Introducing
Mini SAS HD Interconnect

TE's Mini SAS HD receptacle assembly is the next-generation SAS high-density high-speed IO interface. This interface was adopted for the SAS 2.1 standard and proposed for SAS 3.0 standard, and is designed to support 6G and future 12G SAS applications. The assembly is offered in 4x, 8x, and 16x versions. The reduced size of the Mini SAS HD system provides additional space for system designers. While a low profile PCIe card can accept four 4x Mini SAS connectors, it can only accept two of Mini SAS connectors.

The passive Mini SAS HD copper cable assembly is designed for broadband operation optimized for 6 and 12 Gbps. The EEPROM signature enables the host to identify what type and length of cable is connected to its port, and can be customized for any application. An improved latch design reduces the insertion force and increases the retention force. MADISON CABLE brand TurboTwin bulk cable and the dual 4 pair cable exit backshell provide flexibility for routing.

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KEY FEATURES

- SFF-8644 and SAS 2.1 compliant and capable for SAS 3.0

- Broad band design for 6 and 12Gbps

- Board receptacle assembly provide 1x1(4x), 1x2(8x) and 1x4(16x) configuration

- Pre-assembled, one piece connector and cage assembly offers one-step placement to the board

- Lightpipe option available

- REACH and RoHS compliant

- Improved cable latch design

- Enhanced EMI skirt design

- Scalable 4x and 8x cable plug options

- 26, 28, and 30 AWG bulk cable

APPLICATIONS

- Serial Attached SCSI (SAS 2.1)
- Serial data transmission
- HBA (Host Bus Adapter)
- RAID (Redundant Arrays of Inexpensive Disks)
- Workstations
- Rack-mount server
- Servers
- Storage rack
- High performance computer
- Switches

ELECTRICAL

- Connector signal integrity performance meets requirements of current SAS 2.1 at 6Gbps, and capable of compliance with SAS 3.0 at 12Gbps
- Voltage rating: 120 volts AC
- Current rating: Signal application only
- Cable assemblies are fully compliant to SAS 2.1 and SFF-8449 HD management interface

MECHANICAL

- Plug insertion force: 100N Max
- Plug extraction force: 50N Max
- Latch retention: 133.5N Min
- Durability: 250 cycles
- Cable backshell is fully compliant to the SFF-8644 mini-multilane interface specification
- Cable construction consists of 8 differential pairs bundled as 2 cables with 4 pairs in each cable

MATERIALS

Connector
- Receptacle housing: LCP
- Shield assembly: Nickel Silver
- Contacts: Copper Alloy
- EMI Spring: Copper Alloy
- Threaded nut: Brass
- Chicklets: LCP

Cable Assembly
- PCB paddle card interface
- 30 m gold plated contact pads
- Tin plated zinc diecast backshells
- Tin over nickel plated copper alloy EMI spring

TECHNICAL DOCUMENTS

- Product Specification — 108-2462
- Application Specification — 114-13316

INDUSTRY STANDARDS

- SAS 2.1
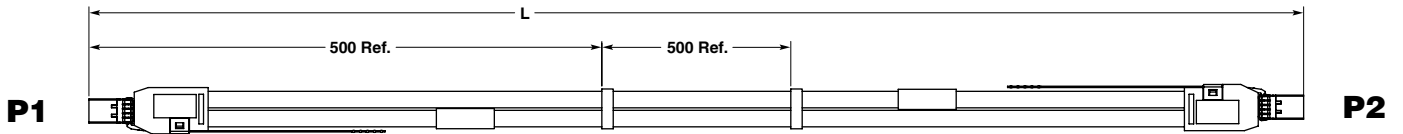- SFF-8644

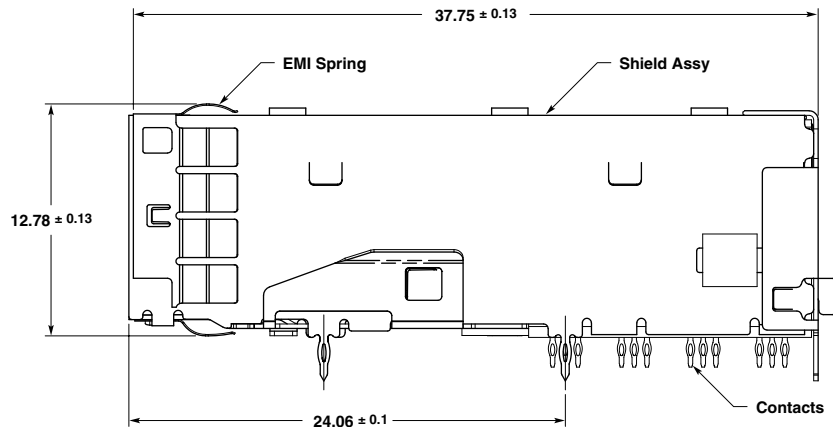| MINI SAS HD PART NUMBER CHART	
TE Part No.	**Product Description**
2149027-1	Mini SAS HD 1x1 Receptacle Assembly
2149966-1	Mini SAS HD 1x2 Receptacle Assembly
2149375-1	Mini SAS HD 1x4 Receptacle Assembly
2198484-1	Mini SAS HD 1X1 Receptacle Assy W/LP
2198483-1	Mini SAS HD 1x2 Receptacle Assy w/ LP
2180736-1	Mini SAS HD 1x4 Receptacle Assy w/ LP

PRODUCT OFFERING

Mini SAS HD Direct Attach Copper Cable Assembly Part Number Selection Guide					
Base P/N	Description	Data Rate	AWG	Minimum Cable Length	Maximum Cable Length
2202501-1 thru -8	4x Passive Mini SAS HD	6/12 Gbps	26	0.5m	7m
2202502-1 thru -6	4x Passive Mini SAS HD	6/12 Gbps	28	0.5m	5m
2202503-1 thru -4	4x Passive Mini SAS HD	6/12 Gbps	30	0.5m	3m
2202504-1 thru -8	8x Passive Mini SAS HD	6/12 Gbps	26	0.5m	7m
2202505-1 thru -6	8x Passive Mini SAS HD	6/12 Gbps	28	0.5m	5m
2202506-1 thru -4	8x Passive Mini SAS HD	6/12 Gbps	30	0.5m	3m
2202507-1 thru -8	4x Passive Mini SAS HD Hybrid	6 Gbps	26	0.5m	7m
2202508-1 thru -6	4x Passive Mini SAS HD Hybrid	6 Gbps	28	0.5m	5m
2202509-1 thru -4	4x Passive Mini SAS HD Hybrid	6 Gbps	30	0.5m	3m

CABLE ASSEMBLY REPRESENTATIVE DRAWING

L = Length

CONNECTOR REPRESENTATIVE DRAWING

FOR MORE INFORMATION

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Part numbers in this brochure are RoHS Compliant*, unless marked otherwise.
*as defined www.te.com/leadfree

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