

Serial-Attached SCSI (SAS) 3.0 Connectors

CONNECTORS FOR HIGH SPEED STORAGE SERVERS

SAS 3.0 connectors for next-generation servers with 12Gb/s speeds. The 29-position receptacle and plug connectors feature hot-plugging and blind-mating, connector misalignment compensation, and a PCB retention mechanism for robust SMT attachment. The connectors are SATA compliant and meet a wide range of vertical and right angle configurations for usage across server and storage equipment, HDDs, and HDD carriers.

- Compatible with SFF8680 specification
- Footprint backward compatible to 6G and 3G SAS connectors
- Staggered contact lengths for hot plugging applications
- Vertical receptacle is available in SMT, PF and Hybrid
- Header is available in right angle and vertical orientation
- Supports both SAS and SATA drives



TARGET MARKETS



FEATURES

- Supports both SAS and SATA drives
- Staggered contact lengths
- Vertical backplane receptacles come with wide-base housing options housing options
- Stamped clips act as connector retainers for robust PCB attachment
- Molded guideposts help mating halves to self-align by providing angled lead-ins
- Vertical receptacles are available in SMT (Surface Mount), PF (Press-fit), TH (Through hole), and hybrid terminations
- Headers are available in right angle and vertical orientation
- Supports interposer cards / paddle cards
- Wide range of vertical and right angle configurations

BENEFITS

- Addresses the needs of both mission critical and bulk storage applications
- Provides sequential contact mating for hot plugging
- Provides added stability
- Provide additional mechanical strength after soldering
- Compensates for connector misalignment
- Allow engineers to choose the apt termination for their designs
- Facilitates in controlling, monitoring, and upgrading the HDD system
- Configured for multiple applications like server and storage equipment, HDDs, and HDD carriers

TECHNICAL INFORMATION

MATERIAL

- Contact Base Metal: Copper Alloy
- Contact Area finish: Gold over Nickel
- Solder Area finish: Tin over Nickel
- Retainer Clip Base Metal: Copper Alloy
- Retainer Finish: Tin over Nickel
- Housing: High-Temperature Thermoplastic (UL 94V-0); Black

ELECTRICAL PERFORMANCE

- Contact Resistance: 30mΩ max. initial; 15mΩ max. change after test
- Current Rating: 1.5A min. per contact with temperature rise not exceeding 30°C

MECHANICAL PERFORMANCE

- Durability: 500 mating cycles
- Mating Force: 50N max./45N max. (32P-4lane SAS)
- Unmating Force: 5N min./4.5N min. (32P-4lane SAS)

ENVIRONMENTAL

- Humidity: 96 hours at 40°C with 90–95% relative humidity. Per EIA 364–31, Method II, test condition A
- Temperature Life: 85°C for 500 hours. Per EIA 364–17 test condition III, method A
- Thermal Shock: 10 cycles between –55°C and +85°C. Per EIA 364–32, test condition I
- Mixed Flowing Gas: Expose 1/2 samples unmated for 7 days and then mated for 7 additional days; the other 1/2 samples are exposed mated for 14 days. Per EIA 364–65, class II A

APPROVALS & CERTIFICATION

- UL

SPECIFICATIONS

- Amphenol Product Specification: GS-12-1120 and SSAS008

PACKAGING

- Tape and Reel
- Tray

TARGET MARKETS/APPLICATIONS



Processor and Storage Blade Mezzanine Card



HDD
HDD Carrier
External Storage System
Interposer Card
Server
Storage Server
Processor and Storage Blade



Embedded System Board
Surveillance Camera
Security

PART NUMBERS

12G SAS Receptacle								
Performance	Orientation	Termination Type	Retainers	Locator Post	Height (mm)	Mount Type	Std/Reverse	Width (mm)
12Gb/s	Vertical	SMT	SMT	Yes	6.45	Top mount	-	5.5
12Gb/s	Vertical	SMT	SMT	Yes	7.45	Top mount	-	5.5
12Gb/s	Vertical	Hybrid	DIP	Yes	8.15	Top mount	-	8.5
12Gb/s	Vertical	SMT	SMT	Yes	8.15	Top mount	-	5.5
12Gb/s	Vertical	SMT	SMT	Yes	8.15	Top mount	-	7.5
12Gb/s	Vertical	SMT	SMT	Yes	8.15	Top mount	-	8.5
12Gb/s	Vertical	Press Fit	Press Fit	No	8.15	Top mount	-	5.5
12Gb/s	Vertical	SMT	DIP	Yes	8.15	Top mount	-	8.5
12Gb/s	Vertical	SMT	SMT	Yes	14.15	Top mount	-	8
12Gb/s	Right angle	SMT	Harpoon	Yes	0.1	Sink type	Reverse	13
12Gb/s	Right angle	SMT	SMT	Yes	2.85	Top mount	Standard	13.2
12Gb/s	Right angle	SMT	DIP	Yes	3.95	Top mount	Standard	9.45
12Gb/s	Right angle	SMT	DIP	Yes	7.07	Top mount	Standard	13.2

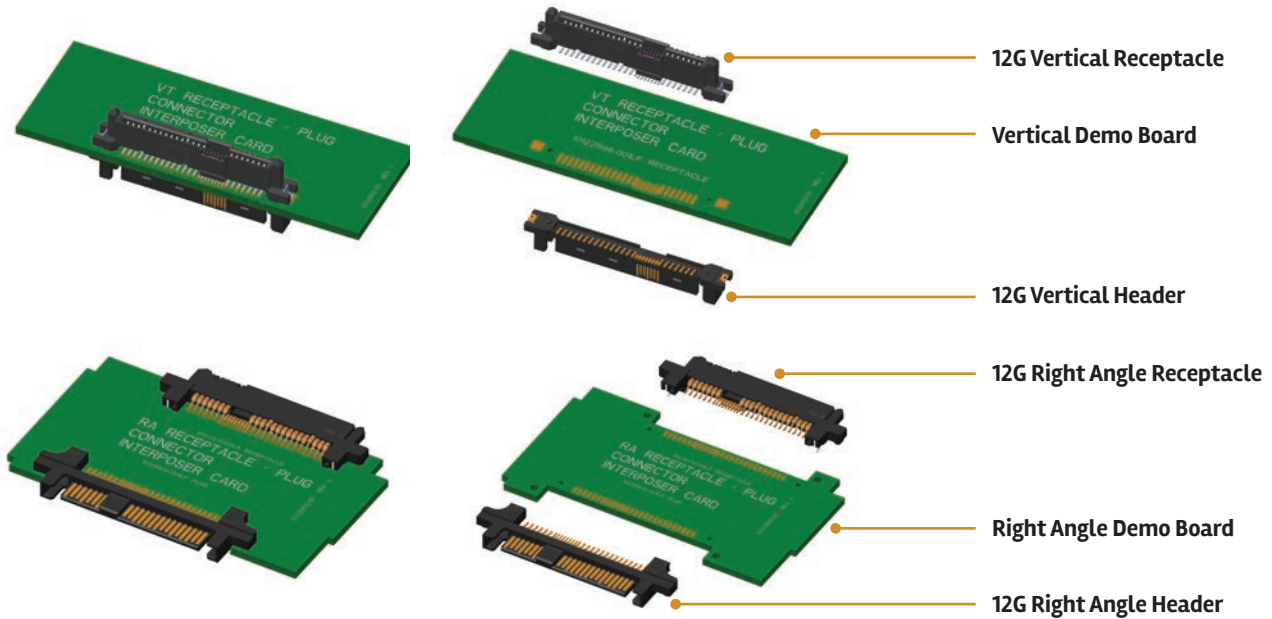
12G SAS Header								
Performance	Vertical/RA	Termination Type	Hold Down	Locator Post	Height (mm)	Mount Type	Std/Reverse	Width (mm)
12Gb/s	Vertical	SMT	SMT	Yes	8.4	Top mount	-	5.5
12Gb/s	Vertical	SMT	SMT	Yes	7	Top mount	-	5.5
12Gb/s	Right angle	SMT	Harpoon	Yes	0.3	Sink type	Standard	12.85
12Gb/s	Right angle	SMT	SMT	Yes	1	Sink type	Reverse	9.2
12Gb/s	Right angle	SMT	SMT	Yes	1.1	Sink type	Standard	9.2

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12GB/S SAS INTERPOSER CARDS/ PADDLE CARDS

SAS interposer cards/ paddle cards are typically placed between the Hard Disk Drive (HDD) and backplane within a storage system. It facilitates data translation and HDD system monitoring or upgrading. Each card consists of one header and one receptacle and it comes with Vertical or Right angle options.

Amphenol developed the portfolio of 12Gb/s SAS connectors addressing the needs of interposer cards as shown in the following diagrams.



5510SAS3007TEA4

Disclaimer

Please note that the above information is subject to change without notice.