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

TARGET MARKETS

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

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

www.amphenol-icc.com
**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.
- 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**

<table>
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<tr>
<th>Description</th>
<th>Part Numbers</th>
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<tbody>
<tr>
<td>MXM 3.0, 0.50mm pitch, 5mm stacked height, 314 pin</td>
<td>10151114-001TLF</td>
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