



**THE DATASHEET OF  
10039755-10103TLF**



# 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](http://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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-  Alternative Solution
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