

Nano-Pitch I/O™ Interconnect System

molex®

With industry-leading port density, multi-protocol application support, and high-bandwidth performance, the Nano-Pitch I/O Interconnect System is redefining PCIe and SAS solutions within the storage industry, as well as in broader markets, including mobile and enterprise

Features and Benefits

Flexible pinout concept (continuous Ground-Signal-Signal-Ground) optimized for high-speed applications

Maximizes the number of high-speed lanes within the lengths provided. Four-lane (42ckt) available per industry standard and flexibility to design for 5x and 6x.

Multi-protocol solution that adheres to a variety of industry standards

Complies with: T10/Serial Attached SCSI (12 Gbps SAS-G3) with roadmap to 24 Gbps SAS-G4; SFF Committee/SFF-8611; Free Cable/SFF-8612 Fixed Connector/Universal Pinout/SFF-9400; PCIe OCuLink Gen 3 8 GT/s and Gen 4 16 GT/s

Extremely small form factor design: 5.00mm H by 15.00mm W by 9.00mm D and a 12.00mm mated connector-to-cable assembly height

Enables high speed and high bandwidth in a small form factor I/O connector. Services mobile devices through enterprise applications

Staggered, reliable and constant dual-row contact configuration

Allows for hot pluggability: the ability to add components without having to shut down the system. Provides optimal routing for high-speed trace connections while minimizing the need for PCB real estate

Versatile metal shell housing

Provides an internal or external solution, with a low mated height that fits within the maximum component height of PCIe add-in cards. Cable-side passive or active latching options available

Vertical and right-angle PCB mounting options

Enables internal and external system design flexibility with surface-mount and intrusive reflow options available

Mezzanine and parallel solutions available

Provides industry-leading application flexibility across almost any arrangement of boards within a system



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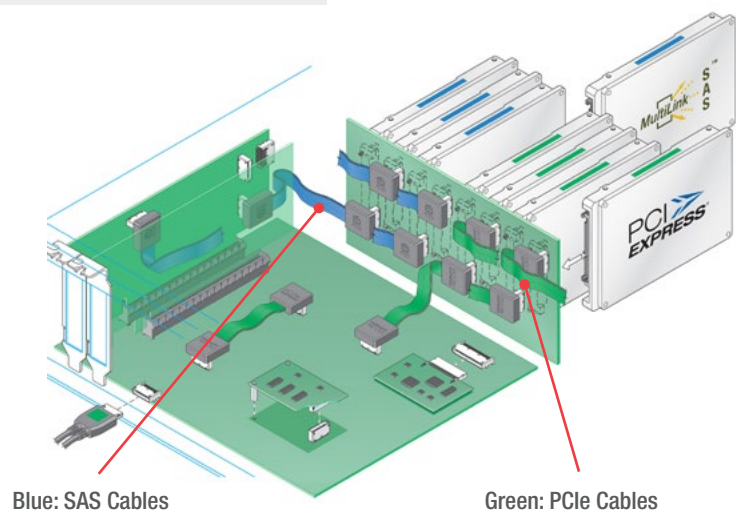
Applications

Storage Systems

- Data Center and Enterprise Storage Systems
- Storage Racks
- JBODs
- Storage Controllers
- HBA (Host Bus Adapter) Servers
- RAIDS (Redundant Array of Individual Disks)

Telecommunications/Networking

- Hubs
- Servers
- Switches
- Routers



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Specifications

REFERENCE INFORMATION

Packaging: Tape and Reel
 UL File No.: In Process
 CSA File No.: In Process
 Mates With: Nano-Pitch I/O Cable Assy.
 Designed In: Millimeters
 RoHS: Yes
 Halogen Free: Yes

ELECTRICAL

Voltage (max.): 30V AC (RMS)/ DC
 Current (max.): 0.5A
 Contact Resistance (max.): <10 mΩ Δ
 Dielectric Withstanding Voltage: 660V AC

MECHANICAL

Mating Force w/o Latch: 20N Max
 Mating Force with Passive Latch: 40N Max
 Mating Force with Active Latch: 40N Max
 Unmating Force w/o Latch: 16N Max
 Unmating Force with Passive Latch: 25N Max
 UnMating Force with Active Latch: 25N Max
 Durability (min.) Internal: 50 cycles

PHYSICAL

Housing: Glass-Filled Thermoplastic, UL94V-0
 Contact: High-performance Copper Alloy
 Shield: Stainless Steel
 Plating (min.):
 Contact Area — 0.76μm Gold
 Solder Tail Area — 2.54μm Tin
 Shield — Matte Tin over 1.27μm Nickel
 Underplating — 2.0μm Nickel Overall
 PCB Thickness: Up to .093" for solder tails
 Operating Temperature: -40 to +80°C

Ordering Information

CONNECTORS

Order No.	Orientation	Circuit Size	Shell Retention	Cap
171982-0142	Right Angle	42	SMT	None
171982-0242				Black
171982-1142			Through-Hole	None
171982-1242				Black
171983-0142	Vertical		SMT	
171983-2042			Through-Hole	

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