

# Automotive Grade PCIe® M.2 Gen 4 Card Edge Connectors

## HIGH DENSITY HIGH PERFORMANCE CONNECTOR

Amphenol's PCIe® M.2 Gen 4 connectors provide 67 contacts on 0.50mm pitch and signal transmission speed of 16Gb/s. It is designed for PCIe® 4.0, USB 3.0/3.1 and SATA 3.0 applications, and USCAR compliant, making it suitable for automotive applications. PCIe® M.2 connectors also support higher data rate transmission with both single and double-sided modules.

- USCAR compliant
- Accepts angled insertion of add-in module cards
- Provide right angle orientation M.2 connectors



### FEATURES

- Card edge connector with 67 contacts on a 0.50mm pitch
- Compliant with PCIe® 4.0, USB 3.0/3.1 and SATA 3.0
- 75 positions with 4 connector key options
- Supports both single and double-sided modules

### BENEFITS

- Fully compliant with PCI-SIG PCIe® M.2 specification
- Serves multiple high speed peripheral applications
- Design flexibility
- Enables higher data rates

## TECHNICAL INFORMATION

### MATERIAL

- Contact: Copper Alloy with Gold plating sufficient to meet all mechanical and environmental requirements
- Contact Finish: Must be compatible with Lead-free soldering process
- Housing: Complies with UL 94 V-0. Must be compatible with lead-free soldering process

### ELECTRICAL PERFORMANCE

- Low Level Contact Resistance: EIA-364-23, 55m max. (initial) per contact, \*20m max. change allowed
- Insulation Resistance: EIA-364-21, \*>500M at 500VDC
- Dielectric Withstanding Voltage: EIA-364-20, \*>300V AC (RMS) at sea level
- Current Rating: \*0.5A/Power contact (continuous), \* The temperature rise above ambient shall not exceed 30°C, \* The ambient condition is still air at 25°C, \* EIA-364-70 Method 2
- Voltage Rating: 50VAC per contact

### MECHANICAL PERFORMANCE

- Durability:
- Normal M.2: 25-60 mating cycles

### PACKAGING

- Tape & Reel

### ENVIRONMENTAL

- Durability: EIA-364-9; \*Option 1 - 25 Cycles, \*Option 2 - 60 Cycles, Upon completion of cycles the sample must meet all visual and electrical performance requirements
- Insertion Force: 25N (2.5KgF, 1 Newton = 1 Kg\* m/s2) max., EIA-364-13, Method A
- Shock: V2 level (SAE/USCAR-25.4.6)
- Vibration: V2 level (SAE/USCAR-25.4.6)
- Operating Temperature Range: -40°C to +100°C
- Environmental Test Methodology: T2 level (SAE/USCAR-25.4.6)
- Useful Field Life: Three (3) years

### TOOLING INFORMATION

- Tooled Up

### SPECIFICATIONS

- Amphenol Product Specification: GS-12-1754

### TARGET MARKETS/APPLICATIONS



Automotive

## PART NUMBERS

Description	Height (mm)	Data rate	Orientation	Key Options	Part Numbers
M.2 Gen 4	3	16Gb/s	Right Angle	E	10166823-E0XRHLF
M.2 Gen 4	3	16Gb/s	Right Angle	M	10166823-M0XRHLF
M.2 Gen 4	3	16Gb/s	Right Angle	A	10166823-A0XRHLF
M.2 Gen 4	3	16Gb/s	Right Angle	B	10166823-B0XRHLF
M.2 Gen 4	5.8	16Gb/s	Right Angle	E	MDT580EXX40A
M.2 Gen 4	5.8	16Gb/s	Right Angle	M	MDT580MXX40A
M.2 Gen 4	5.8	16Gb/s	Right Angle	A	MDT580AXX40A
M.2 Gen 4	5.8	16Gb/s	Right Angle	B	MDT580BXX40A