



**THE DATASHEET OF  
10078770-002LF**



# HCI® HIGH POWER BACKPLANE / MIDPLANE CONNECTORS

## OVERVIEW

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-andformed 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 113A 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 touchproof 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. A 2x2 right-angle receptacle extends use to co-planar applications when used with a 1x2 or 2x2 right-angle header.



## FEATURES & BENEFITS

- Current rating to 113A/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
- Protected backplane/midplane receptacle is UL 60950 compliant (Test Finger & Test Probe)
- Press-fit termination is available for thicker, higher-layercount boards
- Compatible with lead-free processing temperatures

## TARGET MARKETS / APPLICATIONS

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

# ▶ HCI® HIGH POWER BACKPLANE/ MIDPLANE CONNECTORS



## TECHNICAL INFORMATION

### MATERIALS

- Housing: High-temperature thermoplastic (UL 94V-0), black
- Contact base metal: High-conductivity copper alloy
- Contact Finish
  - Separable interface: Performance-based plating over nickel (per the GS-12-380 product specification)
- Termination area: Matte tin over nickel

### ELECTRICAL PERFORMANCE

- Current rating: ( $\leq 30^{\circ}\text{C}$  T-rise above ambient in still air)
  - 83A/contact max. for a 2 position module
  - 75A/contact max. for a 3 position module
- Operating voltage: 300V
- Dielectric withstanding voltage: 2500V
- Insulation resistance:  $>10,000\text{M}\Omega$  minimum
- Contact Resistance:  $\leq 0.5\text{m}\Omega$  initially and after environmental exposure

### MECHANICAL PERFORMANCE

- Durability: 200 cycles

### SPECIFICATIONS

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

### APPROVALS AND CERTIFICATIONS

- UL – 95A per contact in still air
- CSA
- TUV
- UL 60950 compliant (Test Finger & Test Probe)
- Telcordia GR-1217-CORE, Central Office

### PACKAGING

- Tubes

## PART NUMBERS

Minimum Card Slot Spacing (mm)	Contacts		Current Rating		Number Of Columns	Column pitch (mm)	Module Width Along Card Edge (mm)	With Molded Center Guide	Power Module Part Numbers	
	Total	Per Column	Amps per Contact	Amps per Module					Backplane/Midplane	Daughter Card
									Vertical Receptacle	Right-Angle Header
25	2	1	83	166	2	14.6	22.9	Yes	10087939-001LF	10087937-001LF
24	2	1	83	166	2	7.3	15.6	No	10078768-001LF	10078770-001LF
24	3	1	75	225	3	7.3	22.9	No	10078902-001LF	10078904-001LF

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



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#### Disclaimer

Please note that the above information is subject to change without notice.

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