Molex launches the first complete zSFP+ Interconnect System for 25 Gbps serial channels, delivering unparalleled signal integrity with superior EMI protection for next-generation Ethernet and Fibre Channel applications

Molex's complete zSFP+ connector solutions support 25 Gbps applications, with backward compatibility for 10 Gbps Ethernet and 16 Gbps Fibre Channel applications. The zSFP+ connector shares the same mating interface and EMI cage dimensions as the SFP+ form factor.

zSFP+ SMT 20-circuit connectors and cage assemblies provide excellent signal integrity and Electro Magnetic Interference (EMI) protection.

Single-port and 1x ganged cages are available to support multiple-port-count applications. Single-port cages feature press-fit, solder-post and PCIe (1°) versions. The cages provide options for use with various board thicknesses and assembly processes to accommodate server and switch applications at a cost comparable to SFP+ cages.

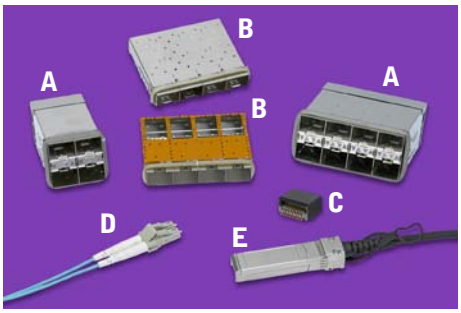
The press-fit tails accommodate belly-to-belly applications for both single and ganged cages to ensure the best use of PCB space. Cages offer optional rear- and side-mounted lightpipe cover assemblies to allow for flexibility of PCB signal routing for light emitting diodes (LEDs).

LC duplex cable assemblies, with optical mode 3 and 4 (OM3, OM4) fiber, are used with zSFP+ optical modules. LC duplex assemblies offer a high-performance interconnect solution with customization options for cable length and strain-relief boots including straight, 45° and 90°. LC duplex cables with OM3 and OM4 fiber offer enhanced launch bandwidth required in next-generation zSFP+ devices. Contact Molex to specify custom cable lengths and labeling.

For more information, visit: www.molex.com/link/zsfp+.html

zSFP+ (Small Form-factor Pluggable Plus) 25 Gbps Interconnect System

170382	zSFP+ SMT 20 Circuit Connector
111111	zSFP+ Ganged Cage
170071	zSFP+ Stacked, Ganged Integrated Connector and Cage
Custom	LC Duplex Custom Cable Assemblies



zSFP+ Interconnect System

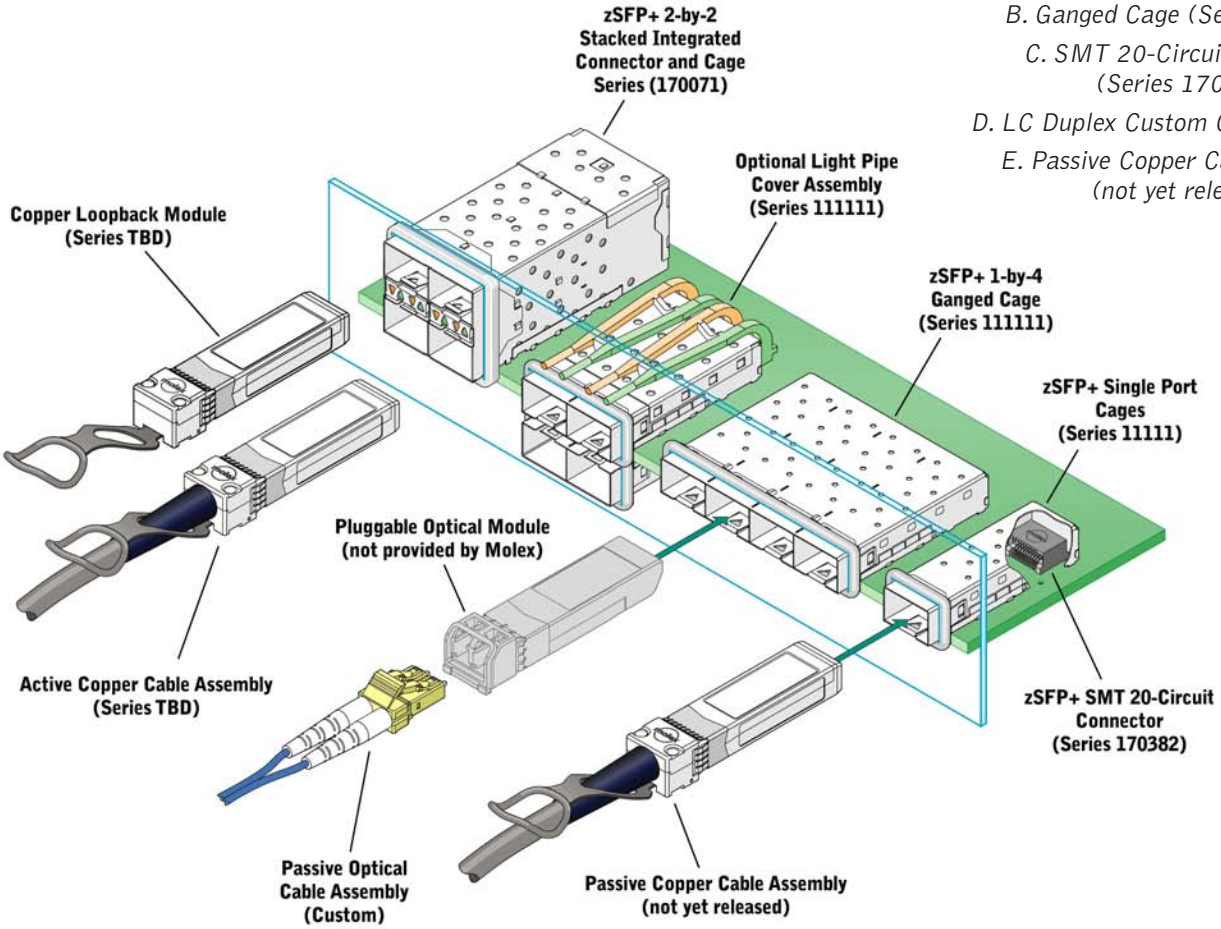
A: Stacked Integrated Connector and Cage (Series 170071)

B. Ganged Cage (Series 111111)

C. SMT 20-Circuit Connector (Series 170382)

D. LC Duplex Custom Cable Assemblies

E. Passive Copper Cable Assembly (not yet released)

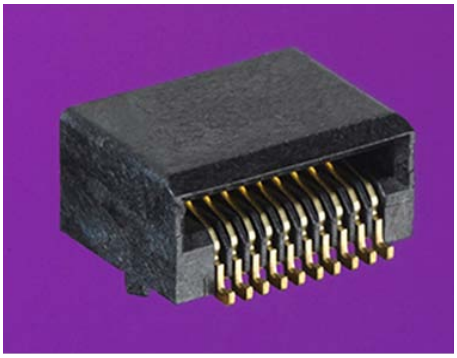


FEATURES AND BENEFITS

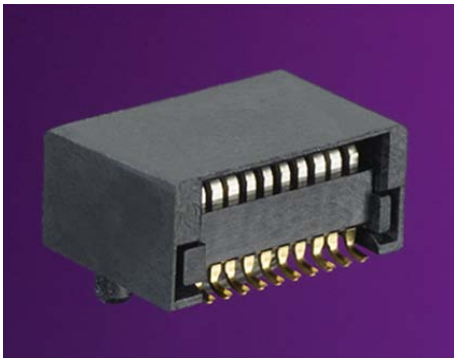
- Patent-pending preferential coupling design uses a narrow-edge, coupled, blanked- and formed-contact geometry and insert molding for superior signal integrity (SI), mechanical and electrical performance
- Capable of handling 25 Gbps data rates to support current 10 Gbps Ethernet and 16 Gbps Fibre Channel applications with additional margin without changing the host board design (for the SMT version)
- Backward compatible with SFP+ form factor connectors to ensure the same PCB footprint, mating interface and EMI cage dimensions
- Utilizes industry-standard footprint which can be used as a drop-in replacement for current SFP+ designs
- High-temperature thermoplastic housing withstands lead-free processing
- Second sourced by TE Connectivity provides a fully tested, intermateable solution with performance compatibility

zSFP+ (Small Form-factor Pluggable Plus) 25 Gbps Interconnect System

170382 zSFP+ SMT 20-Circuit Connector



zSFP+ SMT 20-Circuit Connector Front View (Mating Side)



zSFP+ SMT 20-Circuit Connector Back View

SPECIFICATIONS

Reference Information

Packaging: Tape and Reel

Mates With:
zSFP+ and SFP+ Pluggable Modules

Use With: 111111 series

Designed In: Millimeters

RoHS: Yes

Halogen Free: Yes

Electrical

Voltage (max.): 30V AC (RMS)/DC

Current (max.): 0.5A

Mechanical

Mating Force: 25N

Durability (min.): 250 cycles

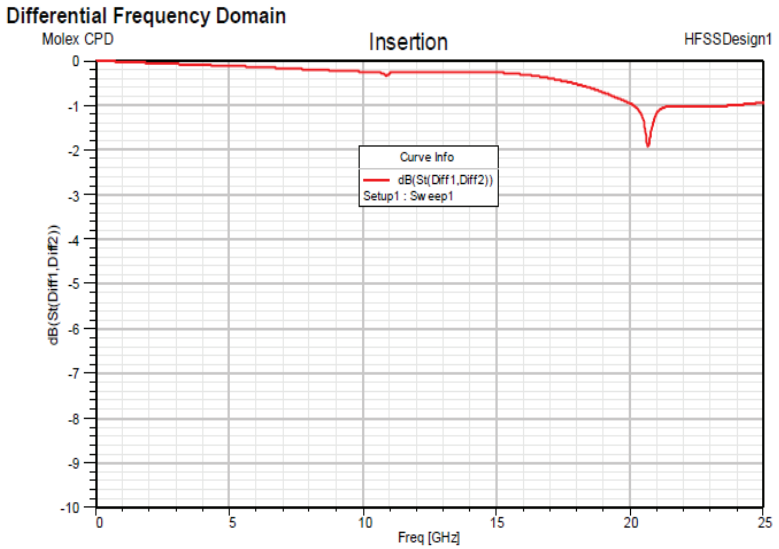
Physical

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

Contact: Copper Alloy

Plating:
Contact Area — 15 and 30µ" Gold
Solder Tail Area — Tin
Underplating — Nickel

Operating Temperature: -40 to +85°C



Reference results - Frequency Domain

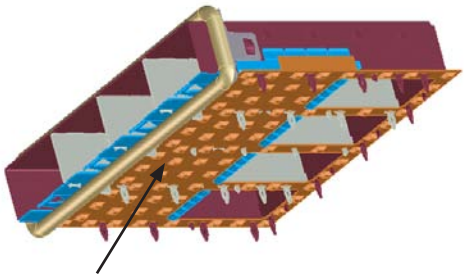
Note: Insertion Loss is clean to 20 GHz

FEATURES AND BENEFITS

- Newly designed EMI belly shield provides superior EMI shielding effectiveness over the SFP+ cage
- Ganged cages are available with either 360° elastomeric gaskets or spring fingers: elastomeric gaskets provide the most effective EMI shielding effectiveness and utilize a larger bezel cutout, allowing for tolerance stack up in high-port-density applications for easier assembly; spring fingers require 1.25mm less space between adjacent cages than cages with elastomeric gaskets, enabling increased density
- Staggered press-fit pins accommodate belly-to-belly applications maximizing PCB space by allowing the use of both sides of the PCB
- Identical mechanical size as existing SFP+ cages so customers can use current SFP+ application tooling in existing manufacturing processes and provides backward-compatible legacy system connections
- Single-port cages available in press-fit, solder-post and PCIe (1°) versions; ganged cages available in a press-fit version enables use with various PCB board thicknesses and assembly processes
- Ganged cages available with two, four or six ports provides multiple design options
- Optional rear and side-mounted lightpipe cover assemblies allow for flexibility of PCB signal routing of LEDs and provide port status and activity feedback to the user or other customer-specific activity
- Second sourced by TE Connectivity provides a fully tested, intermateable solution with performance compatibility

zSFP+ (Small Form-factor Pluggable Plus) 25 Gbps Interconnect System

111111 zSFP+ Ganged Cage



zSFP+ 1-by-4 Ganged Cage bottom view showcasing EMI belly shield

SPECIFICATIONS

Reference Information

Packaging: Tray

Mates With:
zSFP+ , SFP+ and SFP Pluggable Modules

Designed In: Millimeters

RoHS: Yes

Halogen Free: Yes

Mechanical

Unmating Force (max.): 11.5N

Durability (min.): 100 cycles

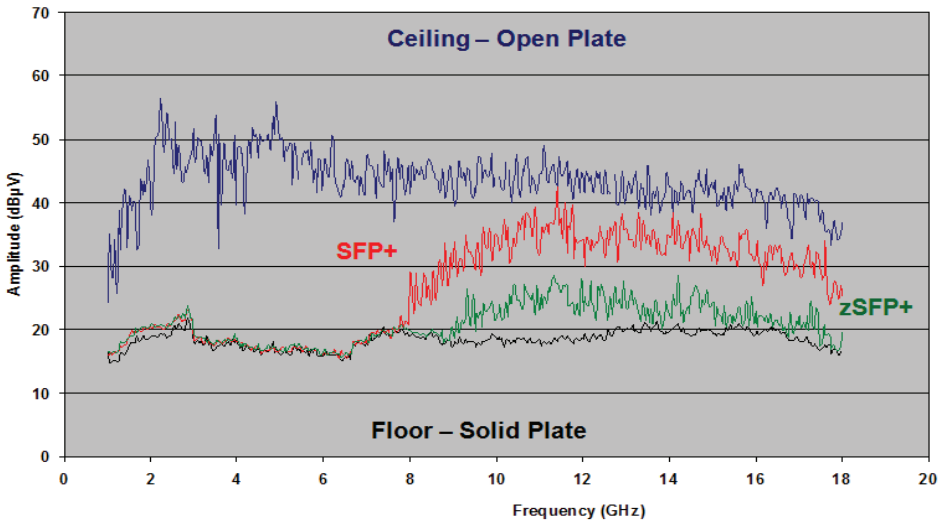
Physical

Cage: Nickel Silver

Plating: 1.27 to 3.81µ Preplated Nickel

PCB Thickness (min.):
1.57mm single sided applications

Operating Temperature: -40 to +85°C



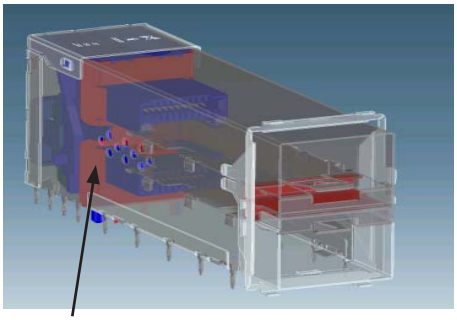
Shielding Effectiveness Comparison

FEATURES AND BENEFITS

- Next-generation terminal and host footprint design provides superior signal integrity (SI), mechanical and electrical performance and greatly reduced resonance over current SFP+ cages
- Up to 25 Gbps data-rate performance supports current 10 Gbps Ethernet and 16 Gbps Fibre Channel applications and will meet future 25 Gbps data-rate requirements
- Stacked integrated connector and cage offers compact space savings and ease-of-processing in press-fit applications and eliminates reflow assembly
- Accepts industry-standard cables and modules and supports legacy infrastructure
- Internal vertical Electro Magnetic Interference (EMI) shield provides unparalleled EMI reduction performance; approaches noise floor
- Second sourced by TE Connectivity provides a fully tested, intermateable solution with performance compatibility

zSFP+ (Small Form-factor Pluggable Plus) 25 Gbps Interconnect System

170071 zSFP+ Stacked, Ganged Integrated Connector and Cage



Conductive Vertical Cage Wall
Press-fit to ground plane

SPECIFICATIONS

Reference Information

Packaging: Tray

Mates With:
zSFP+ and SFP+ Pluggable Modules

Designed In: Millimeters

RoHS: Yes

Halogen Free: Yes

Electrical

Voltage (max.): 30V AC (RMS) /DC

Current (max.): 0.5A

Dielectric Withstanding Voltage: TBD

Mechanical

Insertion Force to PCB (max.): 35N

Mating Force (max.): 40N

Unmating Force (max.): 11.5N

Durability (min.): 100 cycles

Physical

Cage: Nickel Silver

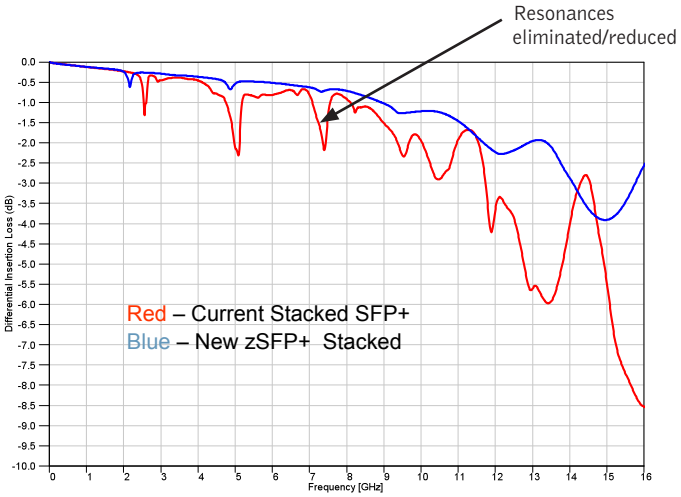
Housing:
Glass filled thermoplastic, UL 94V-0, Black

Contact:
High-Performance Copper Alloy

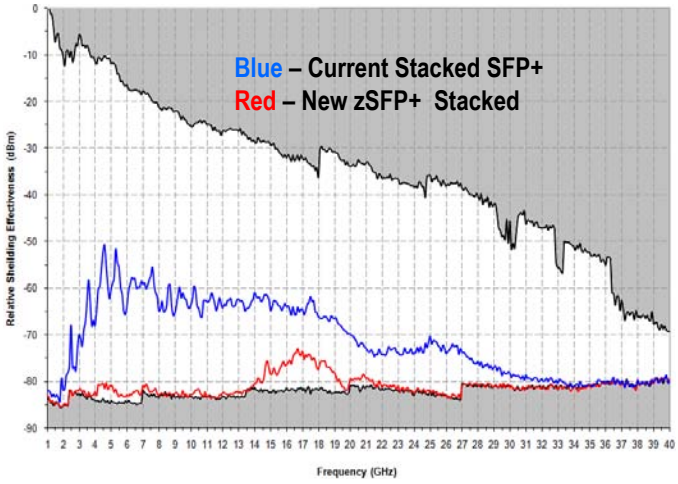
Plating:
Contact Area (min.) — 0.76µ Gold (Au)
Solder Tail Area — 0.76 to 1.52µ Matte Tin
Underplating — Nickel

PCB Thickness (min.): 1.57mm

Operating Temperature: -40 to +85°C



Typical Insertion Loss (IL) curve



Shielding effectiveness comparison

FEATURES AND BENEFITS

- Laser-optimized OM3 and OM4 50/125µm fiber supports high data rates and long distances, (OM4 fiber over 100m)
- Multiple strain-relief boot options include straight, 45° and 90° provide design flexibility
- Standard cable construction is 2.00mm aqua zipcord; single-boot versions offer a simplex cable with two, 900µm buffered fibers as an alternative cable providing duplex connectivity while optimizing cable-routing space
- Tunable connector optimizes insertion loss performance
- Meet EIA-TIA and FOCIS 10 standards; compliant with MSA devices

SPECIFICATIONS

Reference Information

Packaging: Bag

Designed In: Millimeters

Mates With: LC Duplex Adapters (Series 106125, 106126, 106127, 106127)

Mechanical

Mating Durability:
Insertion Loss <0.2dB change over 200 cycles

Physical

Ferrule: Zirconia Ceramic

Housing and Boot:
UL 94V-0 Rated Polymer

Alignment Sleeves:
Zirconia Ceramic or Phosphor Bronze

Operating Temperature: -40 to +85°C

zSFP+ (Small Form-factor Pluggable Plus) 25 Gbps Interconnect System

Custom LC Duplex Custom Cable Assemblies

LC Duplex Custom Cable Assemblies (with custom boots)

LC Duplex Custom Cable Assemblies (with standard boot)

APPLICATIONS

- Telecommunication and Datacommunication equipment
  - Switches, routers, hubs
  - Central office, cellular infrastructure and multiplatform service systems (DSL, Cable Data)
  - Storage

zSFP+ (Small Form-factor Pluggable Plus) 25 Gbps Interconnect System

ORDERING INFORMATION

zSFP+ SMT 20-Circuit Connector

Order No.	Contact Area Plating	Solder Tail Area Plating
170382-0001	15µ" Gold	Tin
170382-0002	30µ" Gold	

zSFP+ Ganged Cage

Order No.	Component	Port Size
111111-0410	Caged Assembly	1-by-4
111111-0041	Lightpipe Cover	

zSFP+ Stacked Ganged Assembly

Order No.	Port Size
170071-10XX*	2-by1
170071-20XX*	2-by-2
170071-40XX*	2-by-4
170071-60XX*	2-by-6
170071-80XX*	2-by-8

*Denotes lightpipe information:
-1001, -2001, -4001, -6001, -8001 = no lightpipe; -1011, -2011, -2012, -2013 = 2 per port; -1012, 2012, 4012, 6012, 8012 = 1 per port (inner); 1013, 2013, 4013, 6013, 8013 = 1 per port (outer)

LC Duplex Custom Cable Assemblies

Order No.	Component
Custom, contact Molex	Custom LC Duplex Cable Assemblies

Order No. 987650-6751

Printed in USA/KC/2011.12