

PCI Express® Gen 3 Card Edge Connectors

SPECIALLY DESIGNED 8Gb/s SOCKETS FOR LOW PROFILE SYSTEMS

Amphenol ICC's 1.00mm pitch, vertical card edge connectors enable PCI Express® (PCIe®) signalling from 2.5Gb/s (Gen 1) and 5Gb/s (Gen 2) up to 8Gb/s (Gen 3) per differential signal pair. A modular design of these connectors allow standard pin counts like 36, 64, 98, 164 and 280.

The basic bandwidth (x1) version supports a single PCI Express® lane and is typically used for I/O cards in desktop PCs. The x4 and x8 connectors provide 64 and 98 contacts respectively for server I/O. The high bandwidth versions (x16 lanes and higher) are used for higher bandwidth applications like graphics cards in PCs or riser cards in servers.

- Available in through-hole, press-fit and surface-mount terminations
- Available in straddle-mount orientation
- Supports a wide range of bandwidth and performance requirements

FEATURES

- Connector range offers x1, x4, x8, or x16 serial PCIe links
- 200, 230 (x24), and 280 position vertical connectors available
- ExpressModule™ versions provide an expanded lead-in window
- Straddle mount connectors featuring mounting ears
- Integrate rugged stand-alone retention mechanism



TARGET MARKETS



BENEFITS

- Supports different bandwidth requirements
- Supports PC and server riser cards
- Supports blind mate server applications
- Assures proper alignment to the host PCB
- Secures graphics cards during shipping and handling

TECHNICAL INFORMATION

MATERIAL

- Contact Base Metal: Copper alloy
- Contact Area Finish: Gold over nickel
- Solder Area Finish: Tin over nickel or tin-lead over Nickel
- Metal Board Locks: Copper alloy
- Board Locks Finish: Tin over nickel or tin-lead over nickel
- Housing: High-temperature thermoplastic

ELECTRICAL PERFORMANCE

- Contact Resistance:
 - Initial: 30mΩ max.
 - Finish: Delta 20mΩ max.
- Current Rating: 1.1A for 8 specified power contacts and 8 nearest ground contacts
- Voltage Rating: 50V AC (rms)

MECHANICAL PERFORMANCE

- Durability: 50 mating cycles
- Insertion Force: 1.15N (0.117Kgf) max. per contact pair
- Withdrawal Force: 0.15N (0.015Kgf) min. per contact pair
- Contact Retention Force: 0.5Kgf min. per pin

ENVIRONMENTAL

- Salt Spray: Contact Resistance 20Ω max. final)
- Thermal Shock: Contact Resistance (20Ω max. final)
- Solderability: 90% of immersed area must show no voids and pin holes

APPROVALS AND CERTIFICATIONS

- UL
- CSA

SPECIFICATIONS

- Amphenol Product Specification:
 - GS-12-1193 PCI Express® 3.0 Straddle Mount Connectors Product Specification
 - GS-12-233 PCI Express® Connector Product Specification
 - GS-12-319 PCI Express® Press-Fit Connector Product Specification
 - CS-12-288 PCI Express® Retention Mechanism Product Specification
 - GS-12-390 PCI Express® Surface-Mount Connector Product Specification
- Industry Specification:
 - PCI Express Card Electromechanical Specification
 - PCI Express® Module Electromechanical Specification
 - For more information on the applicable PCI-SIG specification, visit www.pcisig.com

PACKAGING

- Tray

TOOLING INFORMATION

- Tooled Up

TARGET MARKETS/APPLICATIONS



Desktop PC
Server
Workstation

PART NUMBERS

| Description | Data Rate | Orientation | Termination | Position | Part Numbers |
|-------------|-----------|-------------|----------------|-------------------|-----------------|
| PCIe Gen 3 | 8GT/s | Vertical | SMT | 36, 64, 98,164pos | 10061913* |
| PCIe Gen 3 | 8GT/s | Vertical | SMT | 230pos | 10124870* |
| PCIe Gen 3 | 8GT/s | Vertical | SMT | 280pos | 10138069* |
| PCIe Gen 3 | 8GT/s | Vertical | TH | 36, 64, 98,164pos | 10108777* |
| PCIe Gen 3 | 8GT/s | Vertical | TH | 200pos | 10054652* |
| PCIe Gen 3 | 8GT/s | Vertical | TH | 230pos | 10132403* |
| PCIe Gen 3 | 8GT/s | Vertical | TH | 280pos | 10027747* |
| PCIe Gen 3 | 8GT/s | Vertical | Straddle Mount | 36, 64, 98,164pos | 10125756* |
| PCIe Gen 3 | 8GT/s | Vertical | PF | 36, 64, 98,164pos | 10082378* |
| PCIe Gen 3 | 8GT/s | Right Angle | SMT | 98, 164pos | G630HXXX8XXEXHR |
| PCIe Gen 3 | 8GT/s | Right Angle | TH | 98pos | G630H98X4210HR |

* denotes base part number. Please contact Amphenol ICC for complete part numbers

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