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▶ **BACKPLANE CONNECTORS**



# XCEDE® BACKPLANE CONNECTOR SYSTEM

## OVERVIEW

XCede® connector platform is designed to provide headroom for high-speed, serial data rates demanded by data centers and service provider networks. The use of polymers in a resonance-damping shield enables low crosstalk across a wide frequency range.

XCede® connectors also address requirements for high linear signal density at the backplane and daughter card interface. Complementary guide and power modules are also included in the product range. An organizer can be used to combine groups of right-angle signal, guide and power modules establishing an integrated daughter card connector or monoblock.

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



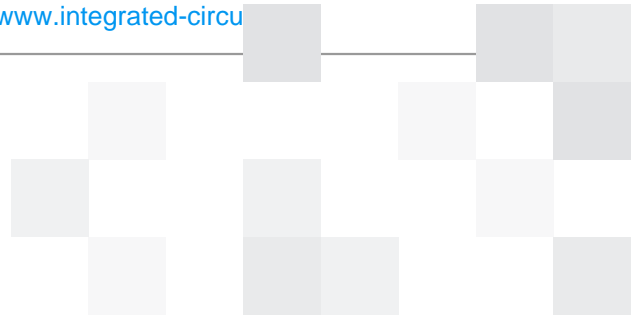
## FEATURES & BENEFITS

- High-speed backplane system
- Resonance dampening shield aids in reduction of crosstalk resonances
- Two ground vias between differential pairs allow elongated anti-pads to improve impedance control
- Optional short compliant pins permit deeper back-drilling and dual diameter vias to enhance return loss performance
- Intermate electrically and mechanically interchangeable equivalency as a licensed second source to Amphenol TCS
- Daughter card monoblocks combine signal, guide and power modules to simplify board application

## TARGET MARKETS/APPLICATIONS

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

**XCEDE® BACKPLANE CONNECTOR SYSTEM**



## TECHNICAL INFORMATION

### MATERIALS

- Contacts: Copper alloy
- Platings:
  - Performance based plating at separable interface (Telecordia GR-1217 CORE Central Office)
- Housings: High temperature thermoplastic, UL94-V0
- Wafer organizer: Stainless steel

### ELECTRICAL PERFORMANCE

- Contact resistance: 10mΩ max. 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 SI Report Reference
- Crosstalk performance: see SI Report Reference

### MECHANICAL PERFORMANCE

- Signal mating force: 0.74 N max. per contact
- Signal unmating force: 0.15 N min. per contact
- Power mating force: 0.98 N max. per blade
- Power unmating force: 0.44 N min. per blade
- Press-fit insertion force: 36 N max. per tail

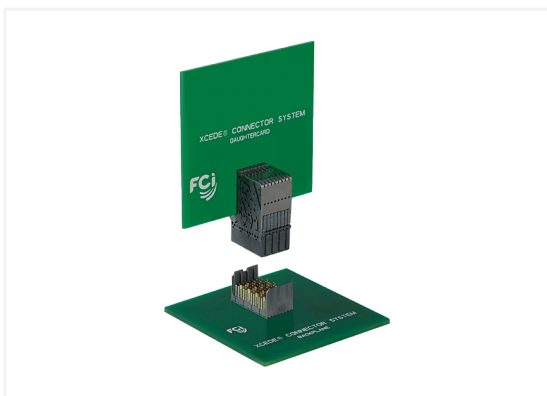
### SPECIFICATIONS

- XCEDE® product specification: GS-12-588
- XCEDE® application specification: GS-20-121
- XCEDE® power product specification: GS-12-0989
- XCEDE® power product specification: GS-20-0342
- XCEDE® HD product specification: GS-12-9
- XCEDE® HD application specification: GS-20-34
- Telcordia GR-1217-CORE Central Office (EIA-364-21)

### APPROVALS AND CERTIFICATIONS

- UL and CSA approvals

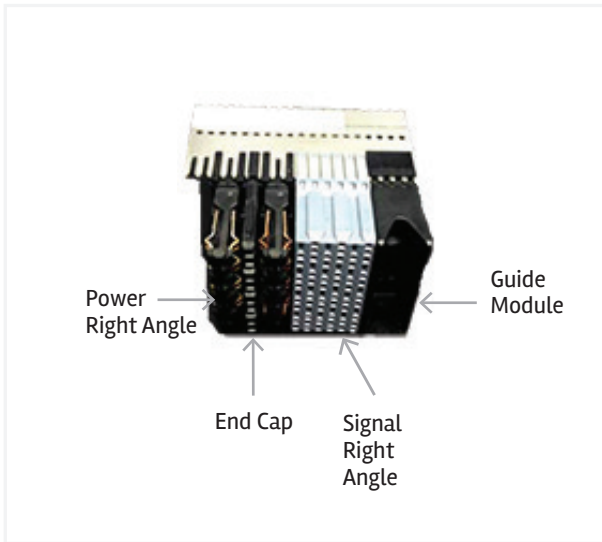
## APPLICATIONS



**XCEDE® BACKPLANE CONNECTOR SYSTEM**

**XCEDE® ACCESSORIES**

Xcede® accessories include vertical power, right-angle power, guide modules and end cap.



**DAUGHTER CARD**

**Additional Features**

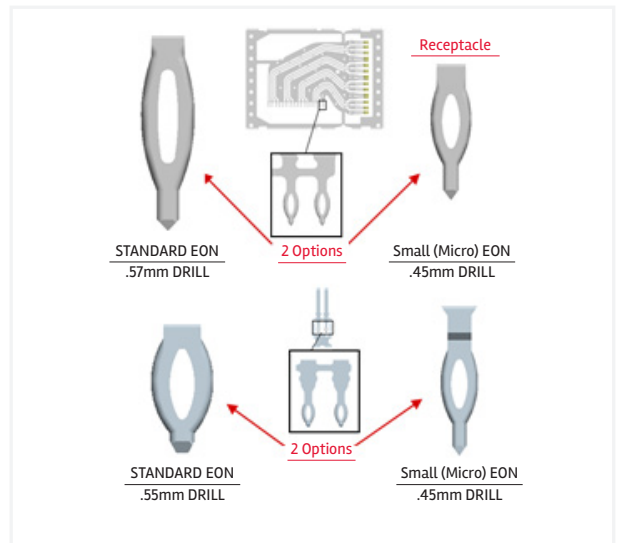
- In addition to providing individual right-angle receptacle signal modules, customized groupings of right-angle signal, guidance and power modules can be attached to a single wafer organizer to form an integrated daughter card connector.



**BACKPLANE**

**Additional Features**

- The wide ground contacts in the vertical backplane headers feature a stiffening rib that extends near the tip of the contact and are advanced ahead of the signal contacts for robustness and signal pin protection.



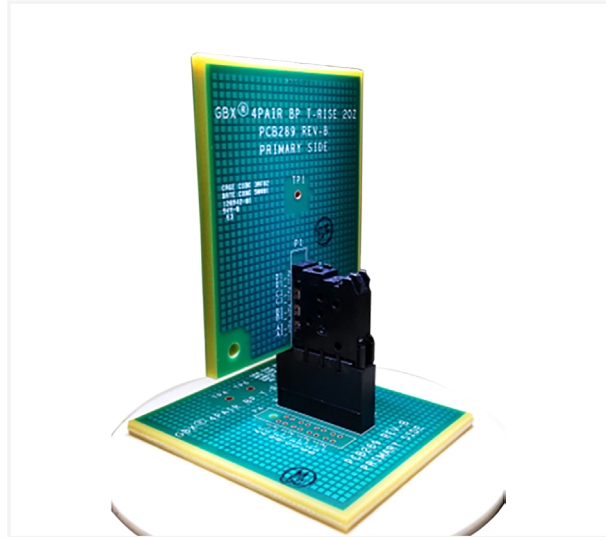
## ▶ XCEDE® BACKPLANE CONNECTOR SYSTEM

### XCEDE® POWER SYSTEM

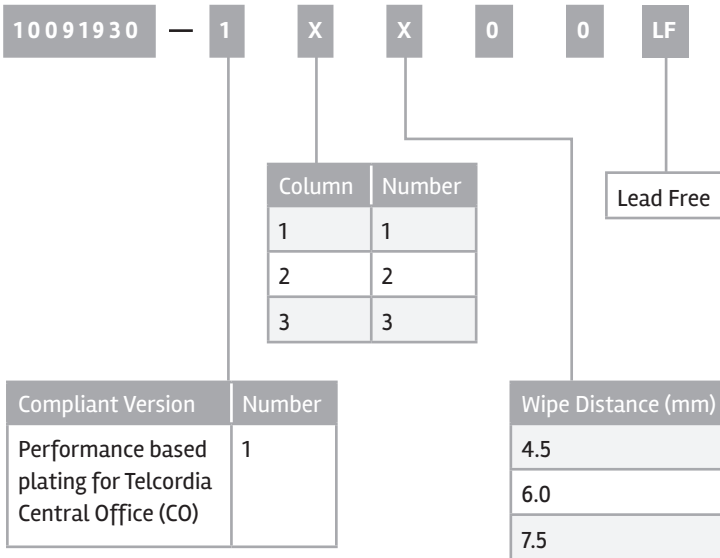
- 150 grams normal force nominal
- 3 levels of sequencing: 4.5mm, 6.0mm, 7.5mm

### POWER RATING

- Modular construction gives an effective current density of 8.6amps per mm.
- Designed to meet UL 1977 CAF (Conductive Anodic Filament) spacing requirement
- Housing: High-temperature thermoplastic, UL94-V0
- Wafers: High-temperature thermoplastic, UL94-V0
- Contacts: High-performance copper alloy
- Platings: Performance based plating, at separable interface GR-1217-CORE (Central Office)



### XCEDE® VERTICAL POWER PART NUMBER MATRIX



| Height    | Number of Columns | Differential pairs per column | Part Number |
|-----------|-------------------|-------------------------------|-------------|
| Standard  | 1,2 or 3          | 4                             | 10091830    |
| Less 1 mm | 1,2 or 3          | 4                             | 10091831    |
| Less 3 mm | 1,2 or 3          | 4                             | 10115237    |
| Standard  | 1,2 or 3          | 6                             | 10115240    |
| Less 1 mm | 1                 | 6                             | 10115241    |

**XCEDE® BACKPLANE CONNECTOR SYSTEM**

## 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. Customization of Monoblocks are also available. Contact your local FCI sales representative for further information.

### XCEDE® & XCEDE® HD PART NUMBER MATRIX

10091767 — X 0 C X 0 D LF — Lead Free

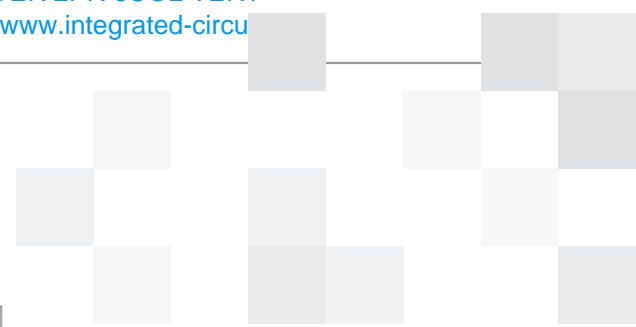
| Description                         | Letter | Plating by Telcordia Application | Letter |
|-------------------------------------|--------|----------------------------------|--------|
| 6-Column Differential Signal Module | C      | CO(LF)                           | D      |

| Module Description                            | Letter Designation Represented in Dash Number |   |   |   |   |   |   |   |   |  | Base Module |
|---|---|---|---|---|---|---|---|---|---|--|-------------|
|   | J   | A | B | C | D | E | F | G | H |  |             |
| Left Polarizing Guidance Module (See Sheet 3) |   |   |   |   |   |   |   |   |   |  |             |
| Left Polarizing Guidance Module (See Sheet 4) |   |   |   |   |   |   |   |   |   |  |             |
| Open Module (Two Wall) (See Sheet 2)          | 0 (ZERO)                                      |   |   |   |   |   |   |   |   |  |             |
| Left Wall Module (See Sheet 5)                | L   |   |   |   |   |   |   |   |   |  |             |
| Right Wall Module (See Sheet 6)               | M   |   |   |   |   |   |   |   |   |  |             |
| Four Wall Module (See Sheet 7)                | 1   |   |   |   |   |   |   |   |   |  |             |

| Signal | Contact Mating Wipe Length |                          | Number |
|--------|----------------------------|--------------------------|--------|
|        | Wide Ground                | Compliant Pin Drill Size |        |
| 2      | 4                          | ∅0.55 [0.0217in.]        | 1      |
| 3      | 4                          | ∅0.55 [0.0217in.]        | 2      |
| 2      | 4                          | ∅0.45 [0.0177in.]        | 3      |
| 3      | 4                          | ∅0.45 [0.0177in.]        | 4      |
| 2      | 3                          | ∅0.55 [0.0217in.]        | 5      |
| 3      | 3                          | ∅0.55 [0.0217in.]        | 6      |

| Signal | Contact Mating Wipe Length |                          | Number |
|--------|----------------------------|--------------------------|--------|
|        | Wide Ground                | Compliant Pin Drill Size |        |
| 2      | 3                          | ∅0.45 [0.0177in.]        | 7      |
| 3      | 3                          | ∅0.45 [0.0177in.]        | 8      |

**XCEDE® BACKPLANE CONNECTOR SYSTEM**



| XCEDE® HD Vertical Header |                   |                               |             |
|---------------------------|-------------------|-------------------------------|-------------|
| Col Designator            | Number of Columns | Differential pairs per column | Part Number |
| X0J                       | 4                 | 3                             | 10119126    |
| X0C                       | 6                 | 3                             | 10119128    |
| X0E                       | 8                 | 3                             | 10120124    |
| X0J                       | 4                 | 4                             | 10120126    |
| X0C                       | 6                 | 4                             | 10120128    |
| X0E                       | 8                 | 4                             | 10115091    |
| X0J                       | 4                 | 6                             | 10120130    |
| X0C                       | 6                 | 6                             | 10119130    |
| X0E                       | 8                 | 6                             | 10120132    |

| XCEDE® Right Angle Receptacle |                   |                               |             |
|-------------------------------|-------------------|-------------------------------|-------------|
| Col Designator                | Number of Columns | Differential pairs per column | Part Number |
| -                             | 4                 | 4                             | 10091844    |
| -                             | 6                 | 4                             | 10091799    |
| -                             | 8                 | 4                             | 10091812    |
| -                             | 4                 | 6                             | 10105004    |
| -                             | 6                 | 6                             | 10105007    |
| -                             | 8                 | 6                             | 10105010    |

| XCEDE® HD Vertical Header |                   |                               |             |
|---------------------------|-------------------|-------------------------------|-------------|
| Col Designator            | Number of Columns | Differential pairs per column | Part Number |
| X0J                       | 4                 | 2                             | 10114868    |
| X0C                       | 6                 | 2                             | 10113947    |
| X0E                       | 8                 | 2                             | 10113949    |
| X0J                       | 4                 | 3                             | 10119187    |
| X0C                       | 6                 | 3                             | 10119189    |
| X0E                       | 8                 | 3                             | 10119191    |
| X0J                       | 4                 | 4                             | 10091836    |
| X0C                       | 6                 | 4                             | 10091767    |
| X0E                       | 8                 | 4                             | 10091777    |
| X0J                       | 4                 | 6                             | 10114508    |
| X0C                       | 6                 | 6                             | 10104997    |
| X0E                       | 8                 | 6                             | 10104999    |

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