

## FEATURES AND SPECIFICATIONS



### Molex offers the Vertical SMT Plug solution for Serial Attach SCSI (SAS)

The capabilities of Serial Attach SCSI (SAS) have been developed to meet the evolving challenges of high end server applications. These challenges include scalability, performance, reliability and manageability, while leveraging a common electrical and physical connection interface with Serial ATA (SATA). This compatibility provides users with unprecedented choices for server and subsystem deployment.

SAS uses a point-to-point architecture which works in conjunction with PCI express and other high-speed architectures on the market such as SATA. Both SAS and SATA drives are compatible with SAS Backplane receptacles. Molex offers a wide range of PCB attachment and size options for these SAS applications.

In extending the product offerings, Molex has developed a vertical SMT SAS plug with 2 different height options. It is compliant to SAS inter-mating features such as 7 signal pins each on both port 1 and port 2, 15 power pins, and staggered contact length for hot-plugging. This plug is ELV and RoHS compliant. It is also lead free process compatible.

Molex is an active contributor to the INCITS T10 Technical Committee (SCSI) specifically in the SFF Working Group. This insures that all of Molex's SAS products conform to SFF8482 and SFF8484 specifications.

## Serial Attached SCSI 1.27mm (.050") Pitch 29 Circuit

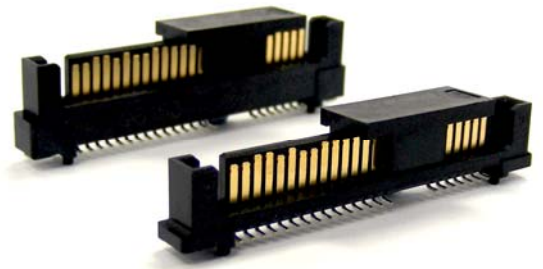
### SAS Plug

**78012**

– Vertical SMT  
Extended Height 10.88mm

**78164**

– Vertical SMT  
Standard Height 7.88mm



Features	Benefits
• Hot Plug	• Add or remove drives without system shutdown
• 3.0 GB/sec transfer rate	• Sets standards for enterprise-class performance, 2 <sup>nd</sup> generation on track for 6.0GB/sec throughput
• Solder tab	• Provides extra strength in retention to PCB
• Pick and place cap	• Allows automated placement onto PCB
• Tray / Embossed Tape on Reel packaging	• Provide options of packaging to cater to customer's processing needs
• High-temperature thermoplastic housing	• Withstands lead-free processing
• Two different height variations	• Provide options to address different space constraints

## SPECIFICATIONS

### Reference Information

Packaging: Embossed Tape on Reel / Tray

UL File No.: Pending

CSA File No.: Pending

Mates With SAS/SATA Receptacle: 78011

Mates With SAS Receptacle:

87824, 87839, 87863, 87970, 87945, and 87975

Conforms to: SFF 8484

Designed In: Millimeters

### Electrical

Voltage: 30V

Current: 1.5A

Contact Resistance: 30 milliohms max.

Dielectric Withstanding Voltage: 500V AC

Insulation Resistance: 1000 Megohms min.

### Mechanical

Terminal Retention Force:

Port 1: 4.45N min

Port 2: 2.20N min

Mating Force: 50N (Cable) max and 25N (Backplane) max

Un-Mating Force: 20N (Cable) min and 5N (Backplane) min

Durability: 25 Cycles (Cable) and 500 Cycles (Backplane)

### Physical

Housing: Black, Nylon (PA), UL 94V-0

Contact: Copper Alloy (Cu)

Plating:

Contact Area — 0.76  $\mu$ m (30 $\mu$ "") Gold (Au)

Solder Tail Area — Tin (Sn)

Underplating — Nickel (Ni)

Operating Temperature: 0°C to +55°C

## Markets and Applications

- **Telecommunication**
  - Hubs
  - Servers
- **Other Markets**
  - Other applications



**Serial Attached SCSI**  
**1.27mm (.050") Pitch**  
**29 Circuit**



Network storage

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 Extended Height 10.88mm

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Servers



RAID Storage

## Ordering Information

Description	Lead Free Order No.	Height	Packaging	Retention to PCB	Pick and Place Cap
1.27mm (.050") Pitch, Serial Attached SCSI Combo Device Plug, Vertical, Surface Mount, 29 Circuits	78012-0011	10.88mm	Embossed Tape on Reel	Solder Tab	Yes
	78164-1051	7.88mm			



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