

PCI Express® Gen 6 Card Edge Connectors

EXTEND DIFFERENTIAL SIGNALING TO 64GT/S FOR NEXT-GENERATION SYSTEMS

Amphenol PCIe® Gen 6 connectors exceed industry standard PCIe® 6.0 performance requirements. The optimized series supports backward compatible and is footprint interchangeable with PCIe® 5/4/3/2/1.

These 1.00mm pitch, vertical card edge connectors enable all generations of PCI Express® signaling in desktop PCs, workstations, and servers, Industrial PCs, embedded systems, routers, automotive infotainment systems, and respirators. The connector designs support 2.5GT/s (Gen 1), 5.0GT/s (Gen 2), 8.0GT/s (Gen 3), 16.0GT/s (Gen 4), 32GT/s (Gen 5) and recently upgraded to 64GT/s (Gen 6).

- Backward compatible and footprint interchangeable
- Higher speed performance without altering footprint
- Wide range of positions available
- Optional ridge feature according to customer preference
- With metal caged onto housing to make connector much more robust



FEATURES

- X1, X4, X8, X16 are available in a variety of positions
- Option to remove ridges
- Side latch or locked latch options
- Metal caged version
- Open side wall feature
- High-performing, high-speed data transmission rates of up to 64GT/s
- Backward compatible and footprint interchangeable
- Low-halogen material and RoHS compliant

BENEFITS

- Options to support different signal bandwidth requirements
- Flexibility to meet application-specific requirements
- Additional feature to secure the position of mating card
- Make connector housing much more robust when adopt heavier XPU cards
- For adopting longer mating card
- Performs to PCIe® Gen 6 specifications of higher bandwidth and data rate system requirements
- Backward compatible and footprint interchangeable to Gen 1/2/3/4/5 specifications provides ease of upgrading to Gen 6
- Meets environmental, health, and safety requirements

TECHNICAL INFORMATION

MATERIAL

- Contact Base Metal: Copper Alloy
- Contact Area Finish: Gold over Nickel
- Solder Area Finish: Tin over Nickel
- Housing Material: High-temperature thermoplastic (UL94V-0) for re-flow soldering or thermoplastic (UL94V-0) for wave soldering. Color: Black or off-white
- Metal Board Locks: Copper Alloy
- Board Locks Finish: Tin over Nickel

ELECTRICAL PERFORMANCE

- Contact Resistance: 30mΩ max. initially with 10mΩ max. change after environmental exposures
- Current Rating: 1.1A min. per pin for the 8 power pins and 8 nearest ground pins
- Signal Integrity Summary
- The part series shown on this datasheet support PCI Express® high speed electrical requirements for 2.5Gb/s (PCIe® Gen 1), 5.0Gb/s (PCIe® Gen 2), 8.0Gb/s (PCIe® Gen 3), 16.0Gb/s (PCIe® Gen 4) and 32.0Gb/s (PCIe® Gen 5), 64.0Gb/s (PCIe® Gen 6) with the exception of those part series specifically noted as PCIe® Gen 1 in the part number tables

MECHANICAL PERFORMANCE

- Durability Rating: 50 cycles min.
- PCB Insertion Force: 1.15N max. per contact pair
- PCB Removal Force: 0.15N min. per contact pair

PACKAGING

- Hard or Soft Tray

ENVIRONMENTAL

- EIA-364-1000.01. The test groups/sequences and durations are derived from the following requirements:
 - Durability (mating/unmating) rating of 50 cycles
 - Field Temperature: 65°C
 - Field Life: Seven years
 - Temperature Life (preconditioning): 92 hours at 105°C
 - Temperature Life: 168 hours at 105°C
 - Mixed Flowing Gas: 10 days

APPROVALS & CERTIFICATION

- CSA

SPECIFICATIONS

- Industry
 - PCI Express® Card Electromechanical Specification
 - PCI Express® Module Electromechanical Specification
- For more information on the applicable PCI-SIG specifications, visit www.pcisig.com.
- Amphenol
 - GS-12-1406 PCI Express® group of connectors

TARGET MARKETS/APPLICATIONS



Automotive



Desktop PCs
Servers
Server Riser
Workstations



Industrial PCs
Notebook PCs
Solar Panel Inverter
Embedded systems



Respirators

PART NUMBERS

Description	Performance	Termination	Position	Part Numbers
PCIe® Gen 6	64GT/s	Vertical SMT	164pin, 98pin, 64pin, 36pin	10165968*
PCIe® Gen 6 CEM with metal cage	64GT/s	Vertical SMT	164pin, 98pin, 64pin, 36pin	10173276*
PCIe® Gen 6 CEM with side latch	64GT/s	Vertical SMT	164pin, 98pin, 64pin, 36pin	10176844*
PCIe® Gen 6 CEM with locked latch	64GT/s	Vertical SMT	164pin, 98pin, 64pin, 36pin	10174645*
PCIe® Gen 6 CEM	64GT/s	Straddle Mount	164pin, 98pin, 64pin, 36pin	10173133*

Find part number details using the search box on www.amphenol-cs.com