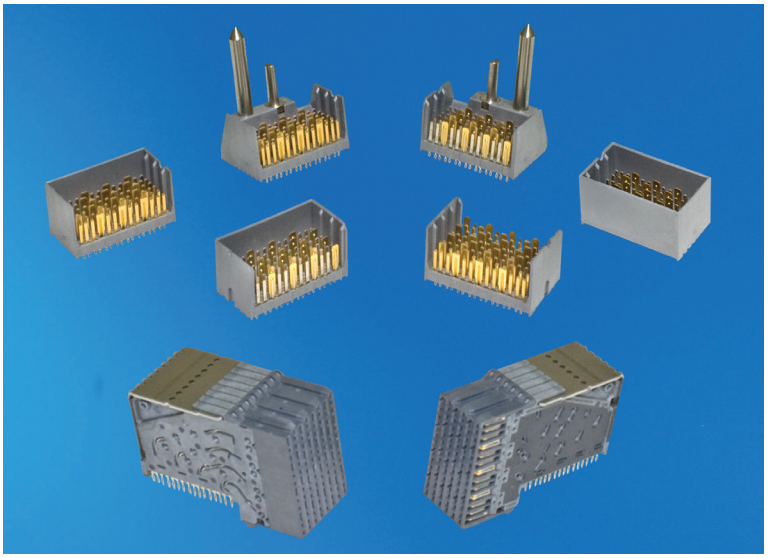
# XCede® HIGH-PERFORMANCE BACKPLANE CONNECTOR SYSTEM

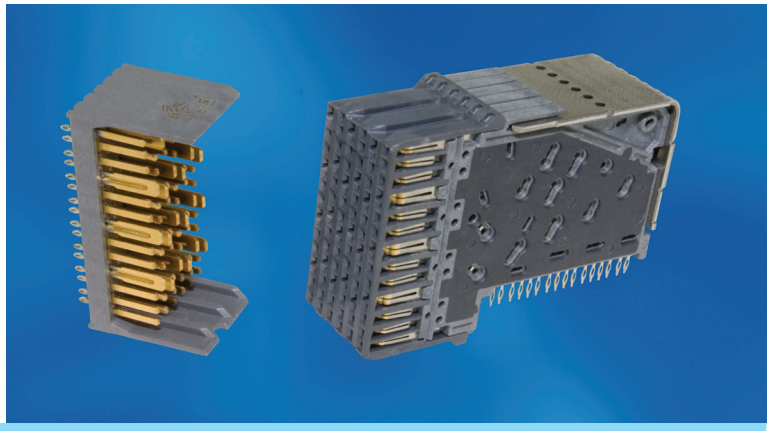
## DESCRIPTION

FCI's XCede® connector platform is designed for 25 Gb/s performance to provide the headroom to support future high-speed, serial data rate requirements demanded by next-generation equipment in data centers and service provider networks. The use of engineering polymers in a resonance-damping shield enables very low crosstalk across a wide frequency range.

XCede connectors also address requirements for higher linear signal density at the interface of backplane and daughter card. Signal connectors can be configured with 2, 4 or 6 differential pairs per column, providing up to 82.4 differential pairs/inch, suiting architectures with multiple front or rear fabric slots and blade systems with cooling straight through the backplane. Complementary guidance and power modules are also included in the product range. A wafer organizer can be used to combine groups of right-angle signal, guidance and power modules as an integrated daughter-card connector.

The XCede backplane header system provides the ruggedness and long-term reliability required by today's systems. The wide ground contacts feature a stiffness-enhancing rib and are advanced well ahead of the signals for exceptional robustness and signal pin protection.





## FEATURES & BENEFITS

- High-speed backplane system designed for 25 Gb/s
- Use of engineering materials in the shield aids in reduction of crosstalk resonances
- 1.85 mm column pitch offers high linear signal density
  - Configurations with 6 differential pairs/column fit 36 mm card slot pitch and provide 82.4 pairs/inch
  - 4 pairs/column fit 25 mm slot pitch with 54.9 pairs/inch
  - 2 pairs/column fit 15 mm slot pitch with 27.5 pairs/inch
- Two ground vias between differential pairs allow elongated antipads to further improve impedance
- Optional short compliant pin permits deeper backdrilling and dual diameter vias to enhance return loss performance
- Wide ground contacts feature a stiffening rib and are advanced well ahead of signals for exceptional robustness and signal pin protection
- Intermateable, electrically and mechanically interchangeable licensed second source to Amphenol TCS

## TARGET MARKETS / APPLICATIONS

- Communications
  - Routers
  - Switches
  - Networking
  - Access
  - Transport
  - Wireless
- Data
  - Servers
  - Storage Systems
- Industrial
- Medical
- Test & Measurement

# TECHNICAL INFORMATION

## MATERIALS

- Contacts: Copper alloy
- Platings:
  - Performance based plating at separable interface (Telecordia GR-1217 CORE Central Office)
  - 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: 0.65 N maximum per contact
- Unmating force: 0.15 N minimum per contact
- Press-fit insertion force: 35.6 N maximum per tail

## ENVIRONMENTAL

- Telcordia GR-1217-CORE Central Office

## SPECIFICATIONS

- Production specification: GS-12-588
- Application specification: GS-20-121

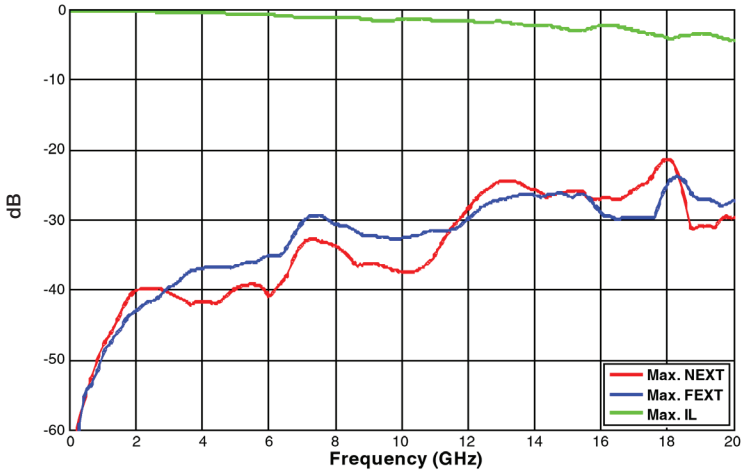
## APPROVALS AND CERTIFICATIONS

- UL and CSA approvals

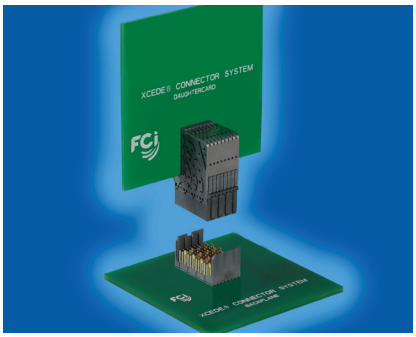
## ELECTRICAL PERFORMANCE

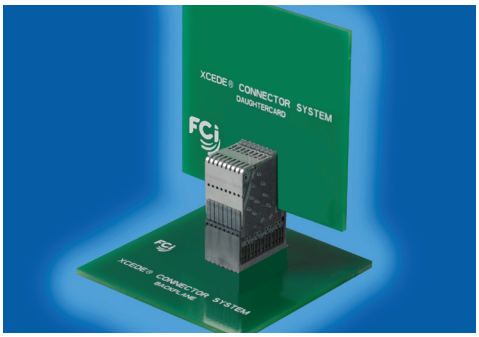
- Contact resistance: 10 mΩ maximum change from initial reading after environmental exposure
- Current rating (with ≤ 30 °C temperature rise above ambient):
  - Signal contact: 1 A/contact
  - Wide ground contact: 2 A/contact
  - Power contact: 6 A/blade
- Insertion loss performance: see below
- Crosstalk performance: see below

Maximum Power-Summed Crosstalk & Insertion Loss
(XCede connectors with 4 differential pairs/column)




## APPLICATIONS

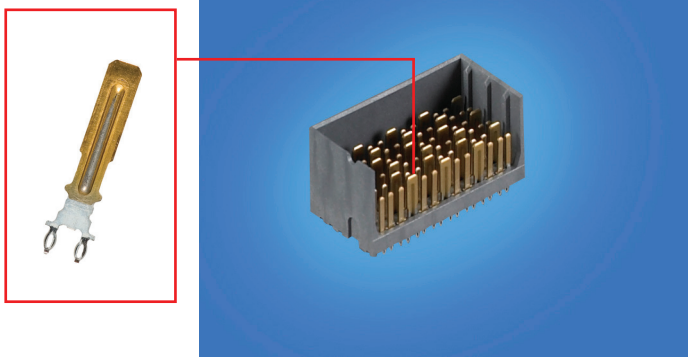



For more information, visit www.fciconnect.com/highspeed or contact XCede@fci.com

## ADDITIONAL FEATURES

- In addition to providing individual right-angle receptacle signal modules, customized groupings of right-angle signal, guidance and power modules can be attached to a single wafer organizer to form an integrated daughter card connector.
- The wide ground contacts in the vertical backplane headers feature a stiffening rib that extends near the tip of the contact and are advanced well ahead of the signal contacts for exceptional robustness and signal pin protection.



## PART NUMBERS

Lead-free part numbers are listed in the table; tin-lead versions are available upon request. Header part numbers shown provide 2mm signal contact wipe length; versions providing 3mm wipe length are also available.

| Module Description | Differential pairs per column | Number of columns | Part Number |
|---|---|---|---|
| Right-angle receptacle | 4 | 4 | 10091844-101LF |
| Vertical header with 2 side walls | 4 | 4 | 10091836-00J-10DLF |
| Vertical header with 3 walls including right end wall | 4 | 4 | 10091836-M0J-10DLF |
| Vertical header with 3 walls including left end wall | 4 | 4 | 10091836-L0J-10DLF |
| Vertical header with 4 walls | 4 | 4 | 10091836-10J-10DLF |
| Vertical header with 3 walls, left guide & key opening | 4 | 4 | 10091836-J0J-10DLF |
| Vertical header with 3 walls, right guide & key opening | 4 | 4 | 10091836-Y0J-10DLF |
| Right-angle receptacle | 4 | 6 | 10091799-101LF |
| Vertical header with 2 side walls | 4 | 6 | 10091767-00C-10DLF |
| Vertical header with 3 walls including right end wall | 4 | 6 | 10091767-M0C-10DLF |
| Vertical header with 3 walls including left end wall | 4 | 6 | 10091767-L0C-10DLF |
| Vertical header with 4 walls | 4 | 6 | 10091767-10C10DLF |
| Vertical header with 3 walls, left guide & key opening | 4 | 6 | 10091767-J0C-10DLF |
| Vertical header with 3 walls, right guide & key opening | 4 | 6 | 10091767-Y0C-10DLF |
| Right-angle receptacle | 4 | 8 | 10091812-101LF |
| Vertical header with 2 side walls | 4 | 8 | 10091777-00E-10DLF |
| Vertical header with 3 walls including right end wall | 4 | 8 | 10091777-M0E-10DLF |
| Vertical header with 3 walls including left end wall | 4 | 8 | 10091777-L0E-10DLF |
| Vertical header with 4 walls | 4 | 8 | 10091777-10E10DLF |
| Vertical header with 3 walls, left guide & key opening | 4 | 8 | 10091777-J0E-10DLF |
| Vertical header with 3 walls, right guide & key opening | 4 | 8 | 10091777-Y0E-10DLF |

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## TECHNICAL INFORMATION

## PART NUMBERS

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| Module Description | Differential pairs per column | Number of columns | Part Number |
|---|---|---|---|
| Vertical header with 2 side walls | 2 | 4 | 10114868-00J-10DLF |
| Vertical header with 3 walls including right end wall | 2 | 4 | 10114868-M0J-10DLF |
| Vertical header with 3 walls including left end wall | 2 | 4 | 10114868-L0J-10DLF |
| Vertical header with 4 walls | 2 | 4 | 10114868-10J-10DLF |
| Vertical header with 3 walls, left guide & key opening | 2 | 4 | 10114868-J0J-10DLF |
| Vertical header with 3 walls, right guide & key opening | 2 | 4 | 10114868-Y0J-10DLF |
| Vertical header with 2 side walls | 2 | 6 | 10113947-00C-10DLF |
| Vertical header with 3 walls including right end wall | 2 | 6 | 10113947-M0C-10DLF |
| Vertical header with 3 walls including left end wall | 2 | 6 | 10113947-L0C-10DLF |
| Vertical header with 4 walls | 2 | 6 | 10113947-10C10DLF |
| Vertical header with 3 walls, left guide & key opening | 2 | 6 | 10113947-J0C-10DLF |
| Vertical header with 3 walls, right guide & key opening | 2 | 6 | 10113947-Y0C-10DLF |
| Vertical header with 2 side walls | 2 | 8 | 10113949-00E-10DLF |
| Vertical header with 3 walls including right end wall | 2 | 8 | 10113949-M0E-10DLF |
| Vertical header with 3 walls including left end wall | 2 | 8 | 10113949-L0E-10DLF |
| Vertical header with 4 walls | 2 | 8 | 10113949-10E10DLF |
| Vertical header with 3 walls, left guide & key opening | 2 | 8 | 10113949-J0E-10DLF |
| Vertical header with 3 walls, right guide & key opening | 2 | 8 | 10113949-Y0E-10DLF |
| Vertical header with 2 side walls | 6 | 4 | 10114508-00J-10DLF |
| Vertical header with 3 walls including right end wall | 6 | 4 | 10114508-M0J-10DLF |
| Vertical header with 3 walls including left end wall | 6 | 4 | 10114508-L0J-10DLF |
| Vertical header with 4 walls | 6 | 4 | 10114508-10J-10DLF |
| Vertical header with 3 walls, left guide & key opening | 6 | 4 | 10114508-J0J-10DLF |
| Vertical header with 3 walls, right guide & key opening | 6 | 4 | 10114508-Y0J-10DLF |
| Vertical header with 2 side walls | 6 | 6 | 10104997-00C-10DLF |
| Vertical header with 3 walls including right end wall | 6 | 6 | 10104997-M0C-10DLF |
| Vertical header with 3 walls including left end wall | 6 | 6 | 10104997-L0C-10DLF |
| Vertical header with 4 walls | 6 | 6 | 10104997-10C10DLF |
| Vertical header with 3 walls, left guide & key opening | 6 | 6 | 10104997-J0C-10DLF |
| Vertical header with 3 walls, right guide & key opening | 6 | 6 | 10104997-Y0C-10DLF |
| Vertical header with 2 side walls | 6 | 8 | 10104999-00E-10DLF |
| Vertical header with 3 walls including right end wall | 6 | 8 | 10104999-M0E-10DLF |
| Vertical header with 3 walls including left end wall | 6 | 8 | 10104999-L0E-10DLF |
| Vertical header with 4 walls | 6 | 8 | 10104999-10E10DLF |
| Vertical header with 3 walls, left guide & key opening | 6 | 8 | 10104999-J0E-10DLF |
| Vertical header with 3 walls, right guide & key opening | 6 | 8 | 10104999-Y0E-10DLF |

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