QSFP-DD Interconnect System’s 8-lane electrical interface transmits up to 28 Gbps NRZ or 56 Gbps PAM-4, up to 200 or 400 Gbps aggregate, with the same footprint as QSFP Interconnects, making them backward compatible.

**Features and Benefits**

**28 Gbps NRZ and 56 Gbps PAM4 Cable Assemblies**

**Temp-Flex cable technology**
Boosts electrical performance. Provides excellent operational margin, short lead times and minimal end-user cost via manufacturing efficiencies.

**32 and 30 AWG cables**
Fulfills all industry application needs at lengths up to 5.0m. Enhances cost structure and lead time.

**Fully integrated design**
Incorporates all components (backshells, cable, populated PCBs) from Molex. Ensures high-quality components are compiled into a comprehensive solution with a superior cost structure.

**Meets IEEE 802.3bj, InfiniBand EDR and SAS 3.0 specifications**
Functions across a wide variety of next-generation technologies and applications.

**Double density**
Extended paddle card with two rows of high-speed context.

**Operating temperature of 20 to +85˚C**
Enables use in high temperature environments.

**Sheet Metal (Stainless Steel) EMI Cages (Series 203143, 203152, 203369, 203370, 203371, 203372)**

**Stainless steel cage construction**
Offers increased robustness versus copper alloy material.

**Identical mating interface as the QSFP+ connector for backward compatibility**
Protects end user’s current QSFP+ infrastructure investment.

**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).

**Nickel-plated heat sink**
Provides increased thermal transfer from module to heat sink.

**Stacked integrated connectors and cages are available in 2-by-1 options**
Supports pluggable applications.
QSFP-DD (Double Density) Interconnect System and Cable Assemblies

Features and Benefits

QSFP-DD SMT (Series 202178) and Stacked Integrated Connectors and Cages (Series 204058)

28 Gbps NRZ and 56 Gbps PAM4

Meets or exceeds current requirements for 200 Gigabit Ethernet and InfiniBand 100 Gigabit (EDR) applications. Supports past 10 Gbps Ethernet, 14 Gbps (FDR) InfiniBand and 16 Gbps Fibre Channel applications.

Stacked integrated connectors include a metal EMI gasket (Series 171722)

Provides superior EMI containment and suppression.

Preferred 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 frequencies up through 14 GHz.

Applications

Telecommunications Equipment

Servers
Routers
Switches
Central Office
Cellular Infrastructure
Multi-Platform Service Systems

Data Networking Equipment

Servers
Storage

Specifications

28 Gbps NRZ and 56 Gbps PAM4 Cable Assemblies

REFERENCE INFORMATION

Packaging: EMI bag

ELECTRICAL

Frequency Range: 10 MHz to 25 GHz
If Bandwidth: TBD
Supply Voltage: TBD
Supply Current (max.): TBD
Power Consumption (max.): TBD

MECHANICAL

Durability:
PL1 – Performance Level 1 - 0.38μm Au – 50 cycles, 5 year life (no FMG)
PL2 – Performance Level 2 – 0.76μm Au – 250 cycles, 10 year life (14 day FMG)

PHYSICAL

Backshells – Zinc Diecast
Pull – Nylon
De-Latch – Stainless Steel
Cable – 8pr, 100 Ohms differential, CL2
RoHS Compliant: TBD
Operating Temperature: TBD
Non-Operating Temperature: TBD
Specifications

SMT Connectors

REFERENCE INFORMATION
Packaging: Tape and Reel
UL File No.: TBD
CSA File No.: TBD
Mates With: Copper Cable Assemblies
Double-Density SMT will mate with Series 201591
Designed In: Millimeters

ELECTRICAL
Voltage: 30V
Current (max.): TBD
Contact Resistance (max.): TBD
Dielectric Withstanding Voltage: TBD
Insulation Resistance (min.): TBD

MECHANICAL
Contact Retention to Housing: TBD
Mating Force: TBD
Unmating Force: TBD
Durability: TBD

Stacked Integrated Connectors and Cages

REFERENCE INFORMATION
Packaging: Tray
UL File No.: TBD
Mates With: Copper Cable Assemblies (Series 201591)
Designed In: Millimeters

ELECTRICAL
Voltage: 30V
Current (max.): 0.5A; power contacts TBD
Contact Resistance (max.): TBD
Dielectric Withstanding Voltage: TBD
Insulation Resistance (min.): TBD

MECHANICAL
Mating Force: 0.75N per circuit
Unmating Force: 0.25N per circuit
Durability: 100 cycles for 30μ" Gold (Au) plating

EMI Sheet-Metal Cages

REFERENCE INFORMATION
Packaging: Tray and Box
Mates with: QSFP+ Cable Assemblies (Series 74757, 111040) QSFP+ Loopback Adapter (Series 74763) zQSFP+ Cables (Series 111114) QSFP+ Double Density Cable Assemblies (Series 201591) Use With: Connector (Series 202718)
Designed In: Millimeters

MECHANICAL
Durability:
1 insertion to PCB
1-by-1 Mating Force (max.): TBD
1-by-1 Unmating Force (max.): TBD
1-by-6 Mating Force (max.): TBD
1-by-6 Unmating Force (max.): TBD

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 (Sn)
Underplating — Nickel (Ni)
RoHS Compliant: Yes — By Exemption
Operating Temperature: TBD

Ordering Information

<table>
<thead>
<tr>
<th>Series No.</th>
<th>Component</th>
<th>Port Configuration</th>
<th>Rows</th>
<th>Poles</th>
</tr>
</thead>
<tbody>
<tr>
<td>203143</td>
<td>EMI Cage</td>
<td>1 by 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>203152</td>
<td></td>
<td>1 by 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>203390</td>
<td></td>
<td>1 by 3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>203370</td>
<td></td>
<td>1 by 4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>203371</td>
<td></td>
<td>1 by 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>203372</td>
<td></td>
<td>1 by 6</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Series No.</th>
<th>Component</th>
</tr>
</thead>
<tbody>
<tr>
<td>204058</td>
<td>Stacked Cages</td>
</tr>
<tr>
<td>202718</td>
<td>SMT Connector</td>
</tr>
</tbody>
</table>

www.molex.com/link/qsfppdd.html

Molex is a registered trademark of Molex, LLC in the United States of America and may be registered in other countries; all other trademarks listed herein belong to their respective owners.

Order No. 987651-7031 Rev. 1 USA/04/GF/2018.01 © 2018 Molex