

QSFP



The interconnect system comprises a 38 position 0.8mm pitch connector and a press-fit cage designed to comply with the Quad Small Form-factor Pluggable (QSFP) Transceiver Specifications.

The connector system is capable of data rates beyond 5 Gigabits per channel (4 channels) and is intended for external connections (38 position connector).

Applications

- Clusters
- Servers
- Storage devices

Supporting multiple data transfer protocols:

- Infiniband – 4x SDR/DDR
- SONET/SDH – OC-12/OC-48
- 10 Gigabit Ethernet / 4 x 3.125 Gb/s
- Quad Fibre Channel (1/2/4 Gb/s)
- PCI Express 4x

Product Specification for QSFP connector system

Connector Mechanical Characteristics

Insertion force: 40 N maximum
Withdrawal force: 30 N maximum
Durability: 250 mating cycles

Cage Mechanical Characteristics

Cages available with and without Heat Sinks
Cages are press-fit into PCBs
Cage is keyed according to QSFP MSA

Connector Electrical Characteristics

Maximum current: 0.5A per contact
Maximum voltage: 30V per contact
LLCR: 80 mΩ max
Insulation Resistance: 1000 MΩ at 100V DC for 60 seconds
DWV: 300 V minimum DC for 60 seconds

Signal Integrity Requirements

Return Loss: 10dB
Near end isolation: -40dB (frequencies up to 3 GHz)
Insertion loss: 0.13 dB maximum (frequencies up to 1.25 GHz)
0.25 dB maximum (frequencies 1.25 – 2.50 GHz)
0.25 dB maximum (frequencies 2.50 – 5.00 GHz)
Differential impedance: 90 – 110 Ω
Rise time for impedance measurement: 25 ps
Within pair skew: <1 ps
NEXT: ≤ 2%

Materials

Connector

- Contacts
 - Base material – phosphor bronze
 - Contact Normal Force – 100 g nominal
 - Cut edge
 - Plating
 - Mating area – refer to p/n table
 - Solder tails – refer to p/n table
- Housings: black color, glass-reinforced, lead-free solder reflow process compatible thermoplastic, UL94V-0 rated

Temperature rise: Meets the requirement of 30°C ΔT

Cage

- Base material – copper alloy
- Plating – 100μ" Nickel plated

Heat Sink

- Base material – anodized aluminum

Heat Sink Clip

- Base material – steel

Operating temperature -40° to +85°C

Storage temperature -40° to +85°C

Ordering Information

Contact Amphenol for additional options

QSFP Cage

U90 - X X X 1 - X X X X

SERIES DESIGNATION

STYLE

- A - One row
- C - One row 1° version

NUMBER OF PORT IN ROW

- 1 - Single port
- Other options being developed

HEAT SINK OPTION

- 1 - No Heat Sink
- 2 - 6.5mm tall Heat Sink and clip
- 3 - 4.2 mm tall Heat Sink and clip
- 4 - 13.5 mm tall Heat Sink and clip
- Other options available

PACKAGING

- 1 - Tray packaging
- T - Tape and reel packaging
- A - Tray packaging, heat sink and clip already assembled on cage

LIGHT PIPES OPTION

- 0 - Standard, Light pipes and clips supplied separately
- 1 - With light pipes installed

OPTIONAL DUST COVER

- 0 - Without dust cover
- D - With dust cover (Ship loose)

PLATING

- 1 - Nickel plated cage

APPLICATION

- 1 - Press Fit Pins - 3 mm Long

Ordering Information

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QSFP Connector Part Numbers

FS1 - R38 - X 0 0 X

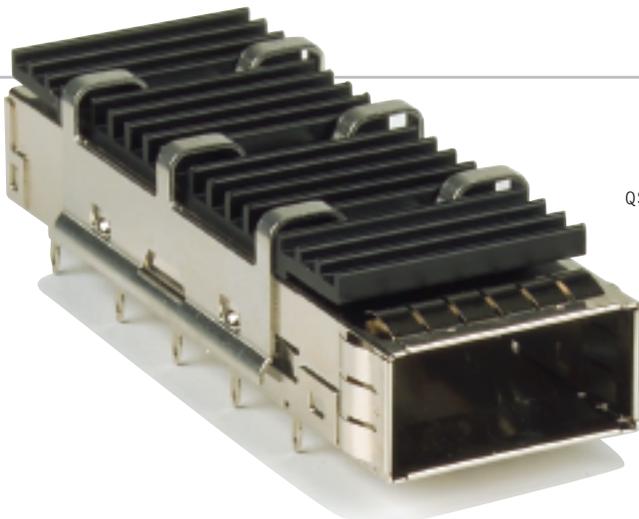
R38 - 38 position connector

OPTIONS

- 0 - Standard connector
- 1 - Connector with hold down tabs

PLATING

- 2 - 50µ" nickel under-plate all over, 30µ" gold in mating area/ 100µ" matte tin on tails
- 3 - 50µ" nickel under-plate all over, 15µ" gold in mating area/ 100µ" matte tin on tails



QSFP with 4.2mm Heat Sink option



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All specifications are subject to change without notice.