

## MXM 3.0 Connectors

### LOW POWER, SMALL FORM FACTOR, HIGH-PERFORMANCE GRAPHICS ADAPTER

Amphenol's MXM connector is a high-density PCIe® solution that supports next-generation server system architectures. These are non-proprietary, industry-standard sockets. This helps to upgrade the graphics processor in a device, without changing the whole system or relying on proprietary vendor upgrades. With 0.50mm pitch and 314 contacts, the MXM 3.0 connector supports 16 lanes PCI Express® signal performance with smaller board space. Typical applications include notebook computers, blade and standard rack-mount servers, mobile workstations and alternative form factor PCs including all-in-one home theater, and small form factor PCs.

- Accommodates up to 16 lanes on PCIe® 2.0
- Supports up to 8 DDR2, DDR3, GDDR3 or GDDR5
- Up to 4 Dual-MODE DisplayPorts supporting DVI and HDMI
- Single 24-bit dual-link LVDS, dual-link DVI and HDMI
- Single VGA and TV-out

#### FEATURES

- Card edge connector with 314 contacts on a 0.50mm pitch
- Compliant with PCIe® 3.0
- Small Form Factor 0.50mm pitch solution
- Various connector height options
- Supports both single and double-sided modules



#### TARGET MARKETS



#### BENEFITS

- Fully compliant with MXM 3.0 specification
- Serves multiple high-speed peripheral applications
- Saves board space
- Reduces overall height profile
- Enables higher data rate transmission

## 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 reflow soldering or thermoplastic (UL94V-0) for wave soldering. Color: Black
- 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® Gen3), 16.0Gb/s (PCIe® Gen 4) and 32.0Gb/s (PCIe® Gen5) 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

### 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
- Useful Field Life: Three (3) years

### 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](http://www.pcisig.com).
- AFCI
  - GS-12-1406 PCI Express® group of connectors

### APPROVALS & CERTIFICATION

- UL and CSA approvals

### PACKAGING

- Hard or soft tray

### TARGET MARKETS/APPLICATIONS



PC-Notebook  
Servers  
Workstations

## PART NUMBERS

Description	Part Numbers
MXM 3.0, 0.50mm pitch, 5mm stacked height, 314 pin	10151114-001TLF

SS10MXM0300920E44