

# HCI® High Power Backplane/Midplane Connector System

## DESCRIPTION

The HCI® High Power backplane/midplane connector series addresses applications demanding additional power at the interface between a daughter card and a backplane or midplane in chassis-based equipment platforms. The compact modules leverage proven, cost-effective stamped-and-formed HCI power contact technology to provide increased linear power density along the daughter card edge. In addition to conventional 1x2 and 1x3 power contact configurations, a 2-position module is available with an integrated guide between the power contacts.

HCI High Power modules are rated for up to 75A per contact without exceeding a 30°C temperature rise in still air. The modules address applications where current density requirements extend beyond those of FCI's established Hard Metric High Power Connector System.

These stand-alone modules are designed for use alongside other Hard Metric (HM) backplane/midplane connector families such as FCI's high-performance AirMax VS® and ZipLine™ connector systems or Millipacs® 2mm HM connectors. In fact, ZipLine and HCI High Power together offer the highest combination of signal and power density in the marketplace.

Individual power contacts are surrounded on four sides by molded housing walls to provide a distinct safety feature that prevents adjacent power contacts from shorting. The touch-proof housings are designed to optimize airflow around and through the connector by providing vents above and below the power contacts as well as along the rear of the housing.



## FEATURES & BENEFITS

- Current rating to 75A/contact without exceeding a 30°C temperature rise in still air
- Design is compliant with the Hard Metric (HM) Equipment Practice and compatible with the ZipLine, AirMax VS and Millipacs connector series
- Connector housing does not overhang the board edge so the board-to-board spacing can be adjusted if needed
- Two- and three-position modules support backplane or midplane applications
- The two-position module with integrated center guide can eliminate the need for separate guidance
- Housing walls surround the power contacts to ensure that adjacent contacts cannot short together
- Two contact mating length options provide capability for sequentially mating power and ground contacts
- Protected backplane/midplane receptacle is UL 60950 compliant (Test Finger & Test Probe)
- Press-fit termination is available for thicker, higher-layer-count boards
- Compatible with lead-free processing temperatures

## TARGET MARKETS / APPLICATIONS

- Data – servers & storage enclosures
- Telecommunications
- Datacom/Networking
- Industrial controls & instrumentation
- Medical

## TECHNICAL DATA

### PHYSICAL

- Housing: High-temperature thermoplastic, black
- Flammability rating: UL 94 V-0
- Contact material: High-conductivity copper alloy
- Contact finish:
  - Separable interface: 30µin (0.76µm) performance-based plating over nickel (per the GS-12-380 product specification)
  - Press-fit tail area: Matte tin over nickel

### ELECTRICAL PERFORMANCE

- Current rating: 75A/contact maximum at 30°C T-rise in still air
- Operating voltage: 300V maximum
- Dielectric withstanding voltage: 2500V DC
- Insulation resistance: >10,000 MΩ minimum
- Contact resistance: <0.5 mΩ initially as well as after environmental exposure

### MECHANICAL PERFORMANCE

- Mating force: 40N maximum for 2-position; 60N maximum for 3-position
- Unmating force: 13N minimum for 2-position; 19.5N minimum for 3-position
- Contact wipe distance: 3.11mm minimum
- Durability: 200 mating cycles

### ENVIRONMENTAL

- Operating temperature: -65°C to + 105°C
- RoHS information, this product is compatible according to the European Union Directive 2002/95/IEC

### REFERENCE DATA

- Product Specification: GS-12-380
- Application Specification: GS-20-070

### CERTIFICATIONS & APPROVALS

- UL-95A per contact in still air
- CSA
- TUV

### PACKAGING

- Right angle headers: Tubes
- Vertical receptacles: Tubes

### PART NUMBERS

1x2 Right Angle Header w/o Integrated Guide	10078770-001LF
1x2 Vertical Receptacle w/o Integrated Guide	10078768-001LF
1x2 Right Angle Header w/ Integrated Guide	10087937-001LF
1x2 Vertical Receptacle w/ Integrated Guide	10087939-001LF
1x3 Right Angle Header	10078904-001LF
1x3 Vertical Receptacle	10078902-001LF

Note: For right angle headers with one first mate/last break contact, please use the -002LF dash number option per the applicable product drawing.

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