TE Connectivity 12 Gb/s Internal Mini-SAS HD Interconnect
12G Internal Mini-SAS HD Interconnect

The Product:
- Transfers an aggregate data rate of 48 Gb/s per connector (12G x 4 lanes); 1x4 version transfers aggregate data of 192 Gb/s
- Adopted by SAS 2.1 and SAS 3 specifications
- Features right angle and vertical connector orientations, and right angle and straight cable plugs

Applications:
- Enterprise storage
- High performance computing
- Networking
- Data center communication systems
Connector Features

• **High Density, High-Speed**: Capable of transferring an aggregate data rate of 48 Gb/s; the 1x4 version transmits an aggregate data transfer of 192 Gb/s (12 Gb/s x 16 lanes)

• **Compact Size**: With a 0.75mm contact pitch, the receptacle is 30% smaller than existing products

• **Faster Installation**:  
  - Press-fit termination  
  - Pre-assembled, one-piece connector assembly  
  - Keying for proper plug orientation

• **Flexibility**:  
  - Available in three configurations: 1x1, 1x2 and 1x4  
  - Stacked board interface with 36 positions per 1x1  
  - Plug options for direct passive and active copper cable assemblies

• **Error-Proof**: Screw-mounted for additional retention  
  - 100 Ohm impedance
Connector Performance

**Electrical**
- Signal integrity performance meets SAS-2.1 at 6 Gb/s and SAS-3 at 12 Gb/s requirements
- Voltage rating: 30 volts AC
- Current rating: Signal application only

**Mechanical**
- Plug insertion force: 50N Max
- Plug extraction force: 25N Max
- Latch retention: 50N Min
- Durability: 250 cycles
**Cable Assembly Features**

- **High Density, High-Speed:** 4i Capable of transferring an aggregate data rate of 48 Gb/s (12Gb/s x 4 lanes); the 8i version transmits an aggregate data transfer of 96 Gb/s (12 Gb/s x 8 lanes)

- **Greater Airflow & Space Savings:**
  - 0.75mm contact pitch stacked paddle card interface
  - Short 18mm length cable plug
  - 4-pair 30AWG composite flat twin axial cable with side bands

- **Design Flexibility:**
  - Available in 4i and 8i configurations
  - Standard cable lengths 0.3m, 0.5m, 0.7m and 1m
  - Straight and right angle cable connectors
  - PVC or halogen-free cable jacket material
  - 85 or 100 Ohm impedance

- **Robust Design:** Cable jacketed for abrasion/cut resistance and shield isolation (no exposed metallic edges)
- REACH and RoHS II compliant
Cable Assembly Performance

**Electrical**
- Signal integrity performance meets SAS-2.1 at 6 Gb/s and SAS-3 at 12 Gb/s requirements
- Voltage rating: 30 volts AC
- Current rating: Signal application only
- Attenuation: 100 Ohm 3.7 dB/m at 6 GHz; 85 Ohm 4.3 dB/m at 6 GHz

**Mechanical**
- Plug insertion force: 50N Max
- Plug extraction force: 25N Max
- Latch retention: 50N Min
- Durability: 250 cycles
- Compliant to SFF-8643 mini-multilane interface specification
- Cable construction consists of 8 differential pair bundles: 2 cables with 4 pairs in each cable
Additional Information

**Materials**
- Receptacle housing: LCP
- Contacts: Copper Alloy
- Chicklets: LCP
- Cable plug: Polycarbonate
- Paddle card contact pads: u30 gold
- Cable jacket: PVC or Halogen-free

**Protocols**
- SAS-2.1 at 6 Gb/s
- Capable of SAS 3.0 at 12 Gb/s
- SFF-8643
Additional Information

- Receptacle housing: LCP
- Contacts: Copper Alloy
- Chicklets: LCP

Protocols:
- SAS-2.1 at 6 Gb/s
- Capable of SAS 3.0 at 12 Gb/s
- SFF-8643

COMING SOON:
- Internal Mini-SAS HD cable assembly
## Connector Part Numbers

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<th>Part</th>
<th>Description</th>
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<td>1x2 Right Angled Press-fit, 100 Ohms</td>
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<td>1x4 Right Angled Press-fit, 100 Ohms</td>
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<td>1x1 Vertical Press-fit, 100 Ohms</td>
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Supporting Documents

Technical Documents

• **Product Specification:** 108-32038
• **Application Specification:** 114-32101

Brochure: **7-1773461-9 Mini-SAS HD Interconnects** (includes information on external and internal products)

Website: [http://www.te.com/products/miniSASHD](http://www.te.com/products/miniSASHD)