

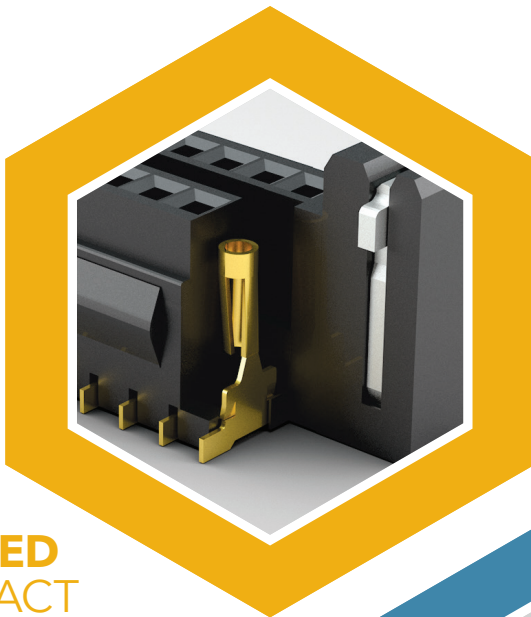
The background of the cover is a high-resolution, close-up photograph of a micro rugged interconnect solution. It shows a black printed circuit board (PCB) populated with various electronic components, including integrated circuits and capacitors. Several black plastic connectors are visible, some of which are plugged into the board. A thick black cable with multiple internal conductors is connected to one of the connectors. To the left, a bundle of blue cables is also visible. The lighting is dramatic, highlighting the textures of the plastic, metal, and silicon.

# MICRO RUGGED

INTERCONNECT SOLUTIONS GUIDE

# MICRO RUGGED INTERCONNECT SOLUTIONS

Rugged contact systems, flexible power interconnects and rugged signal integrity create the foundation of Samtec's micro rugged solutions for high cycle, high speed, high power and harsh environment applications. Samtec's rugged products are offered in conjunction with full engineering support, online tools and a service attitude that is unmatched in the connector industry.

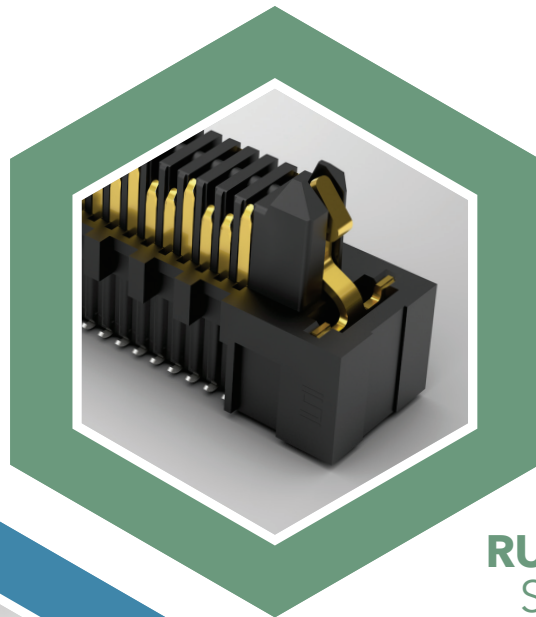


## RUGGED CONTACT SYSTEM

1,000+  
MATING CYCLES

TIGER EYE™  
HEAT-TREATED  
BeCu CONTACTS

MULTIPLE POINTS  
OF CONTACT  
FOR HIGH-RELIABILITY



## RUGGED SIGNAL INTEGRITY

HIGH SPEEDS TO  
56 Gbps PAM4

EDGE RATE®  
CONTACT DESIGN  
INCREASES WEAR LIFE

EXPERTISE IN  
SIGNAL INTEGRITY  
DESIGN & ANALYSIS



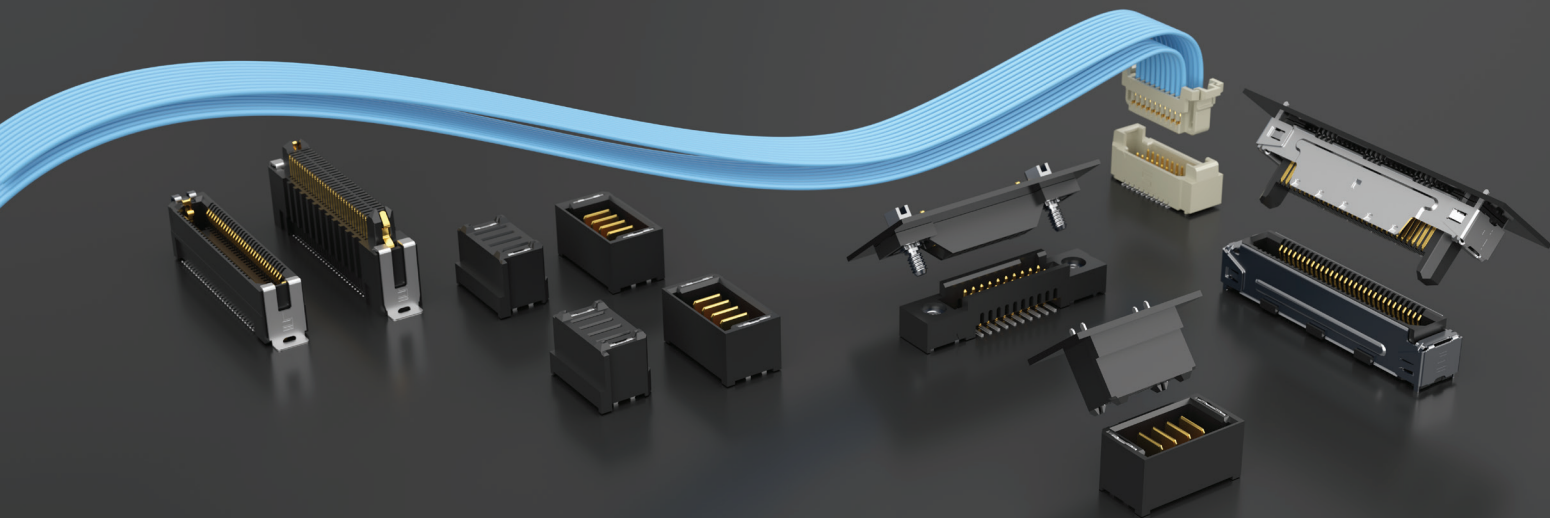
## FLEX POWER

3 TO 60 AMPS

CONFIGURABILITY OF  
POWER & SIGNAL

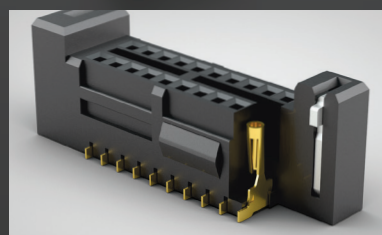
SPACE-SAVING FORM FACTOR





## RUGGED CONTACT SYSTEMS

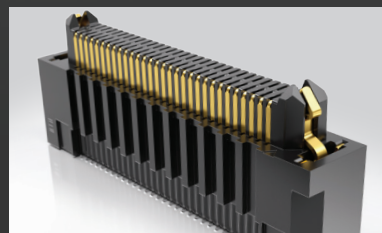
Tiger Eye™ contact system for high-reliability in rugged applications  
 1,000+ mating cycles  
 0.80 mm to 2.00 mm pitch  
 Board-to-board, discrete wire and IDC cable assemblies



4-7

## RUGGED SIGNAL INTEGRITY SYSTEMS

Edge Rate® contact system for rugged signal integrity performance  
 Performance to 56 Gbps PAM4  
 0.50 mm, 0.635 mm and 0.80 mm pitch  
 Edge card and ultra-micro connectors



8-11

## FLEXIBLE POWER SYSTEMS

Ultra-micro power to 21 A and incredible design flexibility  
 Individually shrouded contacts  
 Small form factor, high power systems to 60 A  
 Board-to-board and cable assemblies



12-15

## SEALED I/O SYSTEMS

IP67 and IP68 rated for dust and water  
 Variety of circular shell sizes with power, power/signal pinouts  
 Rectangular designs for space savings  
 Rugged latching

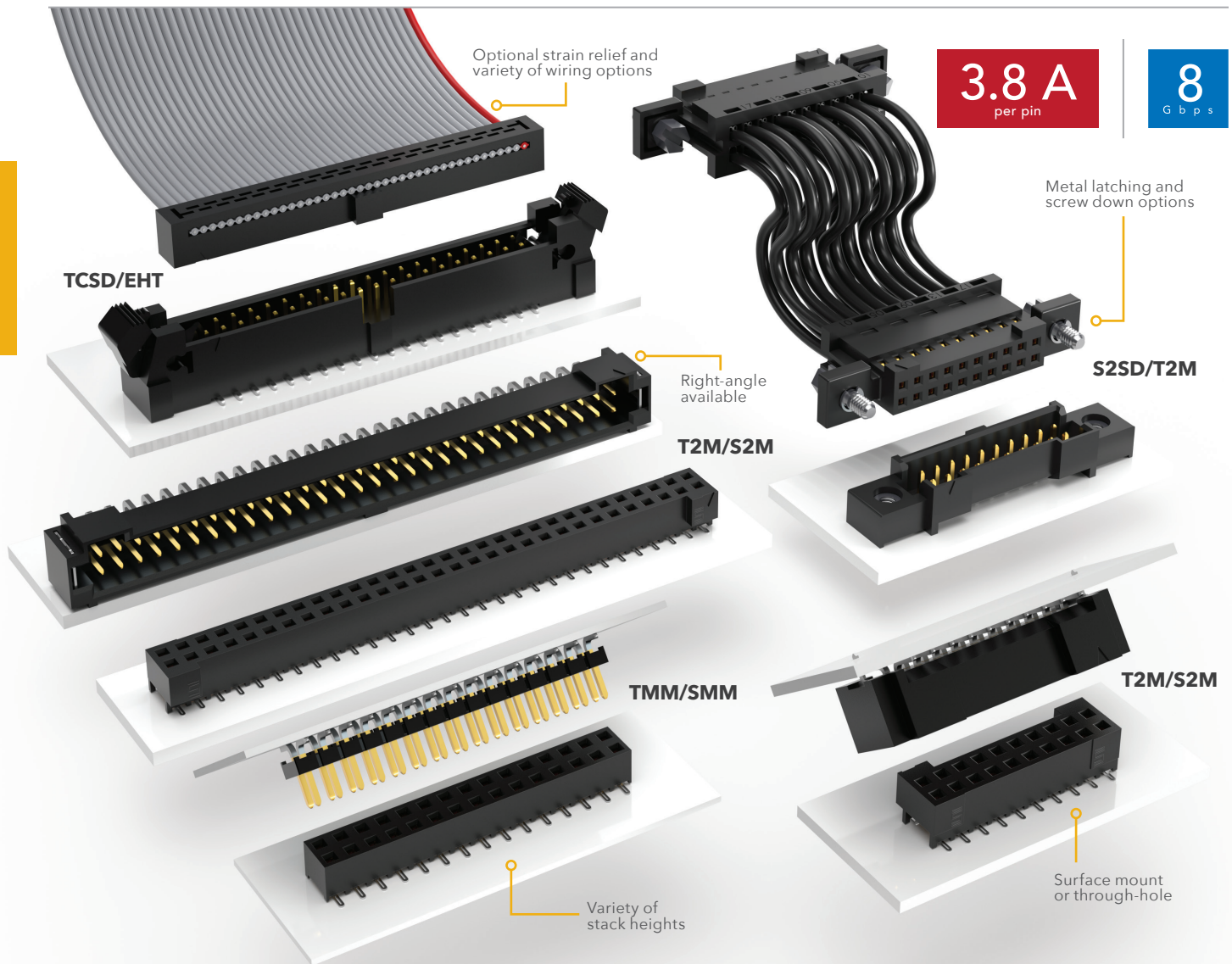


16-17

Modified & Custom Solutions .....	18
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Power Integrity & Extended Life Product™ .....	20
Severe Environment Testing .....	21
Solutionator® .....	22
Technology Centers .....	23

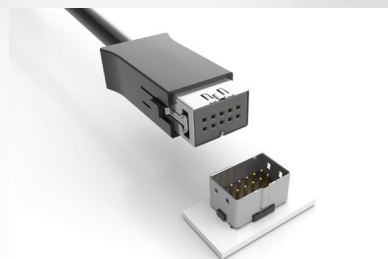
# RUGGED TIGER EYE™ SYSTEMS

HIGH-RELIABILITY • MULTI-FINGER BeCu CONTACT • HIGH MATING CYCLES

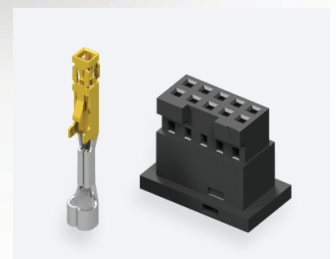


## 2.00 mm PITCH TIGER EYE™

- Tiger Eye™ is Samtec's most rugged contact system rated to 1,000+ mating cycles
- Wide range of stack heights
- Right-angle mating headers available
- Optional screw downs, weld tabs and locking clips
- Discrete wire assemblies available in 24-30 AWG PVC or Teflon® wire; contact [asp@samtec.com](mailto:asp@samtec.com) for custom solutions



EMI shielded 2.00 mm  
Tiger Eye™ discrete wire assembly  
(S2SD/ST2M)



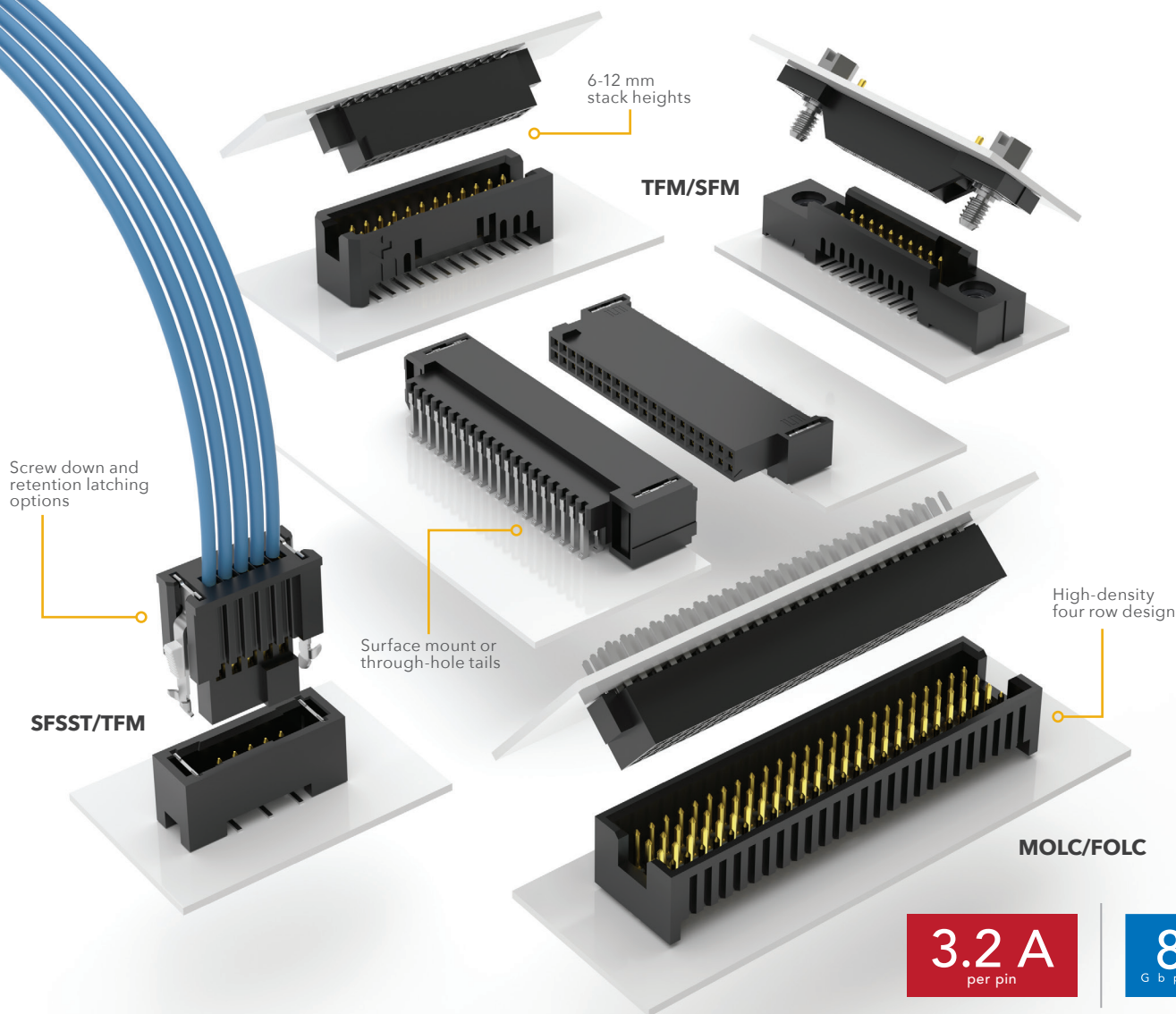
Components (ISD2/CC81)  
& tooling available:  
[samtec.com/tooling](http://samtec.com/tooling)





## TIGER EYE™ CONTACT SYSTEM

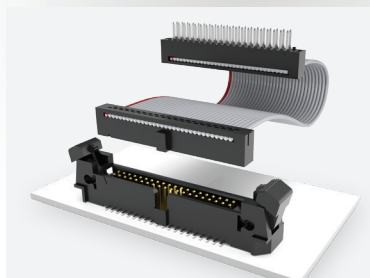
- Multi-finger design with several points of contact for high-reliability
- Smooth, flat mating area increases mating cycles and lowers contact resistance
- Heat-treated BeCu for the best combination of mechanical and electrical properties
- Surface mount, micro slot tail increases solder surface area for higher joint strength



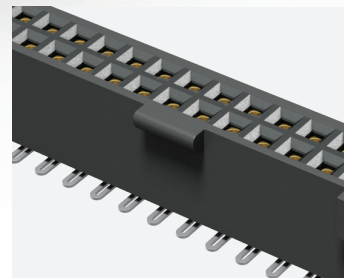
## 1.27 mm PITCH TIGER EYE™

- Screw down, locking clip, friction latching and weld tab ruggedizing options
- Shrouded, polarized and keyed
- Discrete wire assemblies available in single or double row, 28 and 30 AWG PVC or Teflon® wire; contact [asp@samtec.com](mailto:asp@samtec.com) for custom solutions
- Cable components (ISDF/CC03) and tooling available

Dupont™ Teflon® is a registered trademark of the E.I. du Pont de Nemours and Company or its affiliates.



IDC cable assemblies with rugged strain relief (FFSD/FFMD, FFTP/FMTP)



Locking for increased unmating force (SFML/TFML)

# RUGGED TIGER EYE™ SYSTEMS

HIGH-RELIABILITY • MULTI-FINGER BeCu CONTACT • HIGH MATING CYCLES

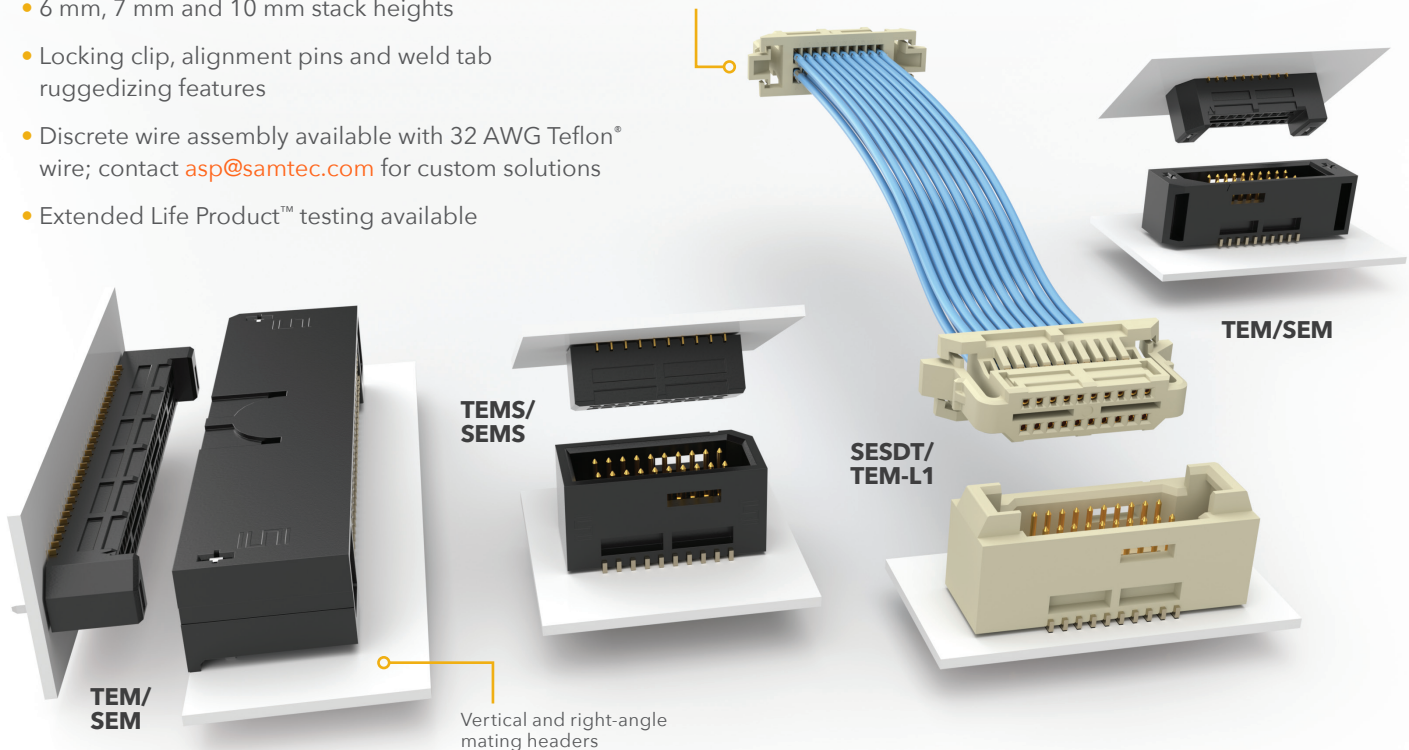
## 0.80 mm PITCH TIGER EYE™

- Micro pitch and slim body for space-savings
- 6 mm, 7 mm and 10 mm stack heights
- Locking clip, alignment pins and weld tab ruggedizing features
- Discrete wire assembly available with 32 AWG Teflon® wire; contact [asp@samtec.com](mailto:asp@samtec.com) for custom solutions
- Extended Life Product™ testing available

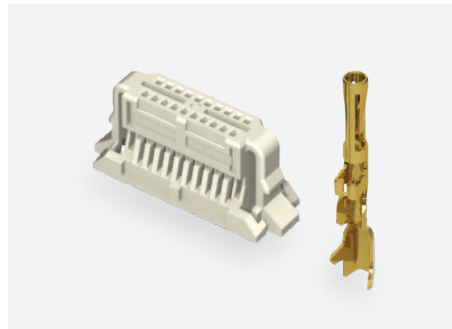
Rugged latching system for increased withdrawal force

2.9 A  
per pin

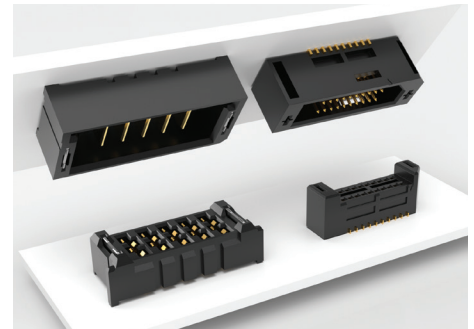
8  
Gbps



Locking for increased unmating force (SEML)



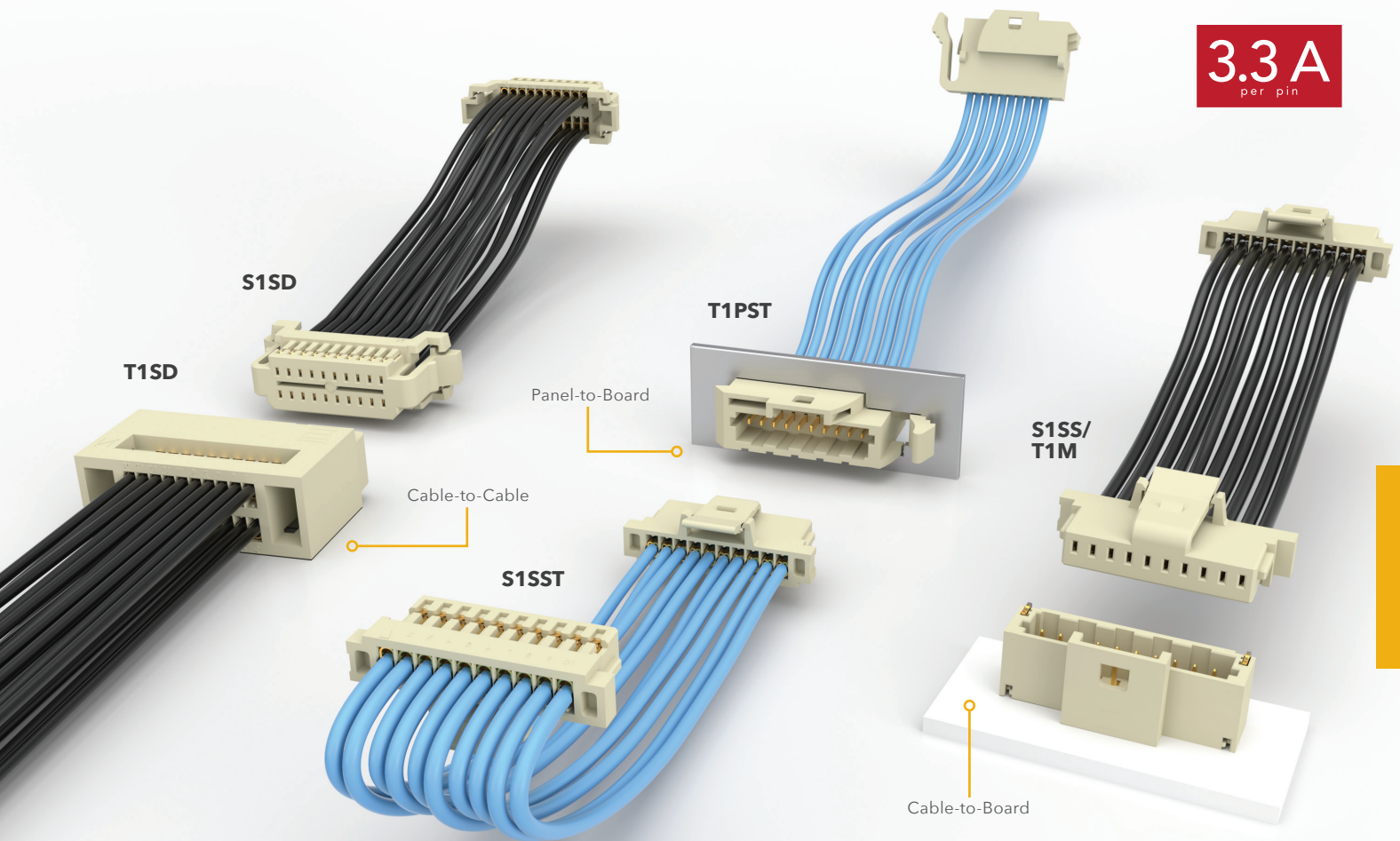
Components (ISDE/CC396) and tooling available: [samtec.com/tooling](http://samtec.com/tooling)



Compatible with UMPT/UMPS for power/signal flexibility

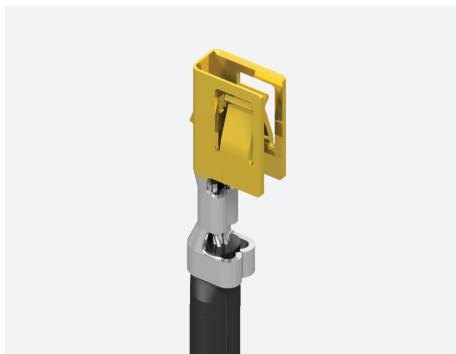


**3.3 A**  
per pin

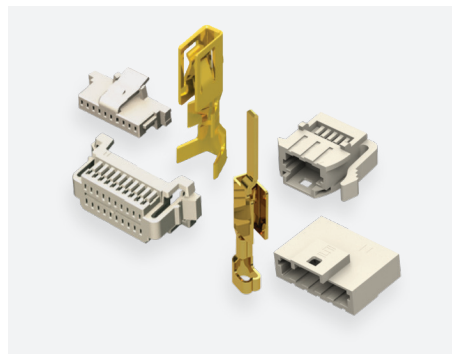


## 1.00 mm PITCH CABLE SYSTEM

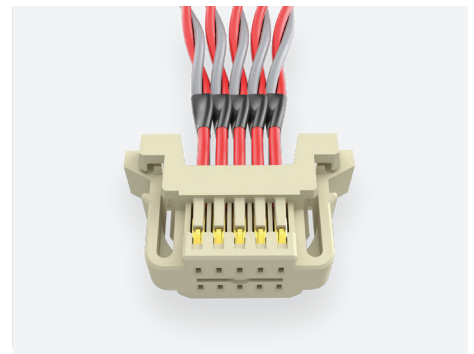
- Crimp-style dual leaf contact system for reliable wire-to-board connection
- 28 and 30 AWG wire options in PVC or Teflon®
- Rugged positive latching for increased retention
- Socket or terminal, single or double row assemblies
- Vertical and right-angle mating headers



Dual leaf contact system  
for a reliable connection



Components (ISS1, ISD1/CC09; T1SS,  
T1SD, T1PS, T1PD/T1M137-X) and  
tooling available: [samtec.com/tooling](http://samtec.com/tooling)



Custom solutions available  
(twisted pair cable shown);  
contact [asp@samtec.com](mailto:asp@samtec.com)

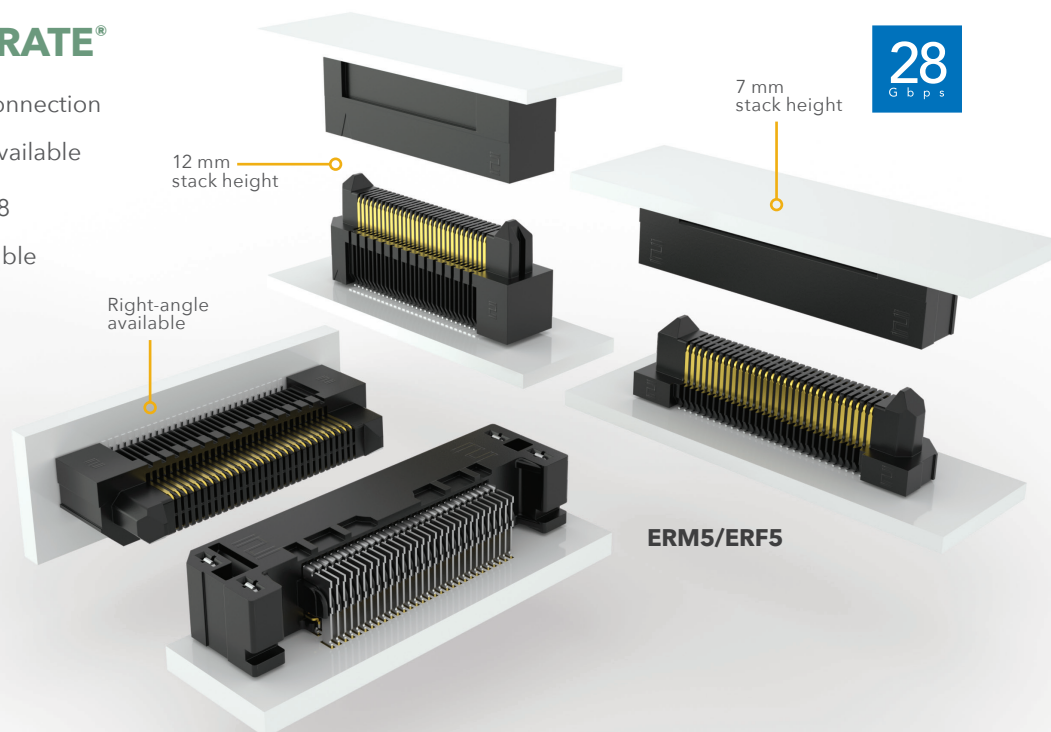
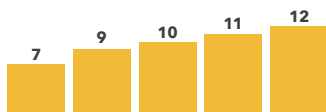
# RUGGED SI EDGE RATE® SYSTEMS

OPTIMIZED FOR SI PERFORMANCE • INCREASED CONTACT WIPE • HIGH CYCLES

## 0.50 mm PITCH EDGE RATE®

- 1.00 mm contact wipe for a reliable connection
- Rugged friction locks and weld tabs available
- Up to 40% PCB savings vs. ERM8/ERF8
- Compatible with UMPT/UMPS for flexible power/signal solutions

Stack Height Flexibility  
(Actual Size in mm)

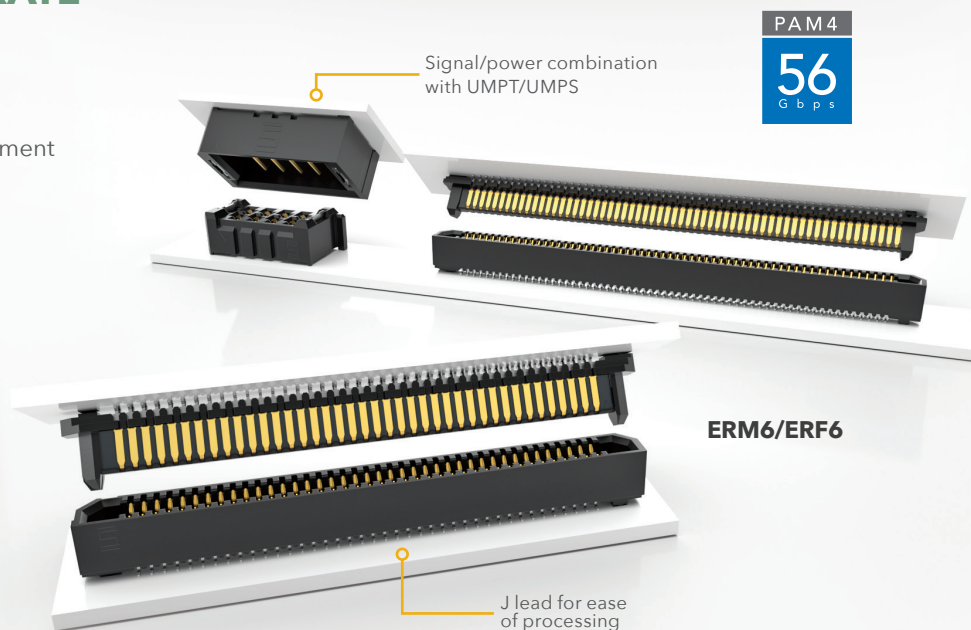
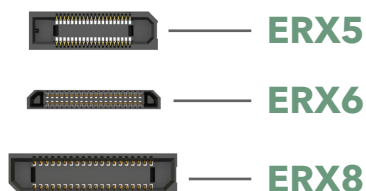


28  
Gbps

## 0.635 mm PITCH EDGE RATE®

- Extremely slim 2.5 mm body width
- Up to 120 positions in a 2-row design
- 5 mm stack height with others in development
- Compatible with UMPT/UMPS for flexible power/signal solutions

Sockets shown actual size  
at 40 total positions



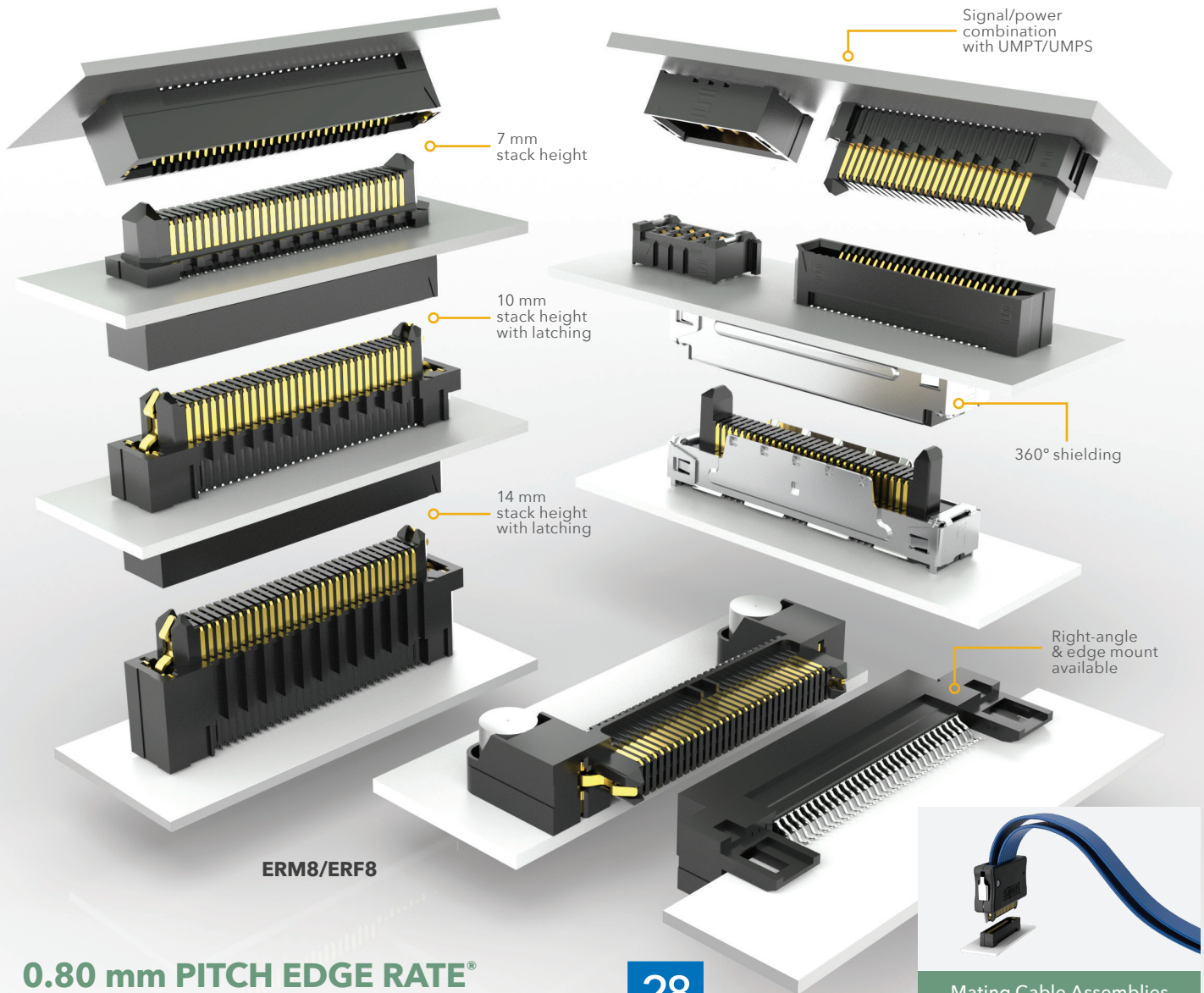
PAM4  
56  
Gbps





## EDGE RATE® CONTACT SYSTEM

- Smooth milled mating surface reduces wear and increases durability
- Lower insertion and withdrawal forces
- Robust when “zippered” during unmating
- Minimized parallel surface area reduces broadside coupling and crosstalk
- Designed, simulated and optimized for 50  $\Omega$  and 100  $\Omega$  systems



ERM8/ERF8

## 0.80 mm PITCH EDGE RATE®

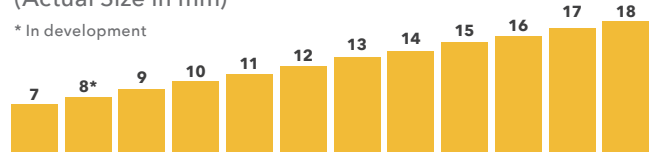
- 1.50 mm extended wipe
- Rugged metal latching for increased retention force
- 360° shielding option reduces EMI
- Compatible with UMPT/UMPS for flexible power/signal solutions
- Cost-effective metal solder lock in development for a more secure connection to the board

28  
Gbps

Mating Cable Assemblies  
(ERCD/ERDP Series)

### Stack Height Flexibility (Actual Size in mm)

\* In development

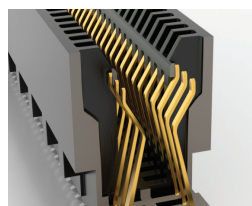


# RUGGED SI EDGE CARD

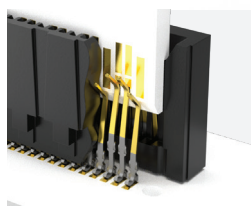
UP TO 56 Gbps PAM4 • CHOICE OF PITCH • EDGE RATE® CONTACTS

## 0.80 mm & 1.00 mm PITCH SYSTEMS

- High-speed Edge Rate® contact system
- Vertical, right-angle and edge mount
- Power/signal combo to 60 A per power bank
- Pass-through application
- Misalignment mitigation



PCIe® Gen 4  
rugged tucked beam  
technology (HTEC8)

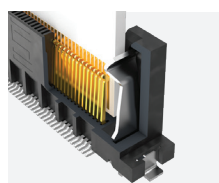


56 Gbps with  
differential pair  
(HSEC8-DP)

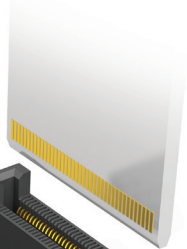


## HIGH-DENSITY EDGE CARD

- Justification beam enables use of standard PCB tolerance
- 0.50 mm ultra-fine pitch with up to 300 total I/Os
- PCIe® Gen 4 compatible



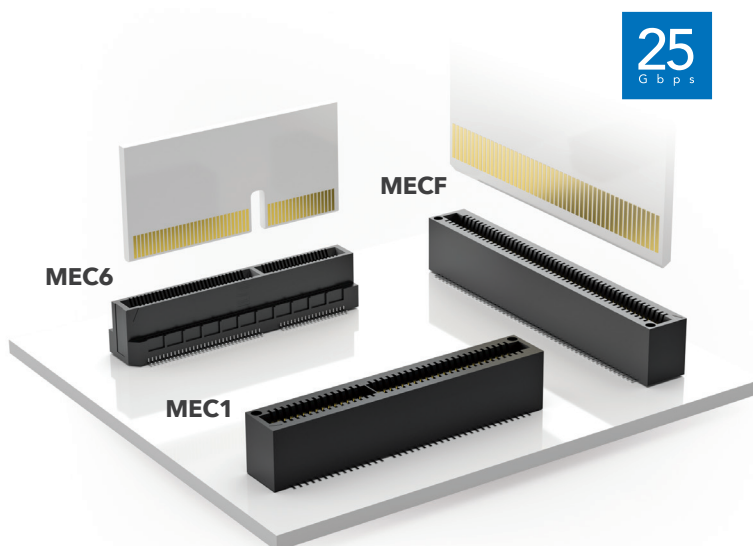
Beam ensures card  
and body are flush



MEC5

## MICRO EDGE CARDS

- 0.635 mm, 0.80 mm, 1.00 mm, 1.27 mm and 2.00 mm pitch
- Optional rugged weld tabs, board locks and solder locks
- Solutions for 1.60 mm (.062") and 2.36 mm (.093") thick cards



MEC6

MEC1

MECF

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



# RUGGED SI MICRO SYSTEMS

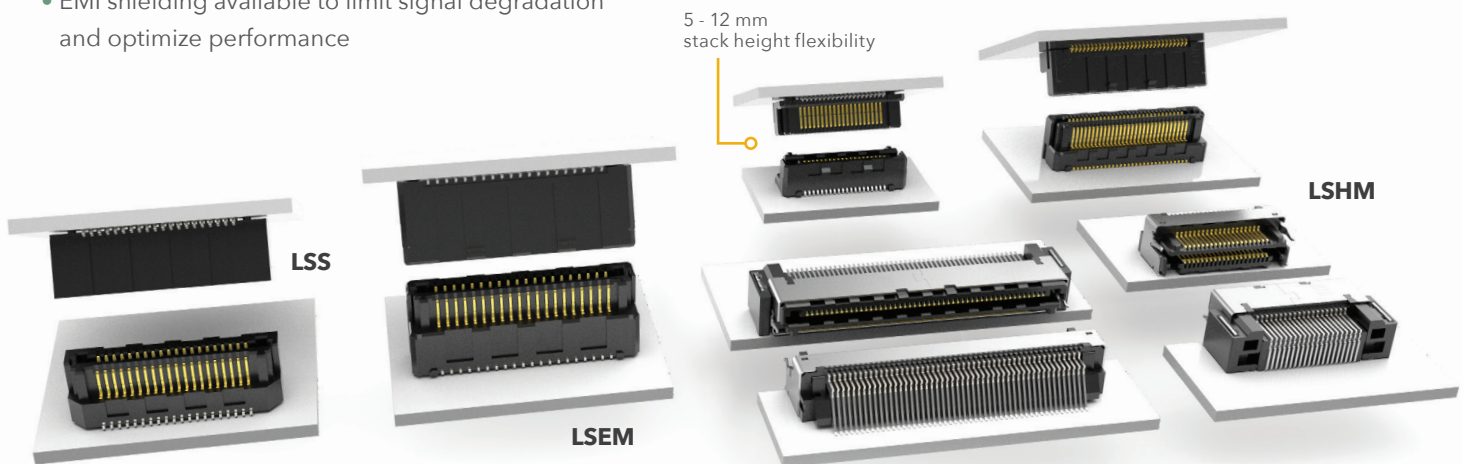
HIGH-DENSITY • HIGH-RETENTION CONTACTS • SLIM ROW-TO-ROW DESIGNS

## HERMAPHRODITIC RAZOR BEAM™ INTERFACES

- High-retention, high-speed Razor Beam™ contacts
- 0.50 mm, 0.635 mm and 0.80 mm pitch
- EMI shielding available to limit signal degradation and optimize performance

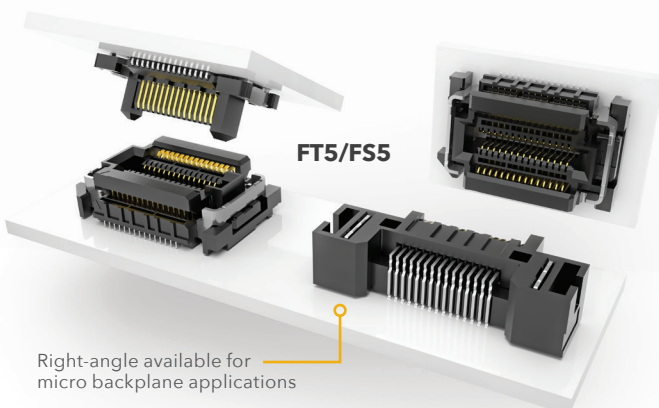
RAZOR  
BEAM™  
SYSTEM

PAM4  
56  
Gbps



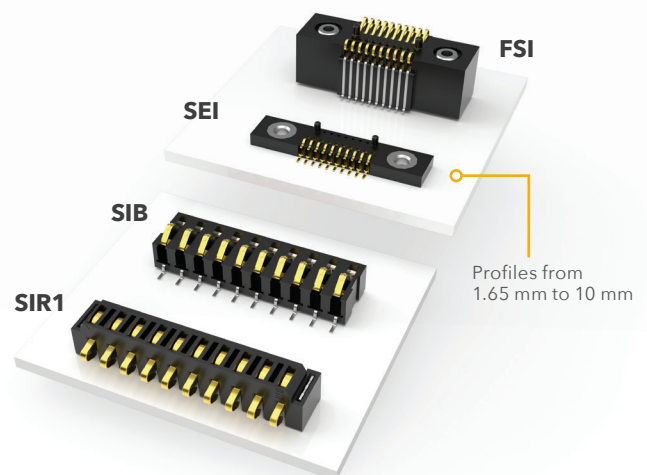
## FLOATING CONNECTORS

- Provides 0.50 mm contact float in the X and Y axes to compensate for misalignment
- 5 mm and 7 mm stack heights
- Micro 0.50 mm pitch



## ONE-PIECE INTERFACES

- Robust design and mechanical hold-downs for high-shock and vibration applications
- Optional rugged weld tabs and locking clips
- 1.00 mm, 1.27 mm and 2.54 mm pitch designs



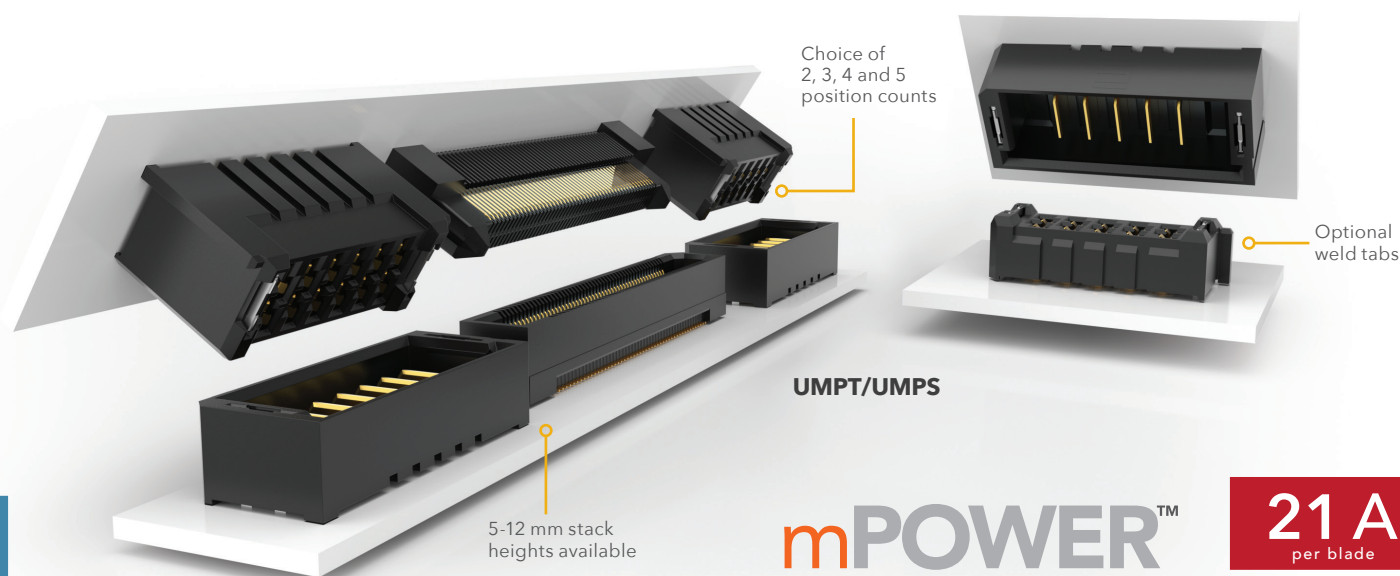
# FLEXIBLE POWER

## ULTRA MICRO POWER

21 A PER BLADE • MICRO 2.00 mm PITCH • DESIGN FLEXIBILITY

### MICRO 2.00 mm PITCH

- Design flexibility as a power-only system or a two-piece system for power/signal applications
- Use with Samtec's high-speed connector systems for a unique power/signal system (see chart)
- Tin or 10  $\mu$ " Gold plated power blades; 30  $\mu$ " Gold plating available to meet specific regulations
- Standard creepage (2.20 mm) and clearance (1.65 mm)
- Selectively loading contacts achieves customer specific creepage and clearance requirements; contact [asp@samtec.com](mailto:asp@samtec.com)



mPOWER™

**21 A**  
per blade

### UMPT/UMPS compared to other small form factor power solutions

Terminals shown **actual size** at 4 positions



— 21 A/blade



— 21 A/blade

#### CURRENT RATING (PER CONTACT)

PINS	-T	-G
1	17.2 A	21.5 A
2	14.7 A	17.6 A
3	13.1 A	16.8 A
4	13.0 A	15.6 A
5	12.9 A	15.4 A

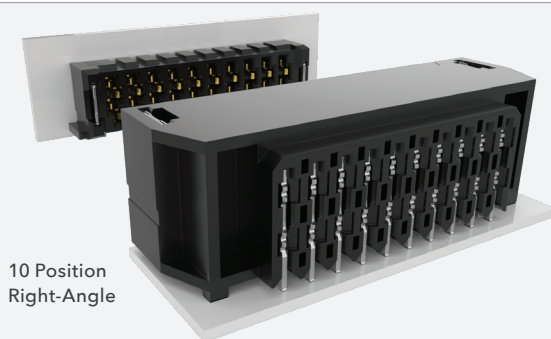
SIGNAL CONNECTOR	MATED HEIGHT			
	5 mm	7 mm	10 mm	12 mm
ADM6/ADF6	X			
BTE/BSE, BTH/BSH, BTS/BSS	X			
ERM5/ERF5		X	X	X
ERM6/ERF6	X			
ERM8/ERF8		X	X	X
LPAM/LPAF	X			
QMS/QFS			X	
QRM8/QRF8		X	X	X
QTE/QSE, QTH/QSH, QTS/QSS	X			
SEAM/SEAF		X	X	X
SEAM8/SEAF8		X	X	
ST4/SS4, ST5/SS5	X			
TEM/SEM		X	X	



# PRODUCT ROADMAP

Samtec now offers power simulation that can calculate temperature increase in the connector area; contact [microruggedgroup@samtec.com](mailto:microruggedgroup@samtec.com) for more details.

## PHASE 2



10 Position  
Right-Angle

### Right-Angle UMPT Series

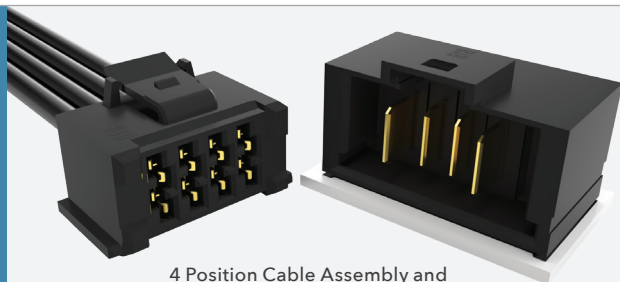
#### POSITIONS

2, 3, 4, 5, 6,  
7, 8, 9, 10

#### OPTIONS

Latch for  
mating with  
cable assembly

## PHASE 3



4 Position Cable Assembly and  
UMPT Right-Angle with Staged Blades

### Cable Assembly with Latch

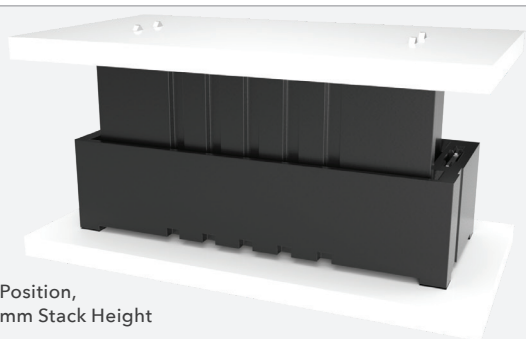
#### POSITIONS

2, 3, 4, 5, 6,  
7, 8, 9, 10

#### MATES

UMPT Series  
vertical and  
right-angle  
with latch

## PHASE 4



6 Position,  
9 mm Stack Height

### Vertical UMPT & UMPS Series

#### POSITIONS

6, 7, 8, 9, 10

#### STACK HEIGHTS

6, 8, 9, 11, 13, 14,  
15, 16, 18, 20



### IN DEVELOPMENT

30 A Ultra Micro Power System in development for higher power in a compact design. Designed for flexibility as a power-only system, or as a two-piece power/signal system alongside Samtec's high-speed connectors. Initial options will include 2-5 position counts and 5, 7, 10 and 12 mm stack heights.

# FLEXIBLE POWER HIGH-POWER

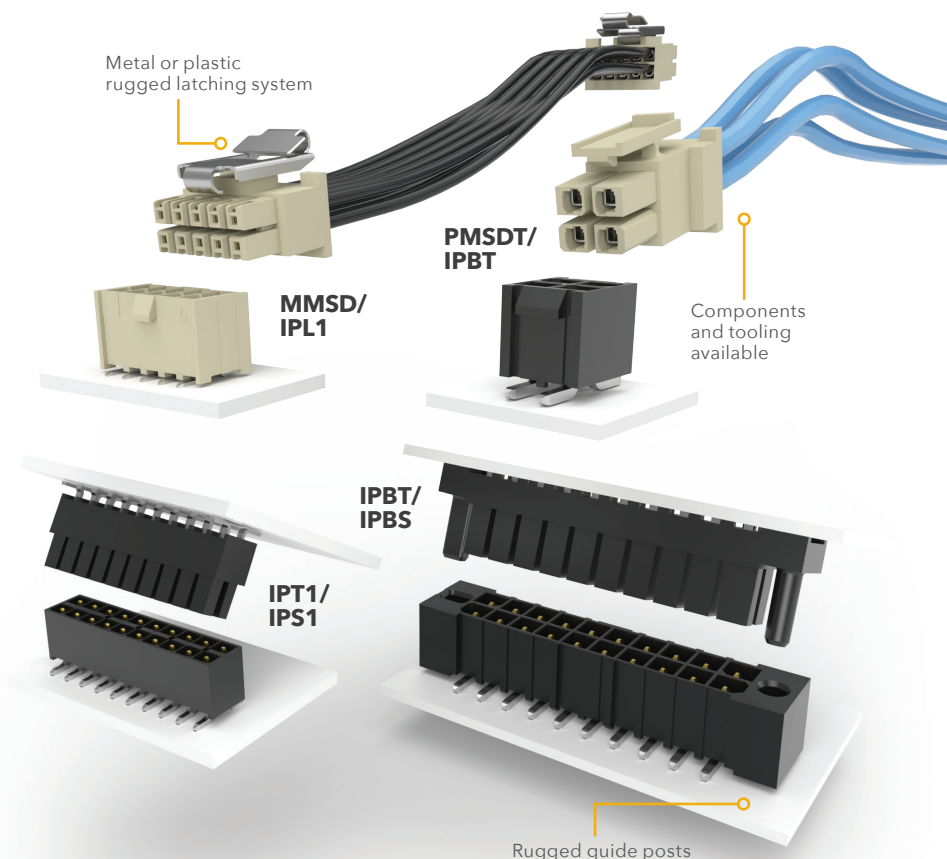
SMALL FORM FACTORS • 10-60 A PER PIN/BLADE • INDIVIDUALLY SHROUDED CONTACTS

## MINI MATE® & POWER MATE®

- Individually shrouded contacts for electrical and mechanical protection
- .100" (2.54 mm) and .165" (4.19 mm) pitch
- Discrete wire assemblies with 16-30 AWG PVC or Teflon® wire
- Selectively loading contacts achieves customer specific creepage and clearance requirements; contact [asp@samtec.com](mailto:asp@samtec.com)

**10.3 A**  
per pin

	CREEPAGE	CLEARANCE
IPT1/IPS1 MMSS(T)/MMSD(T)	2.55 mm	1.91 mm
IPBT/IPBS PMSS(T)/PMSD(T)	4.27 mm	3.05 mm



## EXTREME POWER

- AC or DC power, AC-DC combos and split power options (ET60T/ET60S)
- High-density, double stacked power blades (LPHT/LPHS)
- Selectively loading contacts achieves customer specific creepage and clearance requirements; contact [asp@samtec.com](mailto:asp@samtec.com)

LPHT/LPHS

Low 7.5 mm  
profile design

3 or 5 signal rows in  
the same form factor

ET60T/ET60S

**30-60 A**  
per blade

	CREEPAGE	CLEARANCE
LPHT/LPHS	5.63 mm	2.69 mm
ET60T/ET60S	3.02 mm	1.87 mm

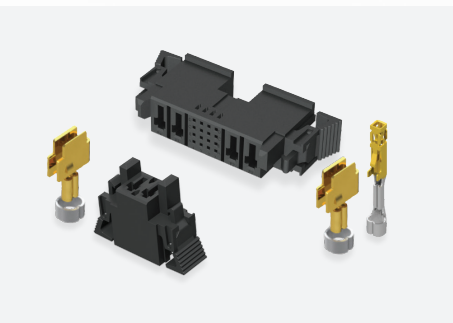
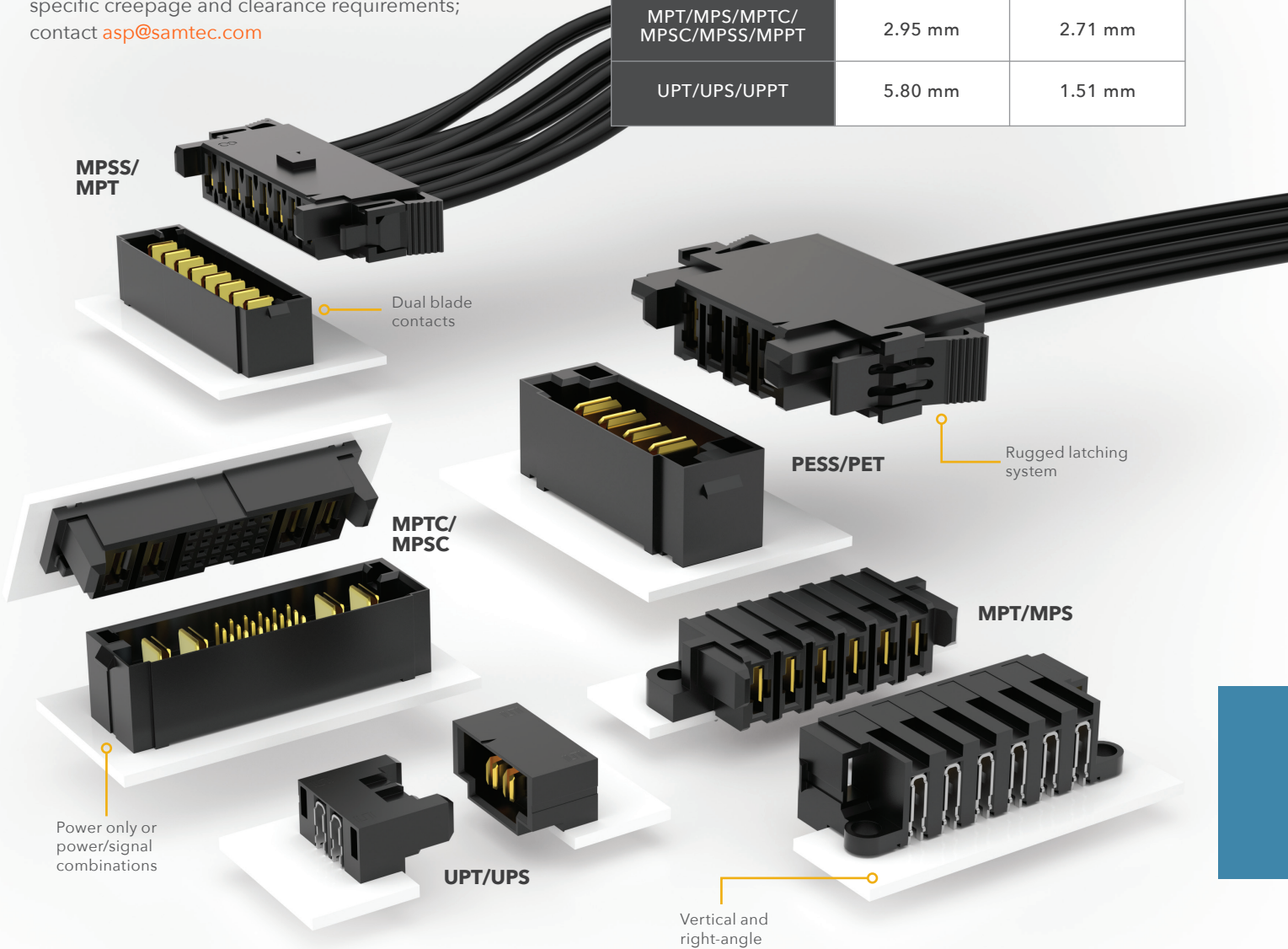


# POWERSTRIP™ SYSTEM

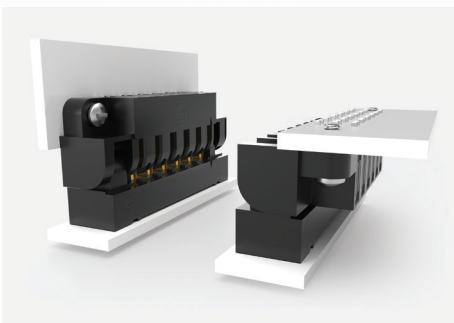
**20-60 A**  
per blade

- 23.5 A/blade to 58.7 A/blade (1 blade powered)
- 5.00 mm and 6.35 mm pitch
- Discrete wire assemblies with 10-16 AWG wire
- Selectively loading contacts achieves customer specific creepage and clearance requirements; contact [asp@samtec.com](mailto:asp@samtec.com)

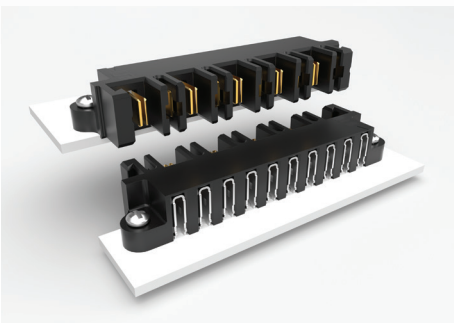
	CREEPAGE	CLEARANCE
PET/PES/PETC/ PESC/PESS	3.66 mm	3.31 mm
MPT/MPS/MPTC/ MPSC/MPSS/MPPT	2.95 mm	2.71 mm
UPT/UPS/UPPT	5.80 mm	1.51 mm



Discrete wire components (IMS5,IMSC5/ CC46,CC81; IPS6/CC10) and tooling available: [samtec.com/tooling](http://samtec.com/tooling)



"Hinging" for 90° mating radius, ideal for blind mating (FMPT/FMPS)



Hermaphroditic power system with rugged screw downs (MPPT, UPPT)

# SEALED I/O ACCLIMATE™ SYSTEMS

IP67 & IP68 • BAYONET/PUSH-PULL CIRCULARS • SPACE-SAVING RECTANGULARS



## ACCLIMATE™

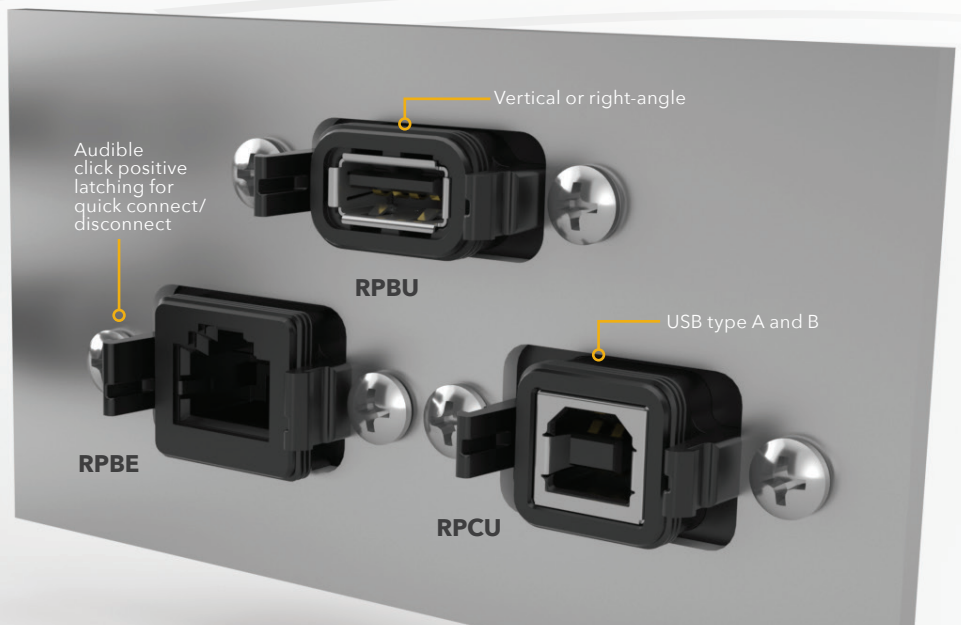
### FLEXIBLE SEALED CIRCULAR SYSTEMS

- Metal or plastic, 12 mm, 16 mm and 22 mm shells
- Flexible pin configuration, gender and panel interface termination
- Bayonet-style latching systems meet IP68 requirements
- Cost-effective crimp version available
- Mini push-pull latching system meets IP67 requirements for dust and waterproof sealing



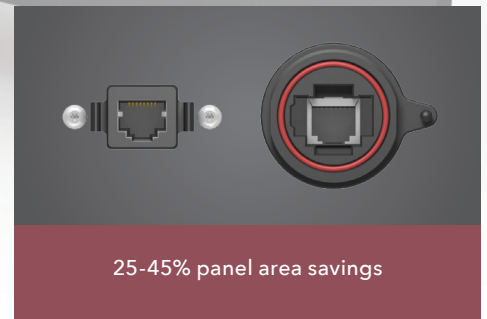
Kitted components for efficient field assembly





## SEALED RECTANGULARS

- Space saving design
- Meets IP68 requirements
- USB and Ethernet signal systems
- Rugged dust caps available
- 1 or 2-port vertical and right-angle panel mount sockets



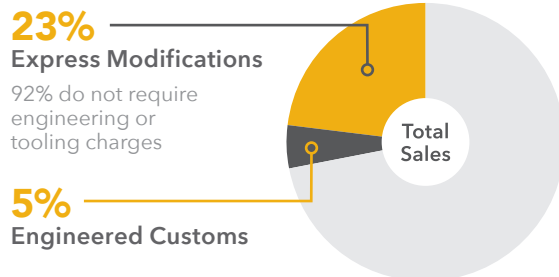
## THREADED CIRCULARS

- Meets IP68 requirements for dust and waterproof sealing
- Rugged overmold design
- USB, Mini USB and Ethernet signal systems
- 10 and 17 shell sizes
- Rugged dust caps and panel-to-board termination available

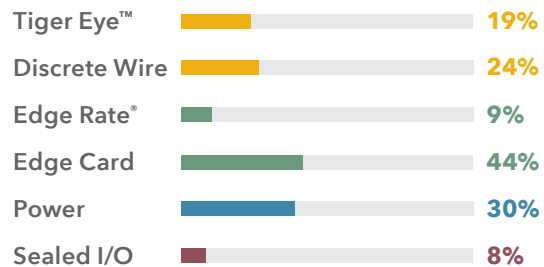
# MODIFIED & CUSTOM SOLUTIONS

## WILLINGNESS, SUPPORT & EXPERTISE

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



A substantial percentage of each Micro Rugged product segment is custom



**INDUSTRY LEADING  
CUSTOMER SERVICE**

**FLEXIBLE IN-HOUSE  
MANUFACTURING**

**SIGNAL INTEGRITY  
EXPERTISE**

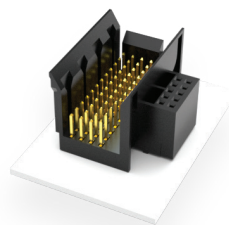
## FLEXIBLE RUGGED SOLUTIONS

- Full engineering, design and prototype support
- Design, simulation and processing assistance
- Quotes and samples turned around in 24 hours
- 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

**Express Modification**  
Standard PowerStrip™ cable with non-standard end 2 option

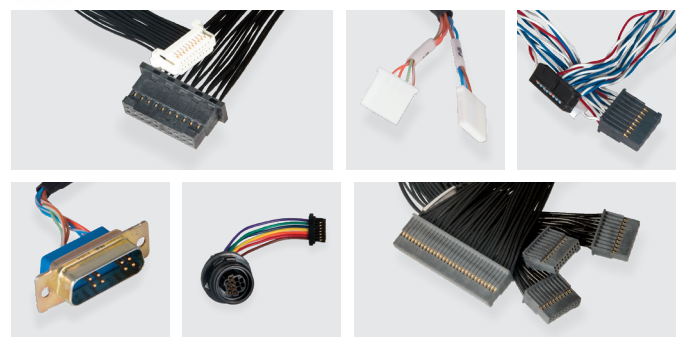


**Engineered Custom**  
Multi-power staging, power/signal combo, header/socket combo, custom body



## FLEXIBLE DISCRETE WIRE SOLUTIONS

- Variety of end 2 options
- Barrel crimp
- Nylon woven sleeves
- Ring/spade lug terminal
- Twisted pairs
- Break out
- Heat shrink
- Panel mount
- Color coding
- Sealed
- Selectively populated
- Harness style crimp

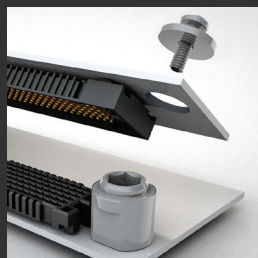


Contact the Application Specific Products Group at [asp@samtec.com](mailto:asp@samtec.com) for express modifications or engineered customs.

# RUGGED FEATURES

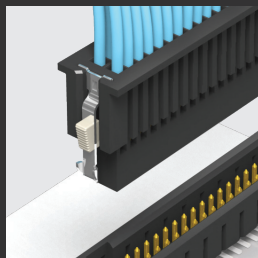
OPTIONS FOR HIGH-RELIABILITY, HIGH-RETENTION AND HIGH-CYCLE LIFE

## RUGGEDIZING OPTIONS



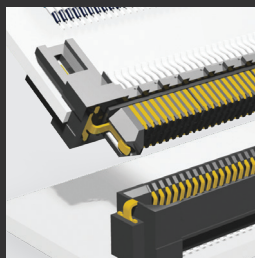
### JACK SCREWS

Ideal for high normal force, zippering and other rugged applications



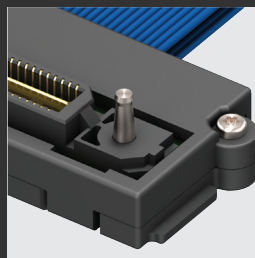
### POSITIVE LATCHING

Manually activated latches increase unmating force by up to 200%



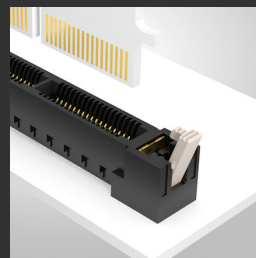
### FRICTION LOCKS

Metal or plastic friction locks increase retention/withdrawal force



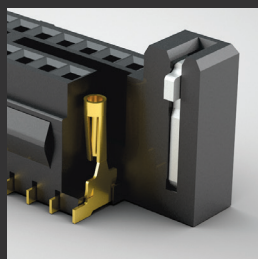
### RETENTION PINS

Increase unmating force by up to 50%



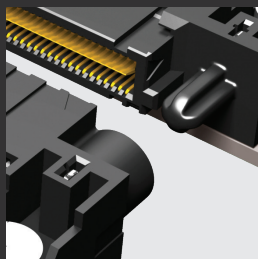
### BOARD LOCKS

Boards are mechanically locked together



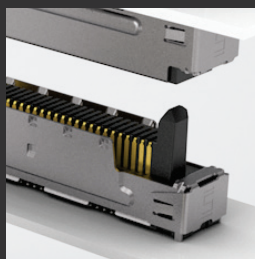
### WELD TABS

Significantly increase sheer resistance of connector to PCB



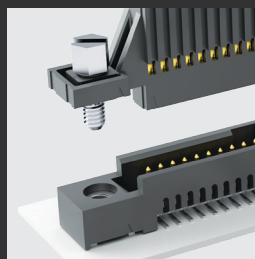
### GUIDE POSTS

Easy and secure mating



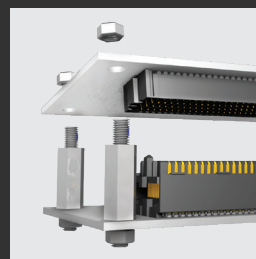
### SHIELDING

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

## CONTACT SYSTEMS



### TIGER EYE™

High-reliability  
High Mating Cycles  
Multi-finger Contact



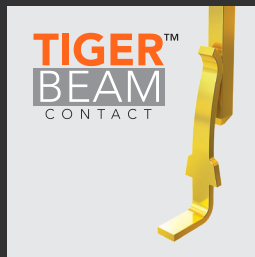
### TIGER CLAW™

Dual Wipe Contact  
Pass-through Applications  
Ultra-low Profile



### BLADE & BEAM

Mating/Alignment "Friendly"  
Cost-effective



### TIGER BEAM™

Best Cost  
Reliable Performance  
Post & Beam Contact



### EDGE RATE®

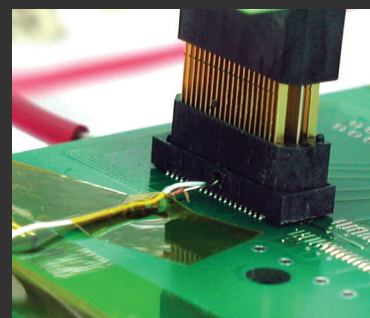
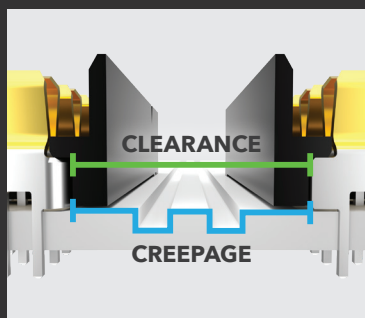
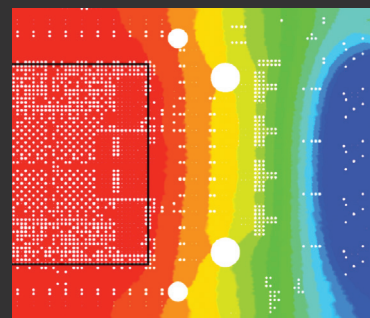
Designed for Signal Integrity  
Superior Impedance Control  
Reduced Broadside Coupling



# POWER INTEGRITY AND E.L.P.™

## 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 vs. number of contacts data available and Power Integrity Guidelines developed
- Visit [samtec.com/powerintegrity](http://samtec.com/powerintegrity) to learn more



## EXTENDED LIFE PRODUCT™

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, a list of qualifying products and test results, please visit [samtec.com/ELP](http://samtec.com/ELP) or email the Customer Engineering Support Group at [ASG@samtec.com](mailto:ASG@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.

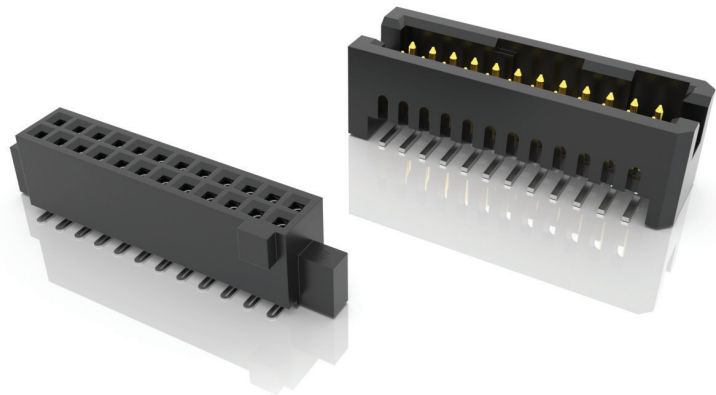
# SEVERE ENVIRONMENT TESTING

Severe Environment Testing is a new Samtec initiative to test our products beyond typical industry standards and specifications, many set forth by common requirements for rugged industries. Several of our products undergo additional testing to ensure they are more than suitable for industrial, military, automotive and other extreme applications. Please contact [set@samtec.com](mailto:set@samtec.com) for more information and test results when available.



## PRODUCTS TO BE TESTED:

- Rugged Tiger Eye™ connectors
- Hermaphroditic Razor Beam™ connectors
- SEARAY™ high-density arrays
- Edge Rate® rugged signal integrity connectors
- AcceleRate® HD ultra-micro connectors
- Ultra Micro Power systems
- High-speed coax and twinax cable assemblies



## TESTING INCLUDES:

**MATING/UNMATING/DURABILITY:** Measures the change in LLCR and mating/unmating after products have been cycled and exposed to various environmental conditions (100% RH humidity, 250 cycles).

**MECHANICAL SHOCK/RANDOM VIBRATION/LLCR:** Measures the product's ability to withstand a series of mechanical shocks and random vibration. LLCR is a before and after check for damage (40G Peak, 11 ms, Half Sine & 12gRMS, 5 - 2,000 Hz, 1 Hour/Axis).

**MECHANICAL SHOCK/RANDOM VIBRATION/NANOSECOND EVENT DETECTION:** Measures the product's ability to withstand a series of mechanical shocks and vibrations. Event detection monitors continuity during testing (40G Peak, 11 ms, Half Sine & 12gRMS, 5 - 2,000 Hz, 1 Hour/Axis).

**TEMPERATURE CYCLING:** Evaluates the product's reliability through thermal fatigue by cycling through two temperature extremes (-65 °C to 125 °C, 30 minute dwell time at each extreme).

**NON-OPERATING CLASS TEMPERATURE:** Determines the temperature range at which the product operates at peak level (-55 °C to 125 °C at 100 cycles and -65 °C to 125 °C at 100 cycles; 200 total cycles).

**DWV AT ALTITUDE:** Measures the peak voltage that a part can withstand before dielectric breakdown at high altitudes (70,000 feet).

**ELECTROSTATIC DISCHARGE (ESD):** Measures the level of electrostatic voltage the product can withstand (exposure to 5k, 10k and 15k Volts, repeated 10 times).

# SOLUTIONATOR®

## QUICKLY BUILD MATED SETS ONLINE

- Wide variety of search parameters and filters: creepage and clearance (power), pitch, stack height, etc.
- Easily sort results to find the right mated set
- Live chat with engineers for custom options
- Immediately download models and open Specs Kit

The screenshot displays the Solutionator web application interface. At the top, the logo "Solutionator DESIGN IN A MINUTE" is visible. Below it is a search bar with the placeholder text "Search by Keyword, Series, or Part #, or Use the Parametric Filters Below". A section titled "Search Options (Choose As Many As Apply)" contains various filters: Pitch (0.80 mm (.0315")), Stack Height (0 to 12 mm), Gender, RF Style, RF Application, Contact System (Edge Rate), Row Type, RF Family, Product Type, and Category. A "Live Chat" button is on the right. A callout box shows details for two parts: ERM8-030-02.0-L-DV-TR and ERF8-030-07.0-S-DV-TR, including 2D/3D CAD download links and links to Specs Kit, Prints, Catalog Page, and PADS Library. A table of 87 results is shown at the bottom, with columns for Part Number, Mating Part Number, Pitch, Mated Stack Height (mm), Positions, Board Termination, Mating Orientation, Rugged Rating, Signal Integrity Rating, and Creepage (mm). The table lists various part numbers and their specifications.

Part Number: ERM8-030-02.0-L-DV-TR  
Mating Part Number: ERF8-030-07.0-S-DV-TR

2D/3D CAD or graphic file:  
Select Format: [Dropdown]  
Download

powered by PARTSolutions®  
Specs Kit: Prints | Catalog Page | PADS Library |  
For additional product documentation, please visit the Technical Specifications page.

Search Options (Choose As Many As Apply)

Pitch: 0.80 mm (.0315")  
Stack Height: 0 min. 12 max.  
mm in

Gender: Select...  
RF Style: Select...  
RF Application: Select...  
Contact System: Edge Rate  
Row Type: Select...  
RF Family: Select...  
Product Type: Select...  
Category: Select...

Creepage: 0 min. mm in  
Clearance: 0 min. mm in

Active Filters: Pitch: 0.80 mm (.0315") x Stack Height: Range of values (1630) x Positions: Range of values (1350) x Contact System: Edge Rate (87) x

87 Results

Part Number	Mating Part Number	Pitch	Mated Stack Height (mm)	Positions	Board Termination	Mating Orientation	Rugged Rating	Signal Integrity Rating	Creepage (mm)
ERM8-030-02.0-L-DV-TR	ERF8-030-07.0-S-DV-TR	0.80 mm (.0315")	9	60	Surface Mount	Parallel	3 - Edge Rate	NA	NA
ERM8-070-02.0-L-DV-TR	ERF8-070-07.0-S-DV-TR	0.80 mm (.0315")	9	140	Surface Mount	Parallel	3 - Edge Rate	NA	NA
ERM8-050-05.0-L-DV-K-TR	ERF8-050-05.0-L-DV-K-TR	0.80 mm (.0315")	10	100	Surface Mount	Parallel	3 - Edge Rate	16 GHZ	NA
ERM8-070-02.0-L-DV-TR	ERF8-070-05.0-L-DV-TR	0.80 mm (.0315")	7	140	Surface Mount	Parallel	3 - Edge Rate	12 GHZ	NA
QRM8-052-05.0-L-D-A	QRF8-052-07.0-L-D-A	0.80 mm (.0315")	12	104	Surface Mount	Parallel	3 - Edge Rate	NA	NA
ERM8-020-05.0-L-DV-TR	ERF8-020-07.0-L-DV-TR	0.80 mm (.0315")	12	40	Surface Mount	Parallel	3 - Edge Rate	NA	NA
SEAM8-10-S02.0-S-10-2-K	SEAF8-10-05.0-S-10-2-K	0.80 mm (.0315")	7	100	Surface Mount	Parallel	3 - Edge Rate	12 GHZ	NA
ERM8-025-02.0-L-DV-TR	ERF8-025-05.0-S-DV-TR	0.80 mm (.0315")	7	50	Surface Mount	Parallel	3 - Edge Rate	12 GHZ	NA
ERM8-010-02.0-L-DV-TR	ERF8-010-05.0-S-DV-TR	0.80 mm (.0315")	7	20	Surface Mount	Parallel	3 - Edge Rate	12 GHZ	NA
ERM8-070-05.0-L-DV-TR	ERF8-070-05.0-L-DV-TR	0.80 mm (.0315")	10	140	Surface Mount	Parallel	3 - Edge Rate	16 GHZ	NA
ERM8-025-02.0-L-DV-K-TR	ERF8-025-05.0-L-DV-K-TR	0.80 mm (.0315")	7	50	Surface Mount	Parallel	3 - Edge Rate	12 GHZ	NA

To build your mated set, visit [samtec.com/solutionator](https://samtec.com/solutionator)



# INTEGRATION LEADS TO INNOVATION

## SAMTEC TECHNOLOGY CENTERS ENABLE COMPLETE SYSTEM OPTIMIZATION FROM SILICON-TO-SILICON™

Samtec's Technology Centers offer high-level design and development of advanced interconnect systems and technologies, along with industry-leading signal integrity expertise which allows us to provide effective strategies and technical support for optimizing the entire serial channel of high-performance systems.

Because Samtec's Technology Centers are not limited by the boundaries of traditional business units, we are able to work in a fully integrated capacity that enables true collaboration and innovation to support the demands of today, and the challenges of tomorrow.



### 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



**samtec**

SUDDEN SERVICE®

UNITED STATES • NORTHERN CALIFORNIA • SOUTHERN CALIFORNIA • SOUTH AMERICA • UNITED KINGDOM  
GERMANY • FRANCE • ITALY • NORDIC/BALTIC • BENELUX • ISRAEL • INDIA • AUSTRALIA / NEW ZEALAND  
SINGAPORE • JAPAN • CHINA • TAIWAN • HONG KONG • KOREA