zSFP+ Interconnect System

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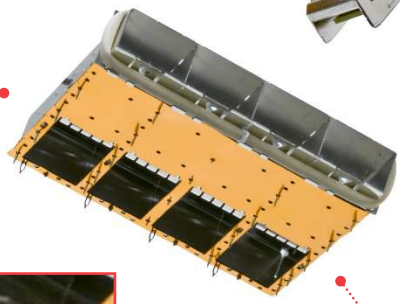
Delivering unparalleled signal integrity with superior electromagnetic interference (EMI) protection for next-generation Ethernet and Fibre Channel applications, the zSFP+ Interconnect System for 56 Gbps serial channels includes Temp-Flex passive cable assemblies and ganged cages with EMI belly gaskets

Features and Benefits

EMI Ganged Cages (Series 100113, 100114, 100115)



Optional rear lightpipe cover assemblies
Allow for flexibility of PCB signal routing of LEDs. Provide port status and activity feedback to the user or other customer-specific activity

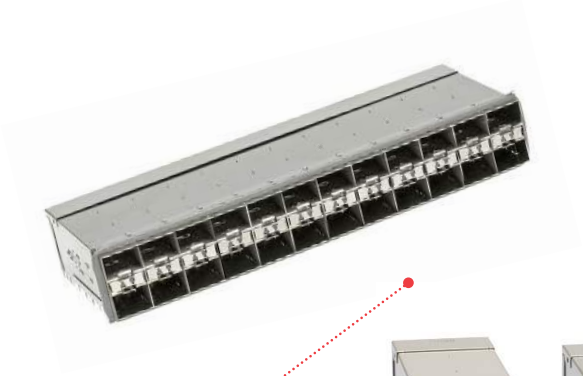
Choice of either 360° elastomeric gaskets or spring fingers
Elastomeric gaskets provide the most effective EMI shielding and allow for tolerance stackup in high-port-density applications for easier assembly. Spring fingers require 1.25mm less space between adjacent cages than elastomeric gaskets

Staggered press-fit pins accommodate belly-to-belly applications
Maximizes PCB space by allowing the use of both sides of the PCB

EMI belly gasket
Provides superior EMI shielding effectiveness compared with the standard SFP+ cage

Identical mechanical size as existing SFP+ cages
Customers can use current SFP+ application tooling in existing manufacturing processes. Provides backward-compatible legacy system connections

Stacked Integrated Connectors and Cages (Series 170071, 171224, 172501)



Low-profile metal-finger version that is spot welded
Allows for tighter cage-to-cage pitch. Profile height is slightly lower than standard version. Spot welding increases retention to cage during panel insertion

Up to 56 Gbps data-rate performance
Supports Ethernet and Fibre Channel application requirements

Next-generation terminal and host footprint design
Provides superior signal integrity (SI), mechanical and electrical performance and greatly reduced resonance over current SFP+ cages

Internal vertical EMI shield
Provides unparalleled EMI reduction performance; approaches noise floor

Accepts industry-standard cables and modules
Supports legacy infrastructure

Enhanced-Flow and Thru-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

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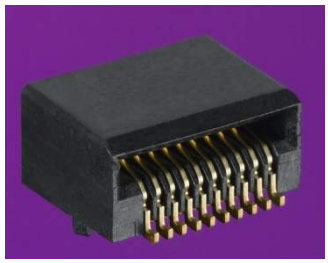
SMT 20-Circuit Connectors (Series 170382)

Coupling design uses a narrow-edge, coupled, blanked- and formed-contact geometry and insert molding
Provides superior signal integrity (SI), mechanical and electrical performance



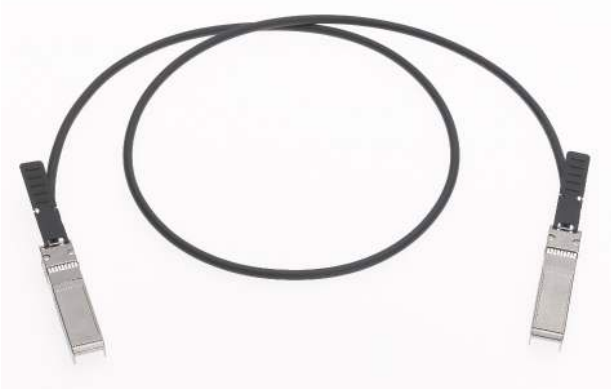
High-temperature thermoplastic housing
Withstands lead-free processing

Capable of handling 56 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)

Utilizes industry-standard footprint
Can be used as a drop-in replacement for current SFP+ designs

Temp-Flex Cable Assemblies (Series 111145)

Designed for automated termination process Improves production efficiency to maximize cost competitiveness



Meets new IEEE 802.3bj industry requirements
Guarantees reliability in 28 Gbps systems. Functions across a wide variety of next-generation technologies and applications

Cable assemblies meet EIA-TIA and FOCIS 10 standards
Compliant with MSA devices

Backward compatibility with SFP+ I/O ports
Enables utility of legacy 10 Gbps Ethernet and 16 Gbps Fibre Channel systems

Tunable connector
Optimizes insertion loss performance

Cable assemblies meet EIA-TIA and FOCIS 10 standards
Compliant with MSA devices

Cable assemblies' multiple strain-relief boot options include straight, 45° and 90°
Provides design flexibility

Available in singlemode and multimode versions
To accommodate a range of testing applications

Applications

Telecommunication/Networking

Switches, routers, hubs

Central office, cellular infrastructure and multi-platform service systems (DSL, cable data)

Storage

Data Storage

Loopback designed to test small form factor (SFF) and small form factor pluggable (SFP) devices
Ensures quality performance in numerous applications

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Specifications

Temp-Flex Cable Assemblies

REFERENCE INFORMATION
Packaging: EMI bag
Mates with: zSFP+ Connectors (170382)

ELECTRICAL
Frequency Range: 10 MHz to 25 GHz
Number of Points: 2500
Infrared Bandwidth: 1 kHz
Supply Voltage: 3.3VDC ± 5%
Supply Current (max): 0.03A at 3.135V
Power Consumption (max): 0.125W

MECHANICAL
Durability:
PL1 – Performance Level 1 – 0.38µm Gold (Au) – 50 cycles
PL2 – Performance Level 2 – 0.76µm Gold (Au) – 250 cycles

PHYSICAL
Backshells – Zinc Diecast
Pull: Nylon
Cable – 2 pair, 100 Ohms differential
RoHS compliant: Yes
Operating Temperature:
-40 to +75°C (excluding bulk cable)
Storage Temperature : -55 to +85°C

EMI Ganged Cages (Series 100113, 100114, 100115)

REFERENCE INFORMATION
Packaging: Tray
Use With: zSFP+, Optical, SFP+ and SFP® Pluggable Modules
Designed In: Millimeters
RoHS: Yes
Halogen Free: Yes

PHYSICAL
Cage: Nickel Silver
Plating: 0.032 to 0.097µ (1.27 to 3.81µ") Pre-plated Nickel
PCB Thickness (min.):
1.57mm single-sided applications
Operating Temperature: -40 to +85°C

MECHANICAL
Unmating Force (max.): 11.5N
Durability (min.): 100 cycles

SMT 20-Circuit Connectors (Series 170382)

REFERENCE INFORMATION
Reference Information
Packaging: Tape and Reel
Mates With: zSFP+® and SFP+® Pluggable Modules
Use With: 100113, 100114 and 100115 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

2-by-1 through 2-by-12 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

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
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

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Ordering Information

Temp-Flex Cable Assemblies

Series No.	Data Rate	Wire Gauge	Lengths
111145	28 Gbps	30 AWG	0.5, 1.0, 2.0, 2.5 and 3.0m
		26 AWG	2.0, 3.0, 4.0 and 5.0m

EMI Ganged Cages

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

SMT 20-Circuit Connectors

Series No.	Contact Area Plating	Solder Tail Area Plating
170382	0.38 or 0.76µ (15 or 30µ") Gold	Tin

Stacked Integrated Connectors and Cages

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	Standard
171224		Metal Spring Fingers	
172501	2-by-4, 2-by-6, 2-by-8, and 2-by-12		Thru-Flow

LC Duplex Custom Cable Assemblies and LC Loopback Assemblies

Custom Product	Description
Contact Molex	Custom LC Duplex Cable Assemblies

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

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

Order No. 987650-6751 Rev. 4 USA/0k/GF/2017.06