



## Quad Small Form-factor Pluggable (QSFP) Products

### DESCRIPTION

Tyco Electronics is a leading developer of Quad Small Form-factor Pluggable, a new high speed pluggable I/O interface. This interconnect system offers 4 channels, providing 3 times the density of SFP/SFP+ ports. QSFP cages and connectors are designed for data rates up to 10 Gb/s, supporting Fibre Channel, Ethernet, SDH/SONET and INFINIBAND standards. The cage/connector system will accept optical or copper interfaces.

### APPLICATIONS

- Switches, routers, and host bus adapters (HBA's)
- Enterprise storage
- High density, high speed I/O
- Multiple channel interconnects

### KEY FEATURES

- 4x solution featuring Tyco Electronics 38 position EVERCLEAR connector
- Lightpipe and heatsink options available
- Through-bezel and behind-bezel cage options with proven EMI containment
- Direct attach copper cables for short reach applications
- Quick release latching system
- MPO connectors plug into QSFP parallel optic transceiver modules

### TECHNICAL DOCUMENTS

Product Specification: 108-2286

### FOR MORE INFORMATION

Technical Support

Internet: <http://www.tycoelectronics.com>

USA: 1-800-522-6752

Canada: 1-905-470-4425

UK: 44-141-810-8967

Japan: 81-44-844-8013

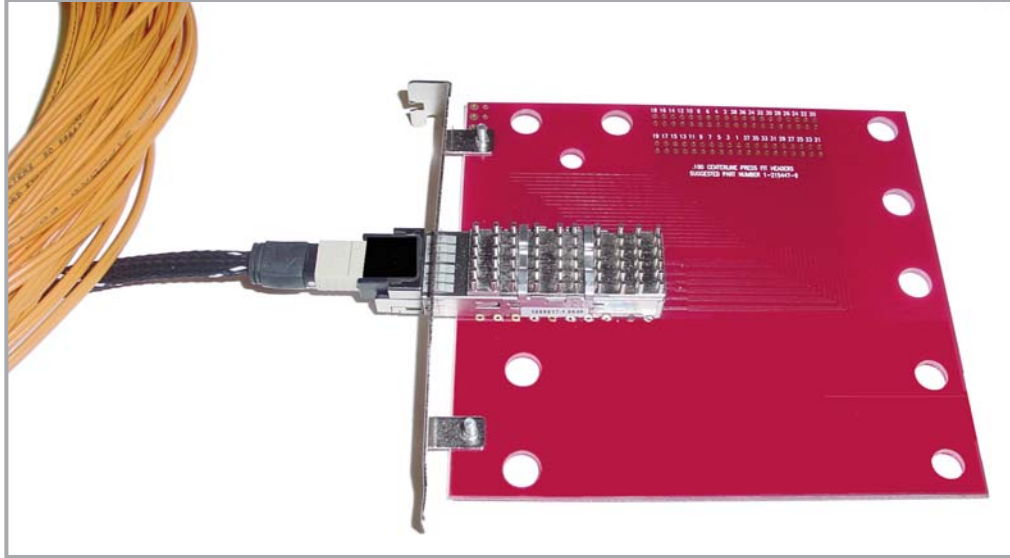
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 **Tyco Electronics**

Our commitment. Your advantage.

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## PRODUCT APPLICATION



Connector/Cage Application

## CONNECTOR

Part Number  
1761987-9

- Tape and reel packaged for pick and place SMT processing
- 38 position EVERCLEAR connector
- Designed to optimize signal integrity through 10 Gb/s



Connector (front)



Connector (bottom)

**Note:** Part Numbers are RoHS Compliant.

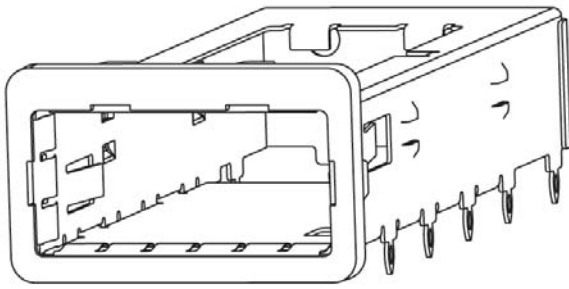
## CAGES

- Proven springs and gasket designs for EMI containment
- Single and dual lightpipes
- Riding heatsinks for thermal dissipation, various fin heights available
- Belly-to-belly compatible (double-sided PCB's)
- Press-fit termination
- Port-to port spacing-21.0mm (through-bezel)/23.5 (behind-bezel)

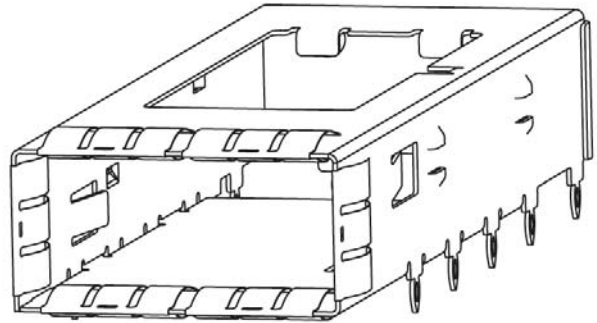


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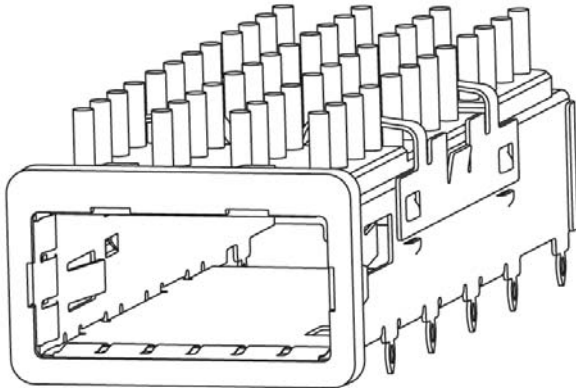
## CAGES (Continued)



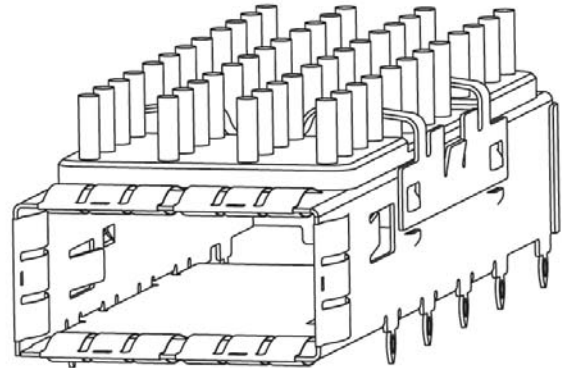
Behind-Bezel Cage



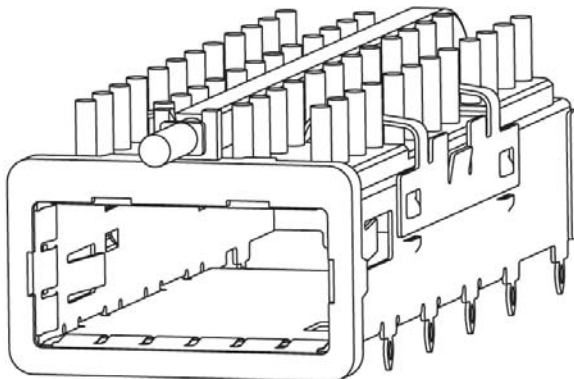
Through-Bezel Cage



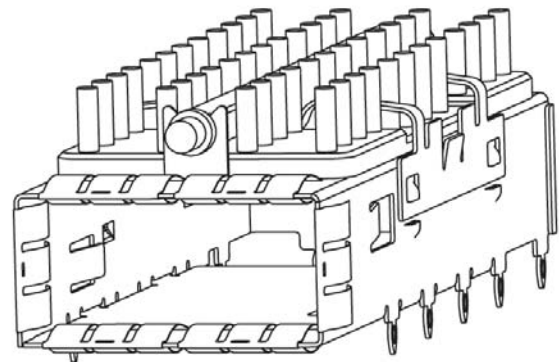
Behind-Bezel Cage with Heatsink



Through-Bezel Cage with Heatsink



Behind-Bezel Cage with Heatsink and Lightpipe



Through-Bezel Cage with Heatsink and Lightpipe

## QSFP Cage Kits:

Part Number	Bezel Mount	Heatsink	Lightpipe
1888617-1	Through-bezel	None	None
1888674-1	Through-bezel	None	customer applied
1888631-1	Through-bezel	PCI	None
1888631-2	Through-bezel	SAN	None
1888631-3	Through-bezel	Networking	None
1888972-1	Through-bezel	SAN	Yes
1888972-2	Through-bezel	Networking	Yes
1888781-1	Behind-bezel	None	None
1888968-1	Behind-bezel	PCI	None
1888968-2	Behind-bezel	SAN	None
1888968-3	Behind-bezel	Networking	None

**Note:** Part Numbers are RoHS Compliant.

# Quad Small Form-factor Pluggable (QSFP) Products

## EMI/DUST PLUG

- Part Number: 1888810-2
- Provides EMI containment for unused ports
- Keeps interface free of contamination or debris
- Ergonomic Design



## DIRECT ATTACH COPPER CABLE ASSEMBLIES

- Self-resetting latch, with ergonomic pull-tab for PCB protection
- Rugged stainless steel tab for PCB protection
- Cable wire size 28 or 26 AWG
- Active or passive equalization
- Various lengths available
- Breakout cables to SFP, CX4 and HSSDC2 are possible



Type	Part Number	Description
Passive	2015234-1	1 meter QSFP Cable Assembly
	2015234-2	2 meter QSFP Cable Assembly
	2015234-3	3 meter QSFP Cable Assembly
	2015234-4	4 meter QSFP Cable Assembly
	2015234-5	5 meter QSFP Cable Assembly
	2015234-6	6 meter QSFP Cable Assembly
	2015234-7	7 meter QSFP Cable Assembly
	2015234-8	8 meter QSFP Cable Assembly
Active	2015446-1	1 meter QSFP Cable Assembly
	2015446-2	2 meter QSFP Cable Assembly
	2015446-3	3 meter QSFP Cable Assembly
	2015446-4	4 meter QSFP Cable Assembly
	2015446-5	5 meter QSFP Cable Assembly
	2015446-6	6 meter QSFP Cable Assembly
	2015446-7	7 meter QSFP Cable Assembly
	2015446-8	8 meter QSFP Cable Assembly
	2015446-9	9 meter QSFP Cable Assembly
	2015446-10	10 meter QSFP Cable Assembly
	2015446-11	11 meter QSFP Cable Assembly
	2015446-12	12 meter QSFP Cable Assembly
	2015446-13	13 meter QSFP Cable Assembly
	2015446-14	14 meter QSFP Cable Assembly
	2015446-15	15 meter QSFP Cable Assembly

**Note:** Part Numbers are RoHS Compliant.

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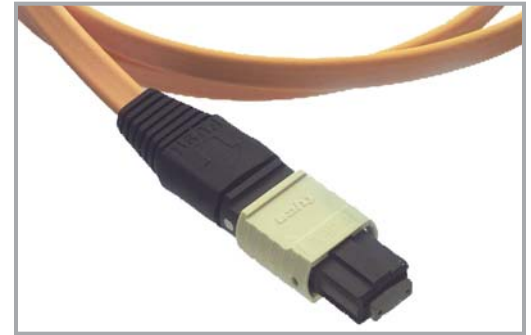
## FIBER OPTIC CABLE ASSEMBLIES

### QSFP Optical Jumper:

- Uses 50/125um MM fiber (500MHz-km BW at 850nm and 1300nm wavelengths) with OFNR-rated jacket
- Fiber path is reversed (1 to 12, 2 to 11, 3 to 10, 4 to 9, fibers 5, 6, 7, 8 not used)

### Other options include:

- Custom lengths
- High bandwidth cable (up to 2000MHz-km)
- OFNP rated jacket
- Fanout to LC for interface to SFP optical ports



### MPO to MPO suitable for interface to transceiver

Part Number	Standard Length
1938208-1	1m
1938208-5	5m
1-1938208-0	10m
2-1938208-0	20m
5-1938208-0	50m

**Note:** See drawing for part numbers of other standard lengths.

**Note:** Part Numbers are RoHS Compliant.

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The Support Center also provides:

- Cross-Reference from Non-compliant to Compliant Products
- Ability to browse RoHS Compliant Products in our on-line catalog
- Downloadable Technical Data Customer Information Presentation
- More detailed information regarding the definitions used above
- So whatever your questions when it comes to RoHS, we've got the answers at [www.tycoelectronics.com/leadfree](http://www.tycoelectronics.com/leadfree)



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