zSFP+ (Small Form-Factor Pluggable Plus)
28 Gbps Interconnect System

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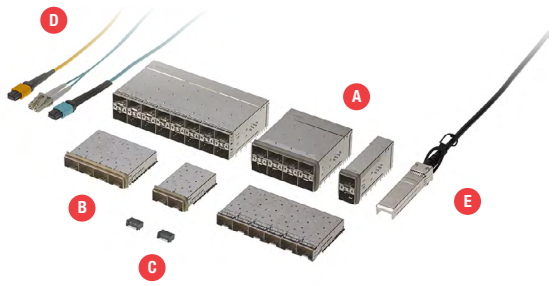
Delivering unparalleled signal integrity with superior EMI protection for next-generation Ethernet and Fibre Channel applications, the zSFP+ Interconnect System for 28 Gbps serial channels now includes Through-Flow cages for superior thermal management and heat-sink elimination



zSFP+ Interconnect System
A: Stacked Integrated Connector and Cage
B. Ganged Cage
C. SMT 20-Circuit Connector
D. LC Duplex Custom Cable Assemblies
E. Passive Copper Cable Assembly

Features and Benefits

SMT 20-Circuit Connectors (Series 170382)

Patent-pending preferential coupling design uses a narrow-edge, coupled, blanked- and formed-contact geometry and insert molding	Provides superior signal integrity (SI), mechanical and electrical performance
Capable of handling 25 Gbps data rates	Supports 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	Same PCB footprint, mating interface and EMI cage dimensions
Utilizes industry-standard footprint	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

Thru-Flow Stacked Integrated Connector and Cage (Series 172501)

EMI Ganged Cages (Series 111111)

Newly designed EMI belly gasket	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	Maximizes PCB space by allowing the use of both sides of the PCB
Identical mechanical size as existing SFP+ cages	Customers can use current SFP+ application tooling in existing manufacturing processes. 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 and heat-sink configurations	Allow for flexibility of PCB signal routing of LEDs. Provide port status and activity feedback to the user or other customer-specific activity
Second sourced by TE Connectivity	Provides a fully tested, inter-mateable solution with performance compatibility

zSFP+ 1-by-4 Ganged Cage with EMI Belly Shield

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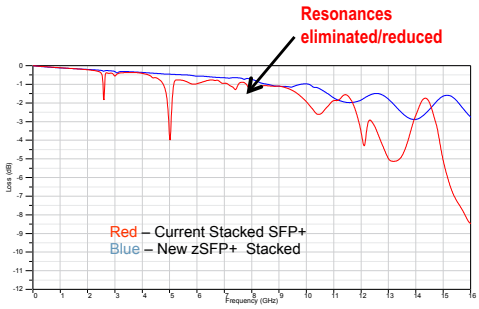
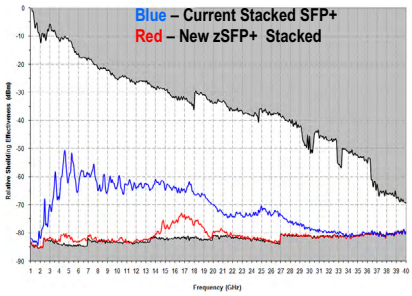
2-by-1 Stacked Integrated Connectors and Cages (Series 170071, 171224, and 172501)

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. Eliminates reflow assembly
Accepts industry-standard cables and modules	Supports legacy infrastructure
Internal vertical Electro Magnetic Interference (EMI) shield	Provides unparalleled EMI reduction performance; approaches noise floor
Metal-finger version is laser spot welded	Increases retention of the fingers to the cage during panel insertion
Low-profile metal-finger version	Allows for tighter cage-to-cage pitch. Profile height is slightly lower than standard version
Enhanced-Flow and Through-Flow thermal solutions available on stacked cages	Increases front-to-back airflow through the cage for improved thermal management. Eliminates the need for costly heat-sinks or other devices
Second sourced by TE Connectivity	Provides a fully tested, intermateable solution with performance compatibility



Typical Insertion Loss (IL) curve



Shielding effectiveness comparison

Optical LC Duplex Custom Cable Assemblies (Series 106273)

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°	Provides 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	Provide duplex connectivity while optimizing cable-routing space
Tunable connector	Optimizes insertion loss performance
Meet EIA-TIA and FOCIS 10 standards	Compliant with MSA devices

Optical LC Loopback Assemblies (Series 106052)

Designed to test Small Form Factor (SFF) and Small Form factor Pluggable (SFP) devices	Ensures quality performance in numerous applications
Compact size	Allows for testing of ganged devices with no interference
Contoured body design	For easy insertion and removal of the loopback
Available in singlemode and multimode versions	To accommodate a range of testing applications

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Applications

Telecommunication and Datacommunication Equipment

- Switches, routers, hubs
- Central office, cellular infrastructure and multi-platform service systems (DSL, Cable Data)
- Storage

Cable Box

Routers

Servers

Specifications

SMT 20-Circuit Connectors (Series 170382)

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 or 30µ" Gold
- Solder Tail Area — Tin
- Underplating — Nickel

Operating Temperature: -40 to +85°C

Ordering Information

Series No.	Contact Area Plating	Solder Tail Area Plating
170382	15 or 30µ" Gold	Tin

Specifications

EMI Ganged Cages (Series 111111)

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" Pre-plated Nickel
PCB Thickness (min.): 1.57mm single-sided applications
Operating Temperature: -40 to +85°C

Ordering Information

Order No.	Component	Port Size
100113-xxxx	Cage Assembly	1-by-2
	Lightpipe Cover	
100114-xxxx	Cage Assembly	1-by-4
	Lightpipe Cover	
100115-xxxx	Cage Assembly	1-by-6
	Lightpipe Cover	

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Specifications

2-by-1 Stacked Integrated Connectors and Cages (Series 170071, 171224, and 172501)

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

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

Ordering Information

Series No.	Port Size	EMI Containment Style
170071	2-by-1, 2-by-2, 2-by-4, 2-by-6, 2-by-8, and 2-by-12	Elastomeric Gasket
171224		Metal Spring Fingers
172501	2-by-1, 2-by-2, 2-by-4, 2-by-6, 2-by-8, and 2-by-12	

Specifications

LC Duplex Custom Cable Assemblies (Series 106273)

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

LC Loopback Assemblies (Series 106052)

REFERENCE INFORMATION
Insertion Loss: <2.0dB (1.0dB typical)
Return Loss: Singlemode >50dB
Wavelength:
Singlemode 1300 or 1550nm
Multimode 850 or 1310nm

Ordering Information

Custom Product	Description
Contact Molex	Custom LC Duplex Cable Assemblies

Order No.	Description	Mode	Fiber
106052-0010	LC Loopback Assembly	Multimode	50/125µm
106052-0030		Singlemode	9/125µm

www.molex.com/link/zsfp+.html

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