ExpressPort™ QSFP+ / QSFP



The ExpressPort™ QSFP+/QSFP interconnect system is comprised of a 38-position 0.8 mm pitch SMT connector, and a press-fit cage designed to comply with the Quad Small Form-factor Pluggable (QSFP) Transceiver intended for external connections. High speed serial interconnect applications include clusters, servers, and storage devices.

The ExpressPort[™] QSFP+ E-Series and H-Series connector families are rated to 28 Gbps and 40 Gbps respectively per channel (4x28), featuring a stamped and formed contact design providing improved mechanical durability. This connector features an integrated grounding structure and resonance dampening features for superior crosstalk performance. The contact design is optimized for a smooth impedance profile resulting in improved SI performance.

Specification Highlights

The QSFP interconnect system is comprised of a press-fit cage assembly which is used with 38-position connectors complying with QSFP Transceiver Specifications.

Mechanical Characteristics

- Cage is Keyed According to QSFP MSA
 - o QSFP+: SFF-8436
 - o E-Series: SFF-8672
 - o H-Series: TBD
- Durability: 250 Mating Cycles min
- Connector Insertion Force: 40 N max
- Connector Withdrawal Force: 30 N max

Electrical Characteristics

- Hot Swappable
- Operating Voltage: 30 V
- Operating Current: 0.5 A
- Differential Impedance: $100 \Omega + /- 10 \Omega$
- DWV: 300 V AC
- Insulation Resistance: 1000 MΩ min
- Contact Resistance: 70 mΩ max

Packaging

- Tape and Reel Packaging: Connector or 1x1 Cage
- Tray Packaging: Cage of all Sizes
- Bulk Packaging: Dust Cover

Temperature Rating

- Operating Temperature: -40°C to +85°C
- Storage Temperature: -40°C to +85°C

Configurations (Rows x Ports per Row)

• 1x1 • 1x2 • 1x3 • 1x4 • 1x6

Options

- Dust Cover
- Light Pipe
 - o Round 1.4 mm
 - o Square 2.6x2.6 mm
- Heat Sink
- Cage Design
 - o Through or Behind the Bezel

Materials

- Cage
 - o Base Material: Copper Alloy
 - o Plating: Nickel or Tin
 - o Light Pipe: Optical Grade Polycarbonate
 - o Heat Sink: Aluminum Alloy
 - o Heat Sink Clip: Stainless Steel
 - o Dust Cover: Thermoplastic
- Connector
 - o Contact Base Material: Copper Alloy
 - o Contact Plating: Gold on Mating Area, Matte Tin on Terminations and Grounding Tabs
 - Housings: Glass Reinforced, Lead-Free Solder Reflow Process Compatible Thermoplastic, UL94V-0 Rated

Signal Integrity Characteristics

QSFP, ExpressPort[™] QSFP+

- Return Loss: -12 dB
- Near-End Isolation: -30 dB (frequencies up to 3 GHz)
- Insertion Loss: -1 dB max
- Rise Time for Impedance Measurement: 35 ps
- Within Pair Skew: 1 ps
- NEXT: ≤ 2%

ExpressPort[™] QSFP+ E-Series Connector

- Return Loss: -12 dB max (frequencies up to 14 GHz)
- Insertion Loss: 1.4 dB max (frequencies up to 14 GHz)
- Common Mode Conversion: -24 dB max (up to 14 GHz)
- Integrated Crosstalk Noise: 3 mV rms
 - Assumes 3 Nearest-Neighbour (most detrimental)
 Aggressor Parameters and Receiver Parameters:
 - o Near- and Far-End Aggressors' Peak Differential Amplitude: 600 mV
 - o Near- & Far-End Aggressors' 20-80% Risetime: 9.6 ps
 - o 3 dB Reference Receiver Bandwidth: 18.75 GHz
 - o Range of Integration: 10 MHz to 40 GHz
 - o MDNEXT: 1 mV rms; MDFEXT: 2.8 mV rms

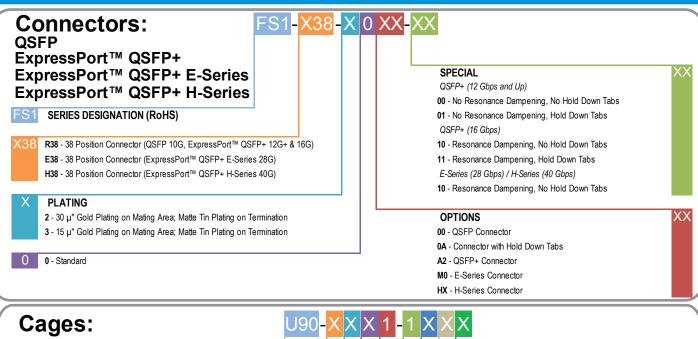
ExpressPort™ QSFP+ H-Series Connector

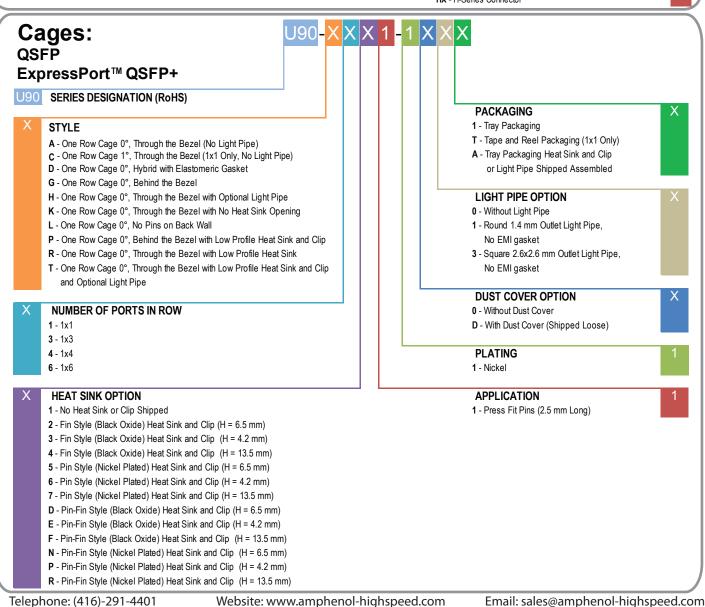
- Return Loss: < -20 dB to 12GHz, -12 dB to 20GHz
- Near End Isolation: -40 to 20 GHz
- Insertion Loss: -1dB up to 20GHz
- Differential Impedance:100 +/- 5Ω at 35 ps
- Within pair skew: <1 ps





Ordering Information





Website: www.amphenol-highspeed.com All specifications are subject to change without notice. Email: sales@amphenol-highspeed.com