminal Strip	338
ZML	1.27 mm Flex Stack, Shrouded Elevated Stacker	325
ZSO	Z-Ray® Press-Fit Alignment Hardware	73
ZSS	2.54 mm Flex Stack, Elevated Shrouded Header	363
ZST	2.54 mm Flex Stack, Elevated Shrouded Cable Header	389
ZSTMM	2 mm Flex Stack, Shrouded Elevated Cable Header	393
ZW	2.54 mm Flex Stack, Flexible .025" SQ Board Stacker	360

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High-Speed Board-to-Board

High-Speed Cables

Optics

Micro/Rugged

Flexible Stacking

RF

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