

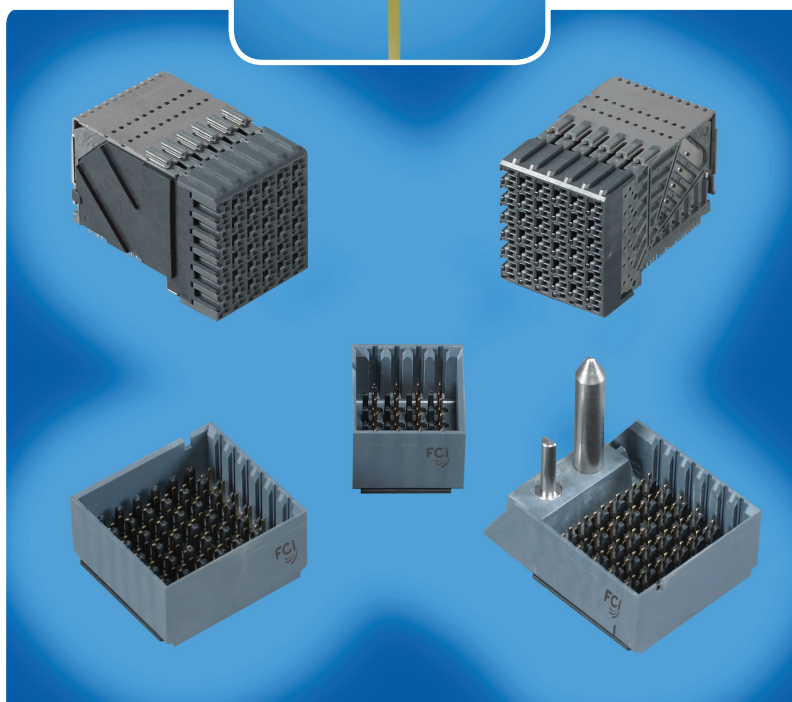
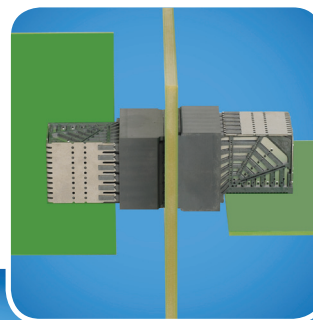
# CROSSBOW™ ORTHOGONAL MIDPLANE CONNECTOR SYSTEM

## DESCRIPTION

Crossbow™ orthogonal midplane connectors deliver excellent electrical performance and are capable of supporting high speed differential signaling at up to 20 Gb/s with less than 1.5 picoseconds in-pair skew. Available connector modules provide 16 or 36 signal pairs.

Crossbow™ connectors enable the implementation of orthogonal midplane architecture in switches and routers used for server and storage networking. The orthogonal midplane system architecture provides direct connections between horizontal switch cards mounted on one side of the midplane and vertical line cards mounted on the opposite side.

The orthogonal midplane headers are designed to be installed back-to-back and oriented at 90 degrees to each other. The headers' signal pins share the same via holes in the midplane, providing a direct, high-speed connection while eliminating the need for connecting traces on the midplane. Reducing the number of backplane signal traces also allows designers to reduce the complexity of the backplane design.



## FEATURES & BENEFITS

- Capable of high-speed differential signaling at up to 20 Gb/s
- Optimized for orthogonal midplane architectures
- 6x6 midplane headers provide 36 crossover pairs
  - Available with or without polarization and guidance features
- 4x4 midplane headers provide 16 crossover pairs
  - Without polarization and guide features
- Daughter card receptacle connectors are available as individual modules or as a mono-block assembly with modules and support components attached to a stainless steel organizer
- Two press-fit "Eye-Of-Needle" options are available for receptacles. Standard drill size is .0180" dia. Micro drill size is .0160" dia.
- Intermateable, electrically and mechanically interchangeable second source to Amphenol TCS

## TARGET MARKETS / APPLICATIONS

- Communications
  - Switches
  - Routers
- Data
  - Servers
  - Storage Systems

## TECHNICAL SPECIFICATIONS

### MATERIALS

- Contacts: High performance copper alloy
- Plating
  - Performance based plating at separable interface (Telcordia GR-1217-CORE Central Office and Cisco L1)
  - Tin or tin-lead over nickel on press-fit tails
- Housings: High temperature thermoplastic, UL-94-V0
- Wafer organizer: Stainless steel

### MECHANICAL PERFORMANCE

- Mating force: 0.34 N maximum per contact
- Un-mating force: 0.25 N maximum per contact
- Press-fit insertion force: 67 N maximum

### ENVIRONMENTAL

- Telcordia GR-1217-CORE Central Office qualification pending

### SPECIFICATIONS

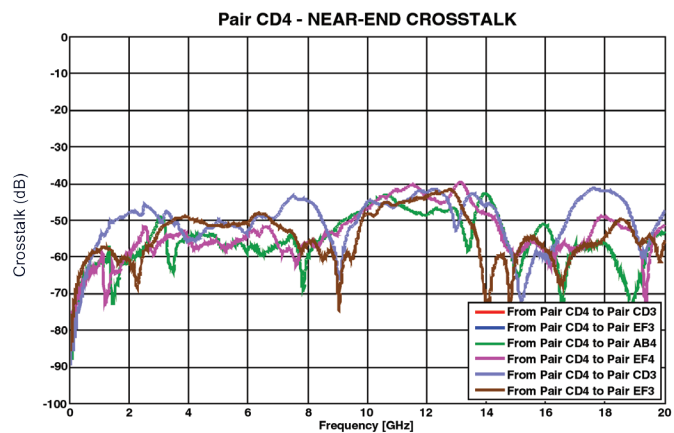
- Product specification: GS-12-599 (preliminary)
- Application specification: GS-20-134 (preliminary)

### APPROVALS & CERTIFICATIONS

- UL and CSA approvals pending

### ELECTRICAL PERFORMANCE

- Contact resistance: 10 mΩ maximum change from the initial reading after environmental exposure
- Current rating (with ≤ 30 °C temperature rise above ambient):
  - Signal contact: 1 A/contact
  - Ground contact: 2 A/contact
- Crosstalk performance: See below



## PART NUMBERS

Lead-free part numbers are listed. Crossbow products are also available with tin-lead plating

Module Description	Differential pairs per column	Number of Columns	Polarizing Key	Part Number
6x6 vertical header with right guide	6	6	position C	10089485-1C03LF
6x6 vertical header with right guide	6	6	position E	10089485-1E03LF
6x6 vertical header	6	6	no key	10089480-1003LF
6x6 daughter card receptacle	6	6	no key	10089514-1001LF
4x4 vertical header	4	4	no key	10089463-1001LF
4x4 daughter card receptacle	4	4	no key	10089500-1001LF

For more information, visit [www.fciconnect.com/highspeed](http://www.fciconnect.com/highspeed) or contact [Crossbow@fci.com](mailto:Crossbow@fci.com)