

QSFP-DD (Double Density) Interconnect System and Cable Assemblies >

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 ADVANTAGES

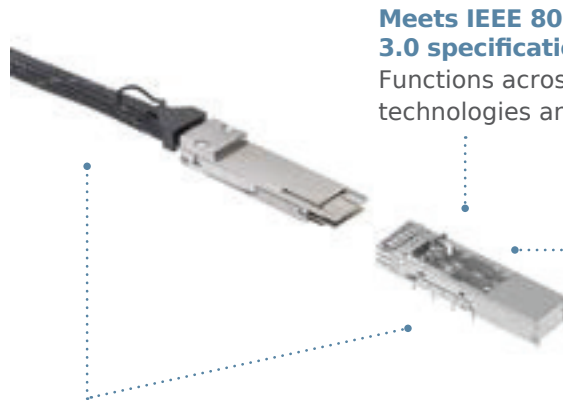
28 Gbps NRZ and 56 Gbps PAM4 Cable Assemblies

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



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

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

Operating temperature of 20 to +85°C

Enables use in high temperature environments

FEATURES AND ADVANTAGES

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)

Stacked integrated connectors and cages are available

Supports pluggable applications



Nickel-plated heat sink

Provides increased thermal transfer from module to heat sink

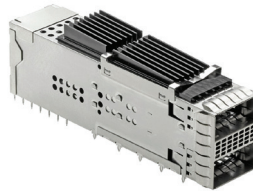
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FEATURES AND ADVANTAGES

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

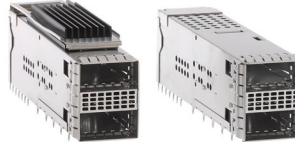


Surface Mount Technology (SMT) design (Series 202718 version only)

Provides the option for placement on both sides of the PCB

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

Provides superior EMI containment and suppression



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) of <math><0.8\text{dB}</math> at frequencies up through 14 GHz

0.80mm-pitch host connector designed for placement beneath EMI cage

Supports pluggable applications

APPLICATIONS

Telecommunications Equipment

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

Data Networking Equipment

- Servers
- Storage



Drones

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 -
 0.38 μm Au – 50 cycles, 5 year life (no FMG)
 PL2 – Performance Level 2 –
 0.76 μm 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

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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

PHYSICAL

Housing: High-Temperature Thermoplastic
 Glass-Filled, UL 94V-0, Black
 Contact: Copper (Cu) Alloy
 Plating: Contact Area — 30 μ m (0.76 μ m) Gold (Au)
 Solder Tail Area — Tin (Sn)
 Underplating — Nickel (Ni)
 RoHS Compliant: Pending
 Operating Temperature: 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 2.0A
 Contact Resistance (max.): TBD
 Dielectric Withstanding Voltage: TBD
 Insulation Resistance (min.): TBD

PHYSICAL

Housing: High-Temperature Thermoplastic
 Glass Filled, UL 94V-0, Black
 Contact: Copper (Cu) Alloy
 Plating:
 Contact Area — 30 μ m (0.76 μ m) Gold (Au)
 Signal Tail Area — Tin / Lead (Sn/Pb)
 Underplating — Nickel (Ni)
 RoHS Compliant: Yes – By Exemption
 Operating Temperature: -25 to +65°C

MECHANICAL

Mating Force: 0.75N per circuit
 Unmating Force: 0.25N per circuit
 Durability: 100 cycles for 30 μ m 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

ELECTRICAL

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

Plating: Nickel (Ni)
 Sheet Metal: Stainless Steel
 Heat Sink: Aluminum (Al)
 Heat Sink Finish: Nickel (Ni)
 Operating Temperature: TBD

ORDERING INFORMATION

| Series No. | Component | Port Configuration | Rows | Poles |
|------------------------|-----------|--------------------|--------|--------------|
| 203143 | EMI Cage | 1 by 1 | Single | 5-Pole Power |
| 203152 | | 1 by 2 | | |
| 203369 | | 1 by 3 | | |
| 203370 | | 1 by 4 | | |
| 203371 | | 1 by 5 | | |
| 203372 | | 1 by 6 | | |

| Series No. | Component |
|------------------------|---------------|
| 204058 | Stacked Cages |
| 202718 | SMT Connector |

www.molex.com/link/qsfpdd.html