



## 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

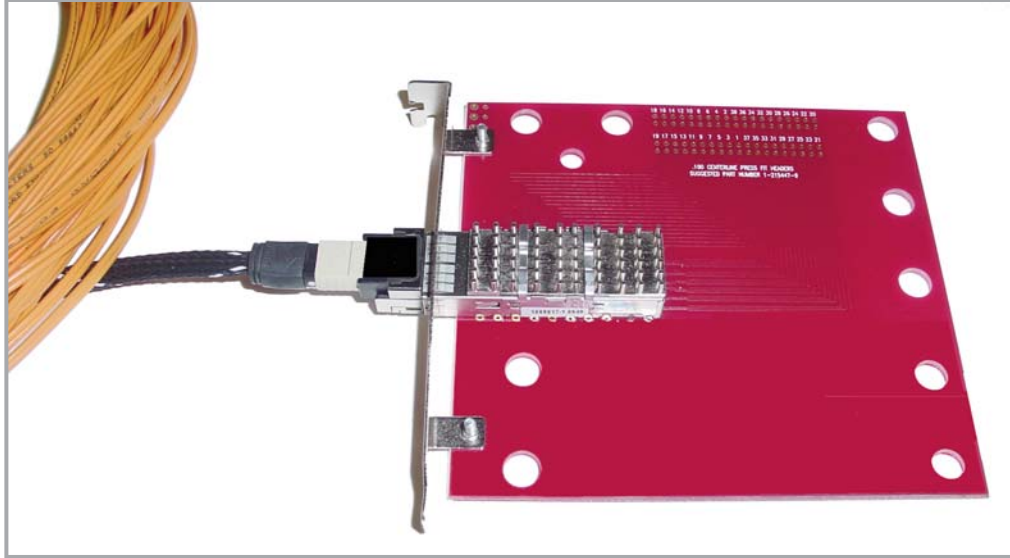
Canada: 1-905-470-4425

UK: 44-141-810-8967

Japan: 81-44-844-8013

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## 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.

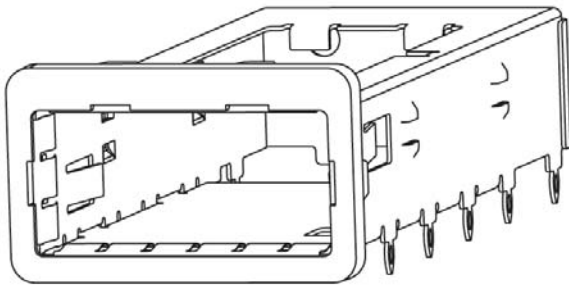
## CAGES

- Proven springs and gasket designs for EMI containment
- Single and dual lightpipes
- Rising 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)

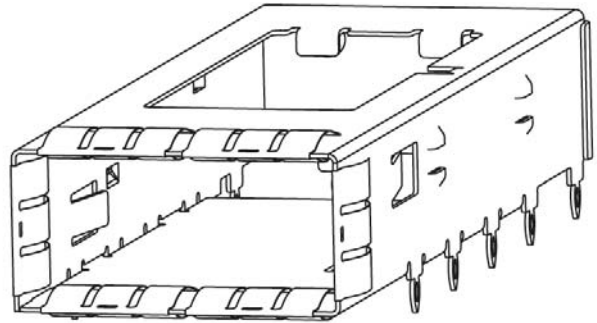


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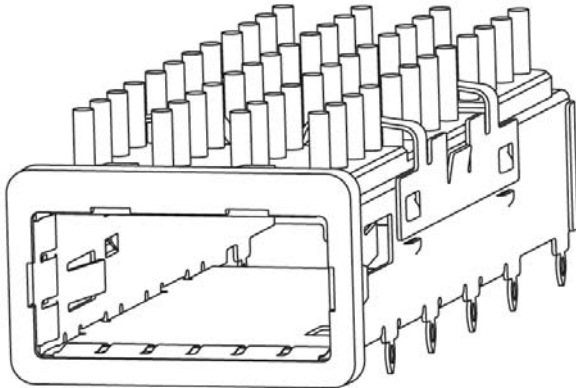
## CAGES (Continued)



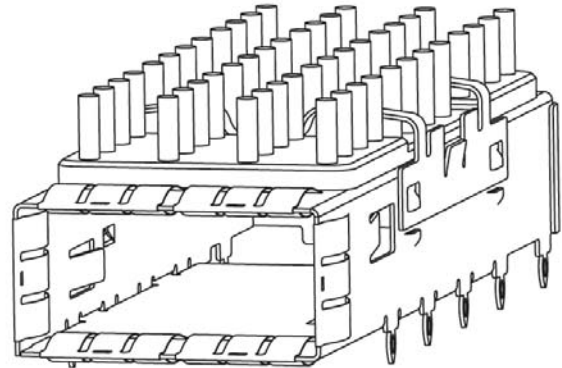
Behind-Bezel Cage



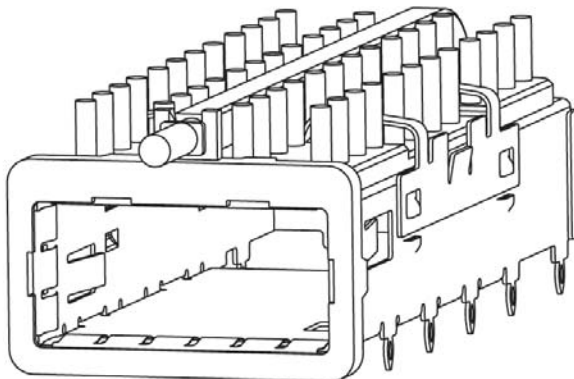
Through-Bezel Cage



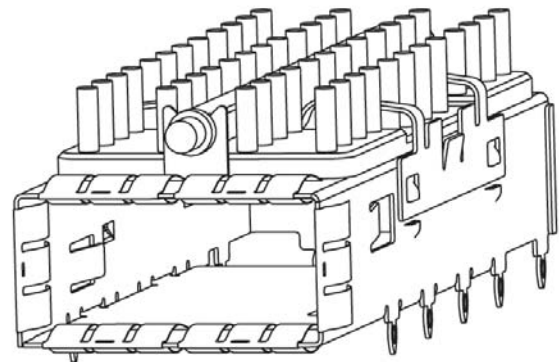
Behind-Bezel Cage with Heatsink



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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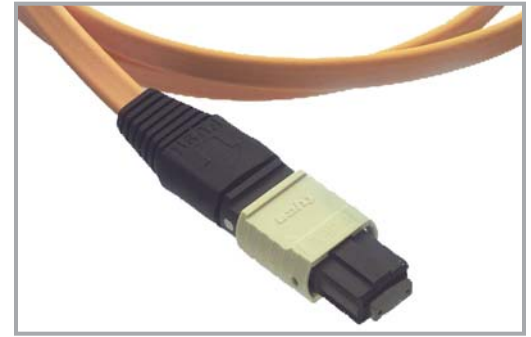
## FIBER OPTIC CABLE ASSEMBLIES

### 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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NOTE: For purposes of this Catalog, included within the definition of RoHS Compliant are products that are clearly "Out of Scope" a of the RoHS Directive such as hand tools and other non-electrical accessories.

NOTE: Information regarding RoHS compliance is provided based on reasonable inquiry of our suppliers and represents our current actual knowledge based on the information provided by our suppliers. This information is subject to change. For latest compliance status, refer to our website referenced at right.

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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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