



Supporting next-generation 100 Gbps Ethernet and 100 Gbps InfiniBand* Enhanced Data Rate (EDR) applications, Molex's zQSFP+ Interconnect Solution transmits up to 25 Gbps per-serial-lane data rates with excellent signal integrity (SI), electro magnetic interference (EMI) protection and thermal cooling

Molex's zQuad Small Form-factor Pluggable Plus (zQSFP+) interconnect solution is designed for high-density interconnect applications and conforms to SFF-8665 QSFP28. Components of the system include SMT connectors (series 170432); and stacked integrated 2-by-1, 2-by-2 and 2-by-3 connectors and cages (series 171565). Products scheduled for upcoming release include: copper passive cable assemblies (Series 111114); EMI cages (Series 111115) and active optical cables (Series 106412).

Molex's zQSFP+ SMT connector supports new 100 Gbps Ethernet and 100 Gbps InfiniBand* (IB) Enhanced Data Rate (EDR) applications. EDR applications consist of four lanes of high-speed differential signals with individual data rates at 25 Gbps. The preferential coupling design uses a narrow-edge coupled, blanked- and formed-contact geometry and insert molding to optimize electrical performance. The zQSFP+ connector shares the same mating interface as the QSFP+ form factor, making it backward compatible with current connectors, cages and cable assemblies. Overall connector length is 2.20mm deeper than the current QSFP+ connector.

Soon-to-be-released zQSFP+ EMI cages will be designed with an advanced heat-sink system to provide a high level of heat dissipation for next-generation system-power levels. The spring-finger design will provide optimal EMI grounding and allow for more space to route high-speed traces.

Future low-power, integrated active optical cable (AOC) solutions will provide less expensive, reliable transport for aggregated data rates up to 100 Gbps. The singlemode fiber technology will provide long reaches of up to 4km, enabling deployment in data centers and campus environments.

zQuad Small Form-factor Pluggable Plus (zQSFP+) Interconnect System

170432 SMT Connectors

171565 Stacked Integrated 2-by-1, 2-by-2 and 2-by-3 Connectors and Cages



zQSFP+ SMT Connector (Series 170432)



zQSFP+ Stacked, Integrated, 2-by-1 Connector and Cage (Series 171565)

*InfiniBand is a registered trademark of the InfiniBand Trade Association

Specifications

SMT Connectors

Reference Information

Packaging: Tape and Reel

UL File No.: E29179

CSA File No.: LR19980

Mates With:

Copper Cable Assemblies
(Series 74757, 111040)

Designed In: Millimeters

Electrical

Voltage: 30V

Current: 0.5A max.

Contact Resistance: 30 milliohms max.

Dielectric Withstanding Voltage: 500V AC

Insulation Resistance:
1000 Megohms min.

Mechanical

Contact Retention to Housing: 4.45N

Mating Force: 1.25N per circuit

Unmating Force: 0.25N per circuit

Durability:

250 cycles for 30μ" Gold (Au) plating

Physical

Housing:

High-Temperature Thermoplastic
Glass Filled, UL 94V-0, Black

Contact: Copper (Cu) Alloy

Plating:

Contact Area — 15μ" (0.38μm)
or 30μ" (0.76μm) Gold (Au)

Solder Tail Area — Tin (Sn)

Underplating — Nickel (Ni)

RoHS Compliant: Yes

Operating Temperature: -40 to +80°C

Stacked Integrated Connectors and Cages

Reference Information

Packaging: Tray

UL File No.: E29179

Mates With:

Copper Cable Assemblies
(Series 74757, 111040)

Designed In: Millimeters

Electrical

Voltage: 30V

Current: 0.5A max.

Contact Resistance: 30 milliohms max.

Dielectric Withstanding Voltage:
500V AC

Insulation Resistance:
1000 Megohms min.

zQuad Small Form- factor Pluggable Plus (zQSFP+) Interconnect System

Mechanical

Mating Force: 0.75N per circuit

Unmating Force: 0.25N per circuit

Durability:

100 cycles for 30μ" Gold (Au) plating

Physical

Housing:

High-Temperature Thermoplastic
Glass Filled, UL 94V-0, Black

Contact: Copper (Cu) Alloy

Plating:

Contact Area —30μ" (0.76μm)
Gold (Au)

Signal Tail Area — Tin / Lead (Sn/Pb)
Underplating — Nickel (Ni)

RoHS Compliant: Yes – By Exemption
Operating Temperature: -40 to +80°C

Features and Benefits

Preferential coupling design uses a narrow-edge coupled, blanked- and formed-contact geometry and insert molding

Provides superior signal integrity (SI) performance, including extremely low insertion loss (IL) of <0.8dB at a very high frequency, 14 GHz

Proven 25 Gbps data rate with potential up to 40 Gbps

Meets or exceeds current requirements for 100 Gigabit Ethernet and InfiniBand* EDR 4X applications. Supports current 10 Gbps Ethernet and 16 Gbps Fibre Channel applications. Scalable for next-generation applications

Stacked integrated connectors include an elastomeric gasket

Provides superior EMI containment

Stacked integrated connectors include a metal finger gasket

For EMI suppression

Identical mating interface as the QSFP+ connector

Backward compatible with QSFP+ form factor to extend the life of existing platforms and reduce development costs

Surface Mount Technology (SMT) design (series 170432 version only)

Allows for ease of routing and provides the option for placement on both sides of the PCB

0.80mm pitch host connector designed for placement beneath EMI cage

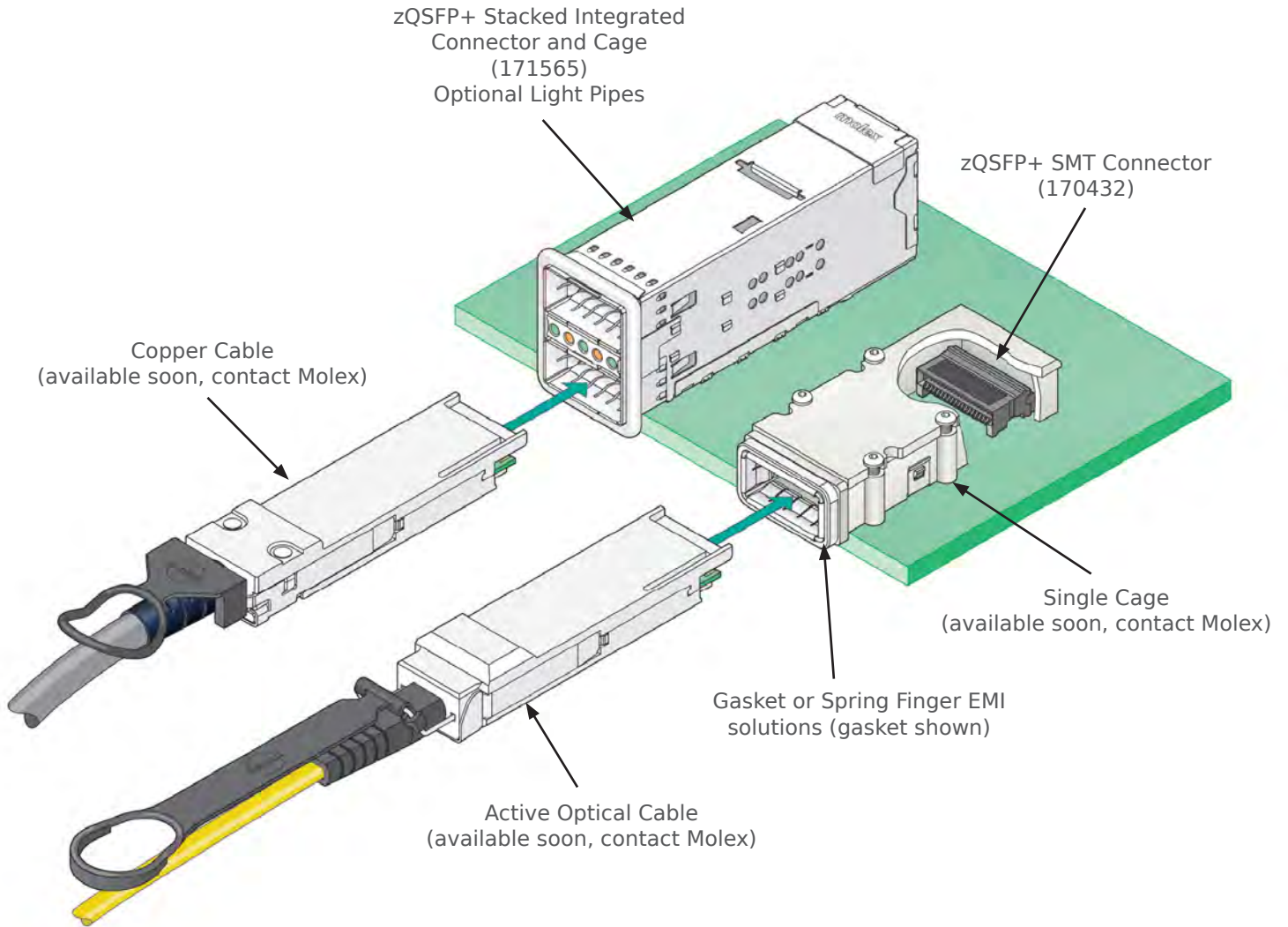
Ideal for pluggable applications

Stacked integrated connectors and cages are available in three sizes (2-by-1, 2-by-2 and 2-by-3)

Offers design options for high-density applications

Drop-in replacement product from TE Connectivity

Second-source option available



Applications

Telecommunication Equipment

- Hubs
- Servers
- Routers
- Switches
- Central office
- Cellular infrastructure and multi-platform service systems

Data Networking Equipment

- Servers
- Storage



Data Networking Server

zQuad Small Form-factor Pluggable Plus (zQSFP+) Interconnect System

Ordering Information

SMT Connectors

Order No.	Circuits	Contact Material
170432-0001	38	0.381µm Gold
170432-0002		0.762µm Gold
170432-0003		Gold Flash

Stacked Integrated Connectors and Cages

Order No.	Port Size	Circuits	Light Pipe
171565-1002	2-by-1	38 circuits per port (76 circuits total)	Left, Arrow Up
171565-0002	2-by-2	38 circuits per port (152 circuits total)	
171565-3002	2-by-3	38 circuits per port (230 circuits total)	Arrow Up and Down