

3M™ Mini Serial Attached SCSI (miniSAS) Connectors

3M MiniSAS Discrete and Combo Connectors Provide High Density Solutions for High Performance Storage Requirements

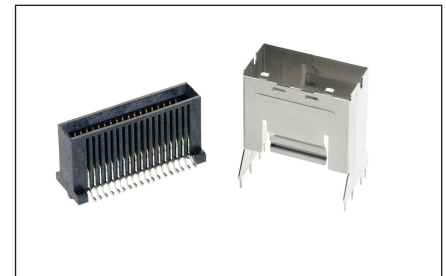
3M MiniSAS discrete and combo connectors enable high speed transmission up to 6 Gbps. The connectors are an ideal interconnect solution for the growing server and storage market. MiniSAS significantly reduces the connector size for storage systems currently using SAS (Serial Attached SCSI) 4-lane (4x or 4-lanes of data) and is being widely adopted for next-generation designs.

MiniSAS is a second generation SAS connector. Where first generation SAS connectors supported data rates up to 3 Gbps, miniSAS doubles that data rates to 6 Gbps. While previous generation SAS connectors support single and 4-lane capability, miniSAS provides the 4-lane capability at greater densities. MiniSAS also offers designs for internal as well as external configurations. Increasing system and communication speeds require improved signal integrity designs to ensure there is no data loss in transmission.

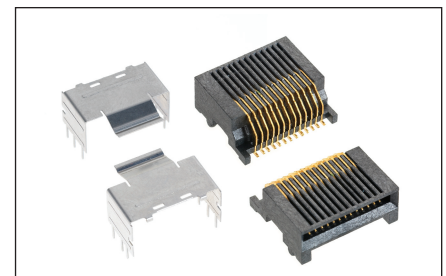
In order to meet the ongoing industry requirement for higher speed and greater bandwidths, miniSAS was developed to support data rates up to 6 Gbps. This data rate is achieved via the use of high speed differential signals. The 0.8 mm pitch connector provides increased I/O density with greater channel capabilities and requires less space on the PCB boards. One connector supports up to four channels of transmit and receive. Two levels of EMLB contacts support the hot plugging capability.

MiniSAS uses the same connector design for both internal and external applications, albeit with different pin counts. Both the internal and external versions come with metal shells or cages.

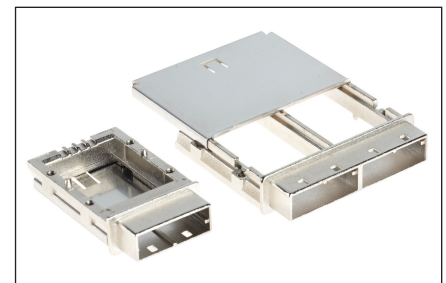
3M Mini SAS connectors are offered in vertical and right angle internal boardmount versions, and a right angle external boardmount version. The internal combo version is also available in vertical and right angle. These products conform to the SFF 8086, 8087 and 8088 standards. These standards were to support the aggregation and cabling of SAS signals into a high speed 4-lane architecture, providing both internal and external configurations. Different sizes of the same connector are used for the internal and external versions. Internal cable assemblies and connectors use



3M™ Mini Serial Attached SCSI (miniSAS) Connector Vertical Receptacle and Shell



3M™ Mini Serial Attached SCSI (miniSAS) Connector Right Angle Receptacle and Shell



3M™ Mini Serial Attached SCSI (1-by-1 and 1-by-2 cage shown) (miniSAS) External Cage

36 positions, while external use 26 positions. The connectors are all SMT, while the internal shells can be through-hole, kinked tails for through-hole, or SMT. Internal connectors can be purchased as discrete parts, connector and shell, or as a “combo” part, where the connector and shell are joined together into a single piece.

The 3M™ Mini Serial Attached SCSI (mini SAS) system has many options for the board designer. Some of these features include SMT, through-hole and kink leg designs, with three different tail lengths for the through-hole. Pick-and-place packaging is available for automated component placement.

We also offer an internal 3M™ Mini Serial Attached SCSI (miniSAS) Connector in a combo version. This design joins the metal shell to the boardmount connector, making a single assembly. This reduces inventory issues and eases board assembly. All shell tail configurations are available for the combo connectors. The right angle combo versions are available for pick-and-place or tape and reel.

Internal Products

3M Part Number	Configuration	Tech Sheet
8A36-1XXX and 8B36-1XXX Series	36 Position, Vertical Internal Connector and Shell	TS-2218
8A36-2XXX and 8B36-2XXX Series	36 Position Right Angle Internal Connector and Shell	TS-2219
8AB36-2XXX Series	36 Position Right Angle Combo Connector	TS-2208
8AB36-1XXX Series	36 Position Vertical Combo Connector	TS-2207

External Products

3M Part Number	Configuration	Tech Sheet
8A26-2030-LJ	26 Position Right Angle SMT Connector	TS-2211
8C26-1X000	External Cage, Single Port	TS-2211
8C26-2XX00	External Cage, Double Port	TS-2211
8C26-4XXXX	External Cage, Four Port	TS-2211

Refer to the 3M Interconnect website for access to tech sheets and additional product details: www.3m.com/interconnects

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Technical Information

- SFF 8086, 8087 and 8088 Standards
- 0.8 mm SMT Contacts
- EMLB contacts for HOT plugging
- Combo versions of internal boardmount connectors available for single component handling
- Vertical and right angle internal boardmount connectors
- One, two or four port external cages
- Multiple key options available for external cages
- RoHS compliant*

***RoHS Compliant 2005/95/EC" means that the product or part ("Product") does not contain any of the substances in excess of the maximum concentration values in EU Directive 2002/95/EC, as amended by Commission Decision 2005/618/EC, unless the substance is in an application that is exempt under EU RoHS. This information represents 3M's knowledge and belief, which may be based in whole or in part on information provided by third party suppliers to 3M.

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