zSFP+ Interconnect System

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.

- **Staggered press-fit pins accommodate belly-to-belly applications**
  Maximize 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.

- **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.

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

**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.

- **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.

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

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

**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
- 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
- High-temperature thermoplastic housing
- Withstands lead-free processing

**Temp-Flex Cable Assemblies (Series 111145)**

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

- 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

- 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

**Cable assemblies’ multiple strain-relief boot options include straight, 45° and 90°**

- Provides design flexibility

**Cable assemblies meet EIA-TIA and FOCIS 10 standards**

- Compliant with MSA devices
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

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

**SMT 20-Circuit Connectors (Series 170382)**

**REFERENCE INFORMATION**
Reference Information
Packaging: Tape and Reel
Mates With: 100113, 100114 and 100115 Series
Designed In: Millimeters
RoHS: Yes
Halogen Free: Yes

**PHYSICAL**
Voltage (max.): 30V AC (RMS)/DC
Current (max.): 0.5A

**MECHANICAL**
Mating Force: 25N
Durability (min.): 250 cycles

**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

**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

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

## Ordering Information

### Temp-Flex Cable Assemblies

<table>
<thead>
<tr>
<th>Series No.</th>
<th>Data Rate</th>
<th>Wire Gauge</th>
<th>Lengths</th>
</tr>
</thead>
<tbody>
<tr>
<td>111145</td>
<td>28 Gbps</td>
<td>30 AWG</td>
<td>0.5, 1.0, 2.0, 2.5 and 3.0m</td>
</tr>
<tr>
<td></td>
<td></td>
<td>26 AWG</td>
<td>2.0, 3.0, 4.0 and 5.0m</td>
</tr>
</tbody>
</table>

### EMI Ganged Cages

<table>
<thead>
<tr>
<th>Series No.</th>
<th>Component</th>
<th>Port Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>100113</td>
<td>Cage Assembly</td>
<td>1-by-2</td>
</tr>
<tr>
<td></td>
<td>Lightpipe Cover</td>
<td></td>
</tr>
<tr>
<td>100114</td>
<td>Cage Assembly</td>
<td>1-by-4</td>
</tr>
<tr>
<td></td>
<td>Lightpipe Cover</td>
<td></td>
</tr>
<tr>
<td>100115</td>
<td>Cage Assembly</td>
<td>1-by-6</td>
</tr>
<tr>
<td></td>
<td>Lightpipe Cover</td>
<td></td>
</tr>
</tbody>
</table>

### SMT 20-Circuit Connectors

<table>
<thead>
<tr>
<th>Series No.</th>
<th>Contact Area Plating</th>
<th>Solder Tail Area Plating</th>
</tr>
</thead>
<tbody>
<tr>
<td>170382</td>
<td>0.38 or 0.76µ (15 or 30μ&quot;) Gold</td>
<td>Tin</td>
</tr>
</tbody>
</table>

### Stacked Integrated Connectors and Cages

<table>
<thead>
<tr>
<th>Series No.</th>
<th>Port Size</th>
<th>EMI Containment Style</th>
<th>EMI Containment Style</th>
</tr>
</thead>
<tbody>
<tr>
<td>170071</td>
<td>2-by-1, 2-by-2, 2-by-4, 2-by-6, 2-by-8, and 2-by-12</td>
<td>Elastomeric Gasket</td>
<td>Standard</td>
</tr>
<tr>
<td>171224</td>
<td>2-by-4, 2-by-6, 2-by-8, and 2-by-12</td>
<td>Metal Spring Fingers</td>
<td>Thru-Flow</td>
</tr>
</tbody>
</table>

### LC Duplex Custom Cable Assemblies and LC Loopback Assemblies

<table>
<thead>
<tr>
<th>Custom Product</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact Molex</td>
<td>Custom LC Duplex Cable Assemblies</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Order No.</th>
<th>Component</th>
<th>Mode</th>
<th>Fiber</th>
</tr>
</thead>
<tbody>
<tr>
<td>106052-0010</td>
<td>LC Loopback Assembly</td>
<td>Multimode</td>
<td>50/125µm</td>
</tr>
<tr>
<td>106052-0030</td>
<td>LC Loopback Assembly</td>
<td>Singlemode</td>
<td>9/125µm</td>
</tr>
</tbody>
</table>

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

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