

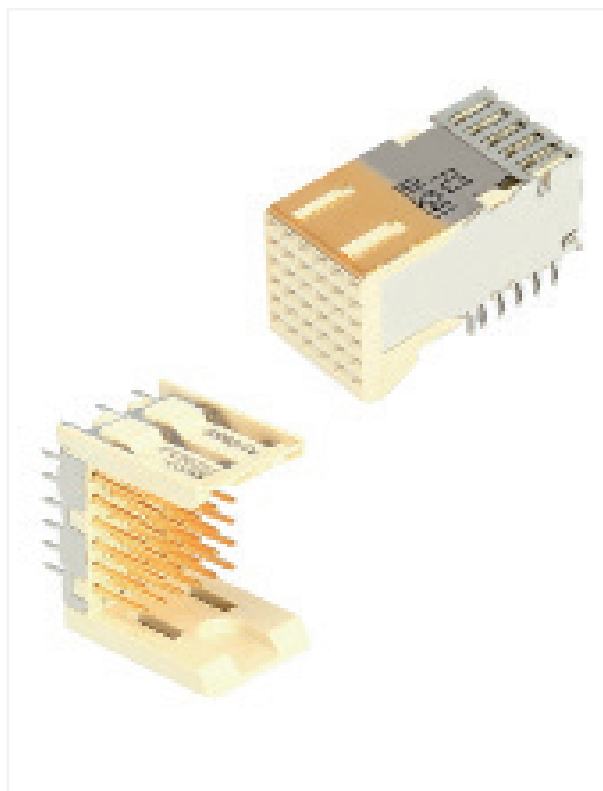
METRAL® 4000 SERIES

OVERVIEW

FCI's Metral® 4000 Series is a high speed 2mm backplane connector system consisting of Right-Angle receptacles and vertical headers. The 4000 Series features a unique stripline structure in both the receptacle and header. Compared to the Metral® 1000 and 2000 Series, Metral® 4000 receptacle connectors employ a modified receptacle contact geometry optimized for 100Ωm differential signals.

This yields a better impedance match and lower insertion loss. Metral® 4000 headers and receptacles also use a press-fit pin designed for 0.6mm drilled holes. The reduced hole diameter frees additional board space for trace routing and also results in lower capacitance.

The Metral® 4000 Series is available in a 5x6 module size. In addition to having ground shields between columns, the 5-row connectors use the third row for ground connections. Aside from the design enhancements to extend high-speed electrical performance up to 6.25 Gb/s, Metral® 4000 Series connectors are similar to the FCI Standard Metral® Connectors. The system is designed to conveniently stack end-to-end with other FCI Metral® products.



FEATURES

- Fully shielded strip-line transmission structure for Receptacles & Headers
- Stackable end-to-end with other FCI Metral® Products
- Optimized Contact Geometry
- Available in 5 Row configurations for Receptacles and both 5/8 Row configuration for Headers
- Press-fit Headers and Receptacles
- Smaller Press-fit Dia
- Dual-Beam Receptacle Contacts
- Various Header loading patterns available
- Contact Density
- 200 Mating Cycles
- RoHS Compliant

BENEFITS

- Reduced Cross Talk & Improved Signal Performance (Less than 5% multi-line active NEXT @ 100ps rise time in differential applications)
- No loss of Pitch and Adaptable to the Metral® Platform
- Ideal for 100Ωm differential Signalling and Lower Insertion loss
- Flexibility of Connector Size
- Easy Application on Boards and Repair
- Better Routing and Lower via Capacitance
- Ensure Reliable Connection
- Customized Selection
- 25 pairs/inch in 5 Row Connector
- Better Durability
- Meet environmental, health and safety requirements



TECHNICAL INFORMATION

MATERIALS

- Housings: High-temperature, glass filled LCP, UL94V-0
- Receptacle Contacts: Copper Alloy
- Header Pins: Copper Alloy
- Ground Shields: Copper Alloy
- Plating:
 - Contact Area: per Telcordia™ GR-1217-core for Central Office and Uncontrolled Environment
 - Press-fit Tails: Matt tin

ELECTRICAL PERFORMANCE

- Current Rating: 1A when all contacts are powered or 3A when one contact is powered at a 30°C max. temperature rise
- Contact Resistance: 40mΩ max.
- Insulation Resistance: 1000MΩ min.
- Signal Integrity: Data and SPICE models are available at www.fci.com.

ENVIRONMENTAL

- Operating Temperature: -65°C to +105°C

MECHANICAL PERFORMANCE

- Mating Force: 0.55 N max. per contact pair including ground and shield contacts
- Withdrawal Force: 0.20 N min. per contact pair including ground and shield contacts

SPECIFICATIONS

- IEC 61076-4-104
- FCI Product Specifications
 - GS-12-184
- FCI Application Specifications
 - GS-20-014 for headers
 - GS-20-017 for receptacles

SPECIFICATIONS

- Recognized per UL/CSA
- Qualified per Telcordia GR-1217-CORE, Central Office (CO) and Uncontrolled Environment (UE)

PACKAGING

- Tubes

TARGET MARKET / APPLICATIONS

- Communications
 - Transmission
 - Access
 - Switches
 - Routers
- Data
 - Servers
 - Storage Enclosures
- Industrial, Instrumentation and Medical
 - Rack-Based Systems

PART NUMBERS

Number of Rows & Positions	Daughter Card Thickness	Header	Receptacle
5-Row 5x6	1.27mm (0.050in.) – 2.54mm (0.100in.)	55003-XXXXXX	52057-XXX
5-Row 5x6	2.54mm (0.100in.) – 3.40mm (0.134in.)	59569-XXXXXX	52062-XXX

Note: All Dash numbers – XXX represent available options such as plating types, tail lengths for headers.
Lead-free and RoHS-compliant products are designed by the addition of LF as a suffix to the dash number.

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