



Features

- Four-channel full-duplex active optical cable with breakout from QSFP+ to four SFP+
- Up to 10.3125Gb/s per channel
- Hot-pluggable QSFP+ and SFP+ MSA-compliant connectors
- Low power dissipation: <1.5W on QSFP+ end, <1W on SFP+ ends
- Built-in digital diagnostic functions
- Commercial operating case temperature range: 0 to 70°C
- RoHS-6 compliant (lead free)

Applications

- High performance computing interconnect
- InfiniBand SDR/DDR/QDR interconnect
- 4x 10G Ethernet interconnect

Absolute Maximum Ratings

| Parameter | Symbol | Min. | Max. |
|-----------------------------------|--------|-------|------|
| Supply Voltage | Vcc | -0.3V | 3.6V |
| Storage Temperature | Ts | -20°C | 85°C |
| Case Operating Temperature | Tc | 0°C | 70°C |
| Relative Humidity(non-condensing) | RH | 5% | 95% |

General Product Characteristics

| Parameter | Value | Note |
|---|--|------|
| Module Form Factor ₁ | QSFP+ and SFP+ | 1 |
| Number of Lanes | 4 Tx and 4 Rx | |
| Maximum Aggregate Data Rate | 41.25Gb/s | |
| Maximum Data Rate per Lane | 10.3125Gb/s | |
| Protocols Supported | 10G Ethernet | |
| Electrical Interface and Pin-out ₁ | 38-pin edge connector (QSFP+), 20-pin edge connector (SFP+) | 1 |
| Maximum Power Consumption per End | 1.5W (QSFP+), 1W (SFP+) | |
| Management Interface ₄ | Serial, I ₂ C-based | 2 |

Notes:

1. As defined by QSFP+ MSA and SFP+ MSA, "INF-8438i Rev 1.0", "SFF-8431, Revision 4.1".
2. As defined by "SFF-8636 Rev 2.6", "SFF-8472 Rev 11.0".

Electrical Specifications

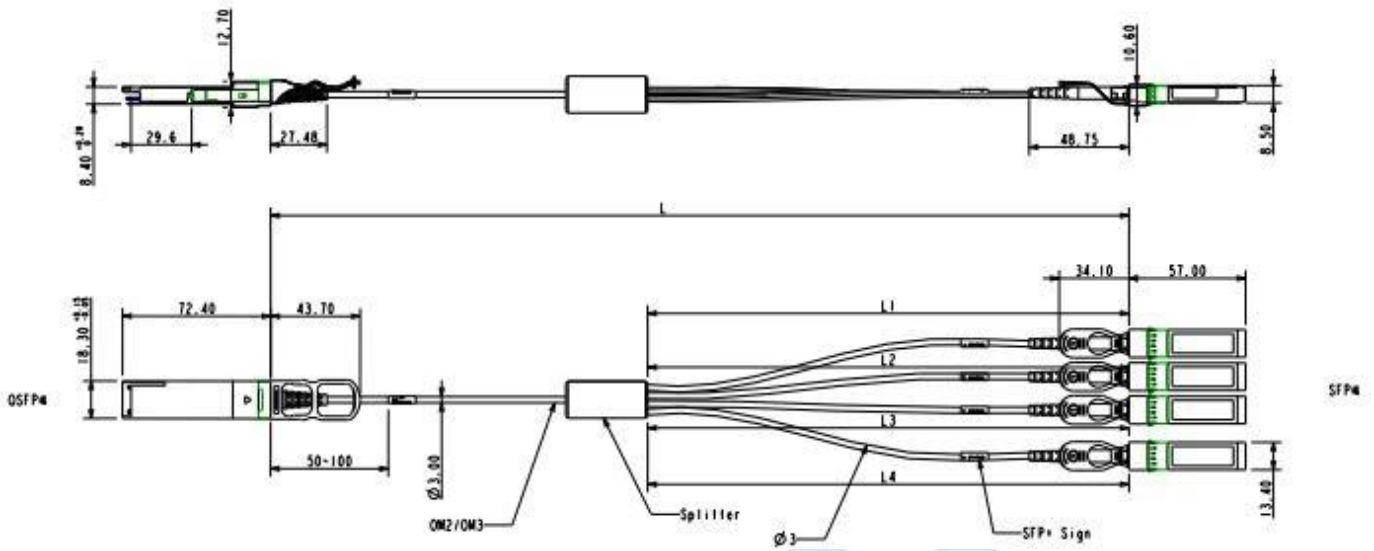
($T_c = 0$ to 70°C , $V_{cc} = 3.3 \pm 5\%V$)

| Parameter | Symbol | Min | Typical | Max | Note |
|---------------------------------------|-------------------|----------------------|---------|-------------------|------|
| Differential Input Impedance | Z _{in} | 90Ω | 100Ω | 110Ω | |
| Differential Output Impedance | Z _{out} | 90Ω | 100Ω | 110Ω | |
| Differential Input Voltage Amplitude | ΔV _{in} | 300mV | | 1100mV | 1 |
| Differential Output Voltage Amplitude | ΔV _{out} | 500mV | | 800mV | 2 |
| Skew | Sw | | | 300ps | |
| Bit Error Rate | BER | | | 10 ⁻¹² | |
| Input Logic Level High | V _{IH} | 2.0V | | V _{cc} | |
| Input Logic Level Low | V _{IL} | 0V | | 0.8V | |
| Output Logic Level High | V _{OH} | V _{cc} -0.5 | | V _{cc} | |
| Output Logic Level Low | V _{OL} | 0V | | 0.4V | |

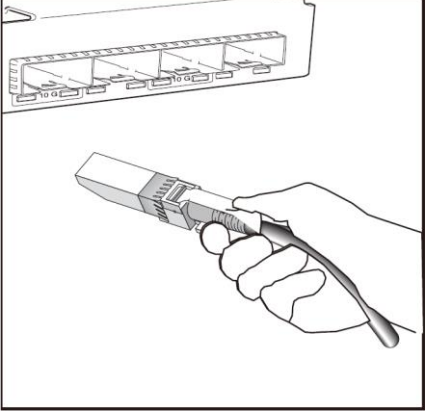
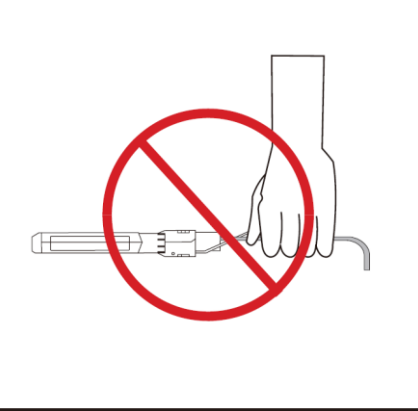
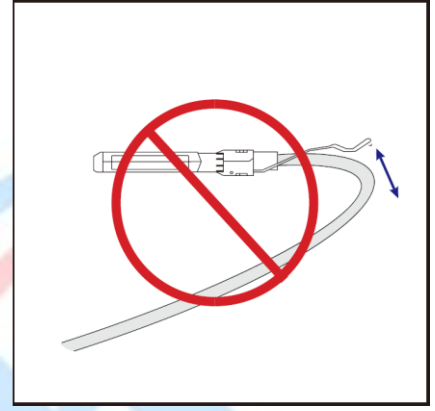
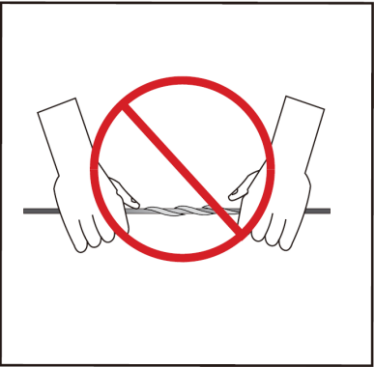

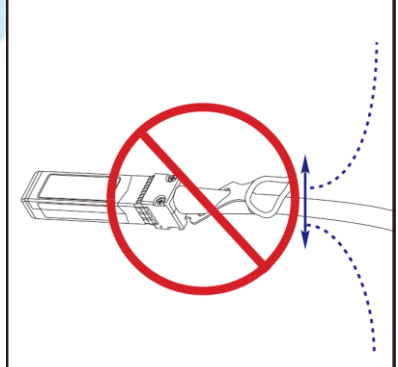
Notes:

1. Measured between TxnP and TxnN.
2. Measured between RxnP and RxnN.

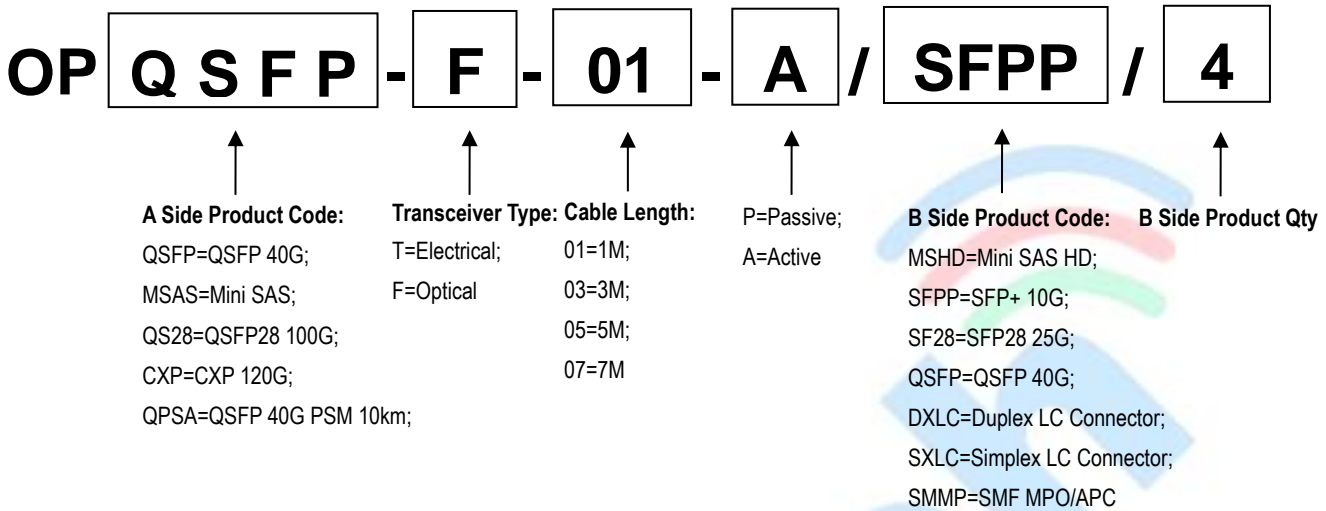
Dimensions



Important Notice

| | | |
|--|---|---|
|  |  |  |
| <p>Holding the SFP+ connector by its sides, insert the connector into the port on the switch</p> | <p>Do not handle by cable</p> | <p>DO NOT Over-bend the cable behind the connector</p> |
|  |  |  |
| <p>DO NOT twist the cable</p> | <p>DO NOT kink the cable</p> | <p>DO NOT bend up and down the cable</p> |

Ordering Information



| Part Number | Model Number | Length (M) | Voltage | Temperature |
|----------------------|----------------------|------------|---------|-------------|
| OPQSFP-F-01-A/SFPP/4 | Active Optical Cable | 1 | 3.3V | 0°C ~ 70°C |
| OPQSFP-F-03-A/SFPP/4 | Active Optical Cable | 3 | 3.3V | 0°C ~ 70°C |
| OPQSFP-F-05-A/SFPP/4 | Active Optical Cable | 5 | 3.3V | 0°C ~ 70°C |
| OPQSFP-F-07-A/SFPP/4 | Active Optical Cable | 7 | 3.3V | 0°C ~ 70°C |
| OPQSFP-F-10-A/SFPP/4 | Active Optical Cable | 10 | 3.3V | 0°C ~ 70°C |
| OPQSFP-F-50-A/SFPP/4 | Active Optical Cable | 50 | 3.3V | 0°C ~ 70°C |
| OPQSFP-F-A0-A/SFPP/4 | Active Optical Cable | 100 | 3.3V | 0°C ~ 70°C |

Note: All information contained in this document is subject to change without notice.