

# RIGHT-ANGLE CARD EDGE CONNECTORS

for SFP, XFP, XENPAK, X2 or XPAK modules

## DESCRIPTION

These card edge connectors enable the use of high-speed, hot-pluggable transceiver modules that can easily installed and removed by horizontal front-panel access. The right-angle connectors conform to the specifications and board layouts defined by several Multi-Source Agreements (MSAs) developed by leading companies in the Telecom and Datacom industries. The MSAs provide specifications for the host connectors, cages and pluggable I/O modules used to convert board-level electrical signals to external optical or electrical signals.

The 20-position connector is designed to interface to Small Form-factor Pluggable (SFP) modules for FibreChannel and Ethernet applications at data rates above 2 Gb/s.

XENPAK, X2, and XPAK modules support 10 Gb/s using a four-channel transmit and receive XAUI protocol and all use the 70-position connector for the electrical interface. The XENPAK MSA addresses 10-gigabit Ethernet requirements for high-end enterprise and Telco switches. The X2 and XPAK MSAs were developed to address market requirements for a reduced form-factor XENPAK module, and define smaller, more thermally efficient modules needed for networking, LAN, WAN and SAN equipment.

The 30-position connector is compatible with XFP modules that drive 10 Gb/s data rates over a single transmit and receive pair. By eliminating the need for four-channel signaling, a much smaller module, compared to the XENPAK XAUI based MSAs, can be provided to 10GigE, 10GFC, and SONET OC-192 system designers.

FCI supports all three connector sizes and utilizes a contact design that meets or exceeds the requirements for electrical performance and reliability.



## FEATURES & BENEFITS

- 0.8mm pitch connectors accept 1.0mm thick PCBs used in MSA-compliant pluggable transceiver modules
- Available 20, 30 and 70-position sizes provide interfaces for SFP, XFP, XENPAK, X2 or XPAK modules
- Surface-mount (SMT) termination
- Excellent electrical performance to 6 GHz
- Formed contacts provide smooth contact surfaces for improved reliability
- Alignment posts aid placement during board assembly
- SMT design and short posts enable connectors to be placed “belly-to-belly” on opposite sides of a host board
- Tape-on-reel packaging to support automated placement
- RoHS-compatible

## TARGET MARKETS / APPLICATIONS

- Communications
  - Switches
  - Routers
  - Network interface cards (NICs)
  - Host bus adapters (HBAs)
- Data
  - Servers
  - Storage systems
  - Storage controller cards



## MATERIALS

- Housing: high-temperature thermoplastic, UL94V-0
- Contact base metal: copper alloy
- Contact area finish: gold over nickel
- Solder area finish: matte pure tin over nickel

## ELECTRICAL PERFORMANCE

- Contact resistance: 35 milliohms maximum initially with 10 milliohms maximum change after environmental exposure
- Current rating: 0.5A/contact maximum
- Insertion loss: > -0.5dB at 5 GHz.
- Return loss: < -10 dB at 6 GHz
- Near-end Crosstalk: < -40 dB at 5 GHz

## MECHANICAL PERFORMANCE

- Durability rating: 250 cycles minimum
- PCB insertion force: 0.85N maximum per contact pair
- PCB extraction force: 0.10N minimum per contact pair

## PART NUMBERS

MSA	# Contacts	Part Number*
SFP	20 position	10056847-XY1LF
XFP	30 position	10056847-XY2LF
XENPAK, X2, XPAK	70 position	10056847-XY3LF

\*Note that X and y are placeholders for housing post length and contact plating combinations. Reference the product drawings for available options. Drawings and additional technical information can be found at [www.fciconnect.com](http://www.fciconnect.com)

## ENVIRONMENTAL

- Per Telcordia Central Office requirements

## SPECIFICATIONS

- Right-Angle Card Edge Specification: GS-12-339

## PACKAGING

- Tape-on-Reel. Packaging specification: GS-14-1030