RUGGED
HIGH-SPEED SYSTEMS

samtec.com/rugged
0.80 mm PITCH EDGE RATE®

- 1.50 mm extended contact wipe
- Optional extended guide post and rugged metal latching
- 360° shielding option reduces EMI
- Up to 200 total pins
- Single-ended or differential pair signaling
- Vertical, right-angle and edge mount available
- Severe Environment Testing (SET) qualified (ERF8/ERM8); aligns with MIL-DTL-55302. Visit samtec.com/set for test reports.
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. 0.80 mm pitch
- Up to 150 total pins
- Vertical and right-angle available

0.635 mm PITCH SLIM BODY EDGE RATE®

- Extremely slim 2.5 mm body width
- 0.90 mm contact wipe
- Up to 120 total positions in a 2-row design
- 5 mm stack height with others in development
- Optional weld tabs
- J lead for ease of processing

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 Ω and 100 Ω systems

samtec.com/edgerate
Rugged High-Speed Systems

0.60 mm, 0.80 mm & 1.00 mm PITCH SYSTEMS

- High-speed Edge Rate® contact system
- Vertical, right-angle, edge mount and pass-through
- Power/signal combo to 60 A per power bank (HSEC8-PV)
- PCIe® 3.0, 4.0 and 5.0 capable
- 0.60 mm pitch is PCIe® 6.0 capable with performance to 64 Gbps PAM4 (32 Gbps NRZ)
- Misalignment mitigation (HSEC1-DV)
- Press-fit tails, weld tabs, locks and latches

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
- Surface mount or through-hole with rugged weld tabs
- PCIe® 4.0 capable

MICRO EDGE CARDS

- 0.635 mm, 0.80 mm, 1.00 mm, 1.27 mm and 2.00 mm pitch
- Optional rugged weld tabs and polarization
- Solutions for 1.60 mm (.062”) and 2.36 mm (.093”) thick cards
- Vertical, right-angle and edge mount

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

samtec.com/edgecard
ACCELERATE® mP POWER/SIGNAL ARRAYS

- Best in class density for power and signal
- Rotated power blades for improved performance and simplified breakout region (BOR)
- Open-pin-field design for routing and grounding flexibility
- Low profile 5 mm stack height; up to 16 mm in development
- Up to 8 power and 240 signal positions; additional position counts in development

Q SERIES® GROUND PLANE CONNECTORS

- Integral ground/power plane for reliable signal integrity and power to 25 Amps
- 0.50 mm, 0.635 mm and 0.80 mm pitch
- Low profile Q Strip® from 5 mm to 25 mm stack heights
- Q Rate® with signal integrity-optimized Edge Rate® contacts
- Q2™ with optional shielding and increased insertion depth

HERMAPHRODITIC RAZOR BEAM™ INTERFACES

- High-retention, high-speed Razor Beam™ contacts
- 0.50 mm, 0.635 mm and 0.80 mm pitch
- Slim body design
- 4-6x greater mating/unmating forces vs. typical micro pitch connectors
- Self-mating system reduces inventory costs
- Shield option for EMI protection

Lshm shown at 40 total positions

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RUGGEDIZING OPTIONS

**POSITIVE LATCHING**
Manually activated latches increase unmating force by up to 200%.

**WELD TABS**
Significantly increase shear resistance of connector to PCB.

**FRICTION LOCKS**
Metal or plastic friction locks increase retention/withdrawal force.

**GUIDE POSTS**
Easy and secure mating.

**RETENTION PINS**
Increase unmating force by up to 50%.

**SHIELDING**
360° shielding reduces EMI.

**BOARD LOCKS**
Boards are mechanically locked together.

**SCREW DOWNS**
Secure mechanical attachment to the board.

CONTACT SYSTEMS

**TIGER EYE CONTACT**
- High-reliability
- High Mating Cycles
- Multi-finger Contact

**TIGER CLAW CONTACT**
- Dual Wipe Contact
- Pass-through Applications
- Ultra-low Profile

**BLADE & BEAM CONTACT**
- Mating/Alignment "Friendly"
- Cost-effective
- Micro Pitch

**TIGER BEAM CONTACT**
- Best Cost
- Reliable Performance
- Post & Beam Contact

**EDGE RATE CONTACT**
- Designed for Signal Integrity
- Superior Impedance Control
- Reduced Broadside Coupling

**MICRO-HYPERBOLOID**
- High-reliability
- Four Points of Contact
- Extreme Mating Cycles

samtec.com/contact-systems
WILLINGNESS, SUPPORT AND EXPERTISE

Industry-Leading Customer Service
• Quotes and samples in 24 hours
• Prototype and processing assistance
• Dedicated Application Specific Product engineers and technicians

Flexible, In-House Manufacturing
• Global Operations, including multiple cable fabrication & assembly facilities
• Quick-turn samples and prototypes
• Custom & modified product support

Signal Integrity Expertise
• Industry-leading engineering support for high-performance system design
• Full system optimization assistance, including simulation, testing, analysis and evaluation

CUSTOMS & EXPRESS MODIFICATIONS

FLEXIBLE RUGGED SOLUTIONS
• Contacts and bodies
• Stamping, plating and molding
• Wiring
• Strain relief
• Screw downs
• Latches & locks
• Shielding modifications
• Polarization

FLEXIBLE DISCRETE WIRE SOLUTIONS
• Variety of end 2 options
• Nylon woven sleeves
• Twisted pairs, color coding
• Heat shrink
• Selectively populated
• Barrel or harness crimp
• Ring/spade lug terminal
• Sealed

OPTICS FOR EXTREME ENVIRONMENTS
• Parylene coating
• Salt-fog inpenetrable
• Mitigation for tin whiskers
• Fungal resistant
• Extreme shock and vibration
• Full support for liquid immersion cooling