

SAS/PCIe® 5.0 (U.2 or U.3) Connectors

HIGH SPEED DESIGN WITH FLEXIBILITIES

SAS/PCIe® 5.0 (U.2 or U.3) connectors come with 32GT/s (PCIe® lanes) and 24Gb/s (SAS lanes) speeds to meet the demands of next-generation servers. The 68-position, SAS/PCIe® receptacles, and headers enable the implementation of high-speed Serial Attached SCSI (SAS) Hard Disk Drive (HDD) interface as well as Peripheral Component Express (PCIe®)-based devices. The molded guide post allows the device plug and receptacle to self-align during the mating process. With a halogen-free high-temperature thermoplastic, these connectors are made to withstand diverse conditions. It also offers a durability of 500 mating cycles.

- Compatible with SFF8639 specification
- Capable of meeting 24Gb/s SSDs and HDDs or PCIe® based devices at 32GT/s
- Footprint backward compatible with 12G, 6G and 3G SAS connectors

FEATURES

- Receptacles are inter-mateable with unshielded dual port SFF8680 (SAS 3.0/SAS 4.0) connectors
- SAS/PCIe® connectors enable SFF8630, SFF8680 and SFF8432 interfaces
- Backward compatible with 12Gb/s, 6Gb/s SAS, SATA and 3Gb/s SFF8482 connectors
- Supports up to 6 port 32GT/s PCIe® based devices
- Supports both SAS and SATA drives
- Staggered contact lengths
- Stamped clips act as connector retainers for robust PCB attachment
- Molded guideposts help mating halves to self-align by providing angled lead-ins



TARGET MARKETS



BENEFITS

- Offers flexibility in component selection
- Implementation of high speed SSDs (Solid State Drives) and HDDs (Hard Disk Drives) allows compatibility between unshielded dual and multiport interfaces
- Same interface can be used for cost-effective storage HDDs as well as higher performance server SSDs
- Improves performance and faster file transfers
- Addresses the needs of both mission critical and bulk storage applications
- Provides sequential contact mating for hot plugging
- Provides additional mechanical strength after soldering
- Compensates for connector misalignment

TECHNICAL INFORMATION

MATERIAL

- Contact Base Metal: Copper alloy
- Contact Area Plating: Gold over Nickel
- Solder Tail Plating: Tin over Nickel
- Retainer Clip Base Metal: Copper alloy
- Retainer Plating: Tin over Nickel
- Housing: Halogen-free high temperature thermoplastic (UL94V-0), Black

ELECTRICAL PERFORMANCE

- Contact Resistance: 30mΩ max. for signal contacts. Per EIA 364-23
- Current Rating: 1.5A min. per contact with temperature rise not exceeding 30°C (power pins only: P1-P15). Per EIA 364-70B
- Insulation Resistance: 1000MΩ min. per EIA 364-21

MECHANICAL PERFORMANCE

- Durability: 500 mating cycles
- Mating Force: 59N max.
- Unmating Force: 6N min.

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 to +85°C. Per EIA 364-32, test condition I
- Mixed Flow Gas: Expose ½ samples unmated for 7 days and then mated for 7 additional days; the other ½ samples are exposed mated for 14 days. Per EIA 364-65, class II A exposed mated for 14 days. Per EIA 364-65, class II A

SPECIFICATIONS

- Amphenol Product Specification: SSAS009-E

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

PART NUMBERS – (VARIOUS TYPES UNDER DEVELOPING)

SAS/PCIe® 5.0 Receptacle								
Application	R/A or Vertical	Termination Type	Retainers	Height (mm)	Mount Type	Impedance	Other	Part Number
U.2	Vertical	SMT	SMT	8.15mm	Top mount	85Ω		PSAS5F3130021TR
U.2	Vertical	SMT	TH	8.15mm	Top mount	85Ω		PSAS5F3130031TR
U.2	Vertical	SMT	SMT	8.15mm	Top mount	85Ω		PSAS5F3130161TR
U.2	Vertical	SMT	TH	8.15mm	Top mount	85Ω		PSAS5F3130171TR
U.2	Vertical	SMT	TH	8.15mm	Top mount	85Ω	wide base	PSAS5F3130081TR
U.2	Vertical	SMT	SMT	8.15mm	Top mount	85Ω	Slim body	PSAS5F3130191TR
U.2	Vertical	SMT	TH	8.15mm	Top mount	85Ω	2.0mm hold down	PSAS5F3130201TR
U.2&U.3	RA	SMT	TH	0.35mm	Sink type	92Ω	CEM 5.0, 0.5R	PSAS5F2130021TR
U.2&U.3	RA	SMT	TH	2.85mm	Top mount	92Ω	CEM 5.0, 0.5R	PSAS5F2130051TR

SAS/PCIe® 5.0 Header								
Application	R/A or Vertical	Termination Type	Retainers	Height (mm)	Mount Type	Impedance	Other	Part Number
U.2	R/A	SMT	TH	4.9mm	Top Mount	85Ω		PSAS5M2130021TR
U.2	R/A	SMT	Fork lock	4.9mm	Top Mount	85Ω		PSAS5M2130121TR
U.2	R/A	SMT	SMT	4.4mm	Sink type	85Ω		PSAS5M2130081TR

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