Storage & Server IO

Amphenol

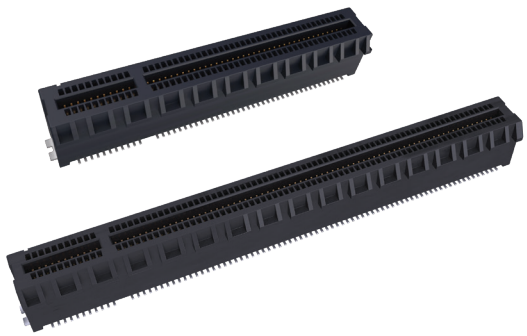
PCI Express® Gen 6 CEM Card Edge Connectors

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



TARGET MARKETS



FEATURES	BENEFITS
X1, X4, X8, X16 are available in a variety of positions	Options to support different signal bandwidth requirements
Option to remove ridges	Flexibility to meet application-specific requirements
Side latch or locked latch options	Additional feature to secure the position of mating card
Metal caged version	Make connector housing much more robust when adopt heavier XPU cards
Open side wall feature	For adopting longer mating card
High-performing, high-speed data transmission rates of up to 64GT/s	Performs to PCIe® Gen 6 specifications of higher bandwidth and data rate system requirements
Backward compatible and footprint interchangeable	Backward compatible and footprint interchangeable to Gen 1/2/3/4/5 specifications provides ease of upgrading to Gen 6
Low-halogen material and RoHS compliant	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

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Disclaimer
Please note that the above information is subject to change without notice.