

JNP-QSFPP-40G-BXSR-C

Juniper Networks® JNP-QSFPP-40G-BXSR Compatible TAA 40GBase-SR QSFP+ Transceiver (MMF, 832nm to 918nm, 150m, LC, DOM)

Features:

- SFF-8436 Compliance
- Duplex LC Connector
- Multi-mode Fiber
- Commercial Temperature 0 to 70 Celsius
- Hot Pluggable
- Metal with Lower EMI
- Excellent ESD Protection
- RoHS Compliant and Lead Free



Applications:

- 40GBase Ethernet
- Access and Enterprise

Product Description

This Juniper Networks® JNP-QSFPP-40G-BXSR compatible QSFP+ transceiver provides 40GBase-BX throughput up to 150m over multi-mode fiber (MMF) using a wavelength of 832nm to 918nm via an LC connector. It is guaranteed to be 100% compatible with the equivalent Juniper Networks® transceiver. This easy to install, hot swappable transceiver has been programmed, uniquely serialized and data-traffic and application tested to ensure that it will initialize and perform identically. Digital optical monitoring (DOM) support is also present to allow access to real-time operating parameters. This transceiver is Trade Agreements Act (TAA) compliant. We stand behind the quality of our products and proudly offer a limited lifetime warranty.

ProLabs' transceivers are RoHS compliant and lead-free.

TAA refers to the Trade Agreements Act (19 U.S.C. & 2501-2581), which is intended to foster fair and open international trade. TAA requires that the U.S. Government may acquire only "U.S. – made or designated country end products."



Absolute Maximum Ratings

| Parameter | Symbol | Min. | Typ. | Max. | Unit |
|---------------------|--------|------|------|------|------|
| Storage Temperature | Ts | -40 | | 85 | °C |
| Supply Voltage | VccT,R | -0.5 | | 4 | V |
| Relative Humidity | RH | 0 | | 85 | % |

Recommended Operating Conditions

| Parameter | Symbol | Min. | Typ. | Max. | Unit |
|----------------------------|--------|-------|------|------|------|
| Case operating Temperature | Tc | 0 | | 70 | °C |
| Supply Voltage | Vcct,R | +3.13 | 3.3 | 3.47 | V |
| Supply Current | Icc | | | 1000 | mA |
| Power Dissipation | PD | | | 3.5 | W |

Electrical Characteristics

| Parameter | Symbol | Min. | Typ. | Max. | Unit | Notes |
|---------------------------------------|--------|------|---------|------|------|-------|
| Data Rate per Channel | | | 10.3125 | 11.2 | Gbps | |
| Power Consumption | | | 2.5 | 3.5 | W | |
| Supply Current | ICC | | 0.75 | 1.0 | A | |
| Control I/O Voltage-High | VIH | 2.0 | | Vcc | V | |
| Control I/O Voltage-Low | VIL | 0 | | 0.7 | V | |
| Inter-Channel Skew | TSK | | | 150 | Ps | |
| RESETL Duration | | | 10 | | Us | |
| RESETL De-assert time | | | | 100 | ms | |
| Power On Time | | | | 100 | ms | |
| Transmitter | | | | | | |
| Single Ended Output Voltage Tolerance | | 0.3 | | 4 | V | 1 |
| Common mode Voltage Tolerance | | 15 | | | mV | |
| Transmit Input Diff Voltage | VI | 120 | | 1200 | mV | |
| Transmit Input Diff Impedance | ZIN | 80 | 100 | 120 | | |
| Data Dependent Input Jitter | DDJ | | | 0.1 | UI | |
| Data Input Total Jitter | TJ | | | 0.28 | UI | |
| Receiver | | | | | | |
| Single Ended Output Voltage Tolerance | | 0.3 | | 4 | V | 1 |
| Rx Output Diff Voltage | Vo | | 600 | 800 | mV | |
| Rx Output Rise and Fall Voltage | Tr/Tf | | | 35 | ps | 1 |
| Total Jitter | TJ | | | 0.7 | UI | |
| Deterministic Jitter | DJ | | | 0.42 | UI | |

Notes:

1. 20~80%

Optical Characteristics

| Parameter | Symbol | Min. | Typ. | Max. | Unit | Notes |
|-----------------------------------|-----------|------|------|------|-------|-------|
| Transmitter | | | | | | |
| Optical Wavelength CH1 | λ | 832 | 850 | 868 | nm | |
| Optical Wavelength CH2 | λ | 882 | 900 | 918 | nm | |
| RMS Spectral Width | Pm | | 0.5 | 0.65 | nm | |
| Average Optical Power per Channel | Pavg | -4 | -2.5 | 5.0 | dBm | |
| Laser Off Power Per Channel | Poff | | | -30 | dBm | |
| Optical Extinction Ratio | ER | 3.5 | | | dB | |
| Relative Intensity Noise | RIN | | | -128 | dB/Hz | 1 |
| Optical Return Loss Tolerance | | | | 12 | dB | |
| Receiver | | | | | | |
| Optical Center Wavelength CH1 | λ | 882 | 900 | 918 | nm | |
| Optical Center Wavelength CH2 | λ | 832 | 850 | 868 | nm | |
| Receiver Sensitivity per Channel | R | | -11 | | dBm | |
| Maximum Input Power | Pmax | 0.5 | | | dBm | |
| Receiver Reflectance | Rrx | | | -12 | dB | |
| LOS De-Assert | LOSD | | | -14 | dBm | |
| LOS Assert | LOSA | -30 | | | dBm | |
| LOS Hysteresis | LOSH | 0.5 | | | dB | |

Notes:

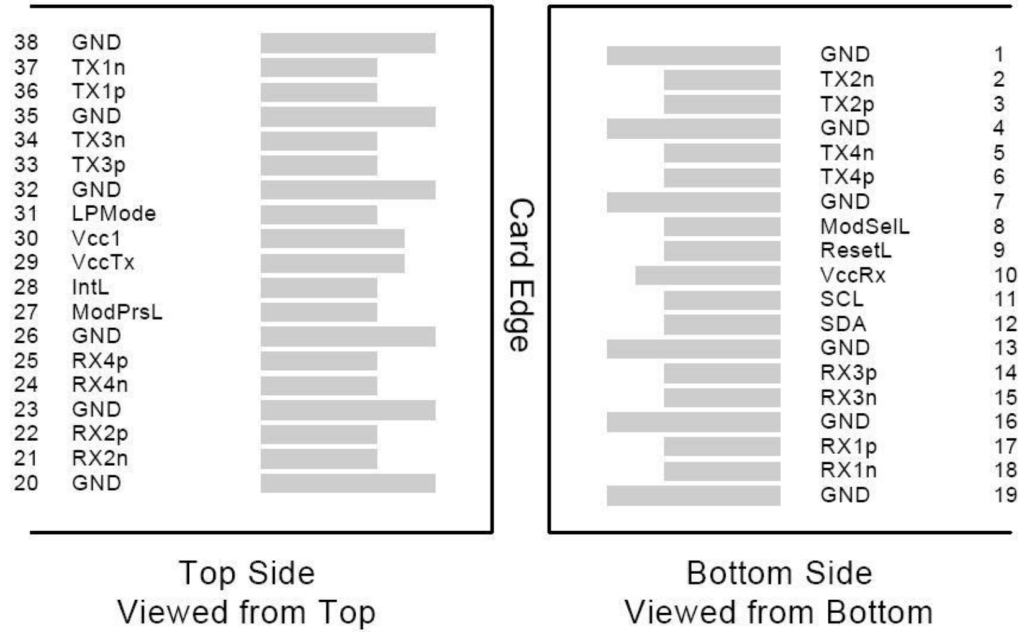
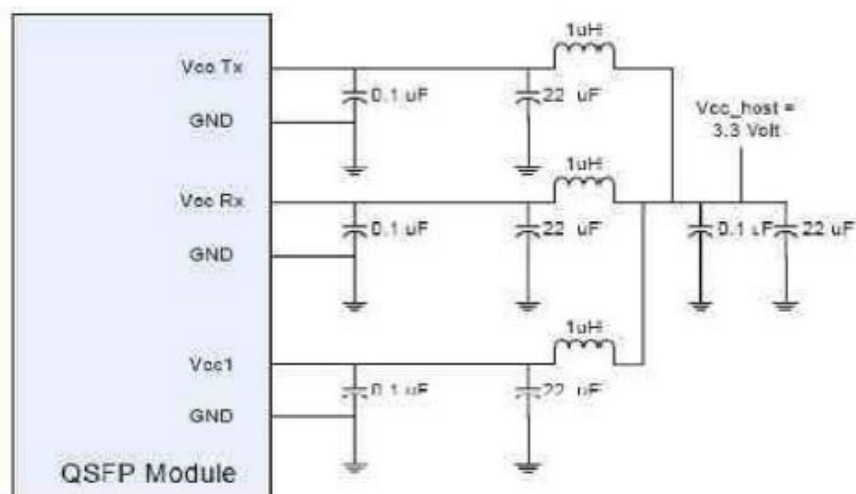
1. 12dB Reflection

Pin Descriptions

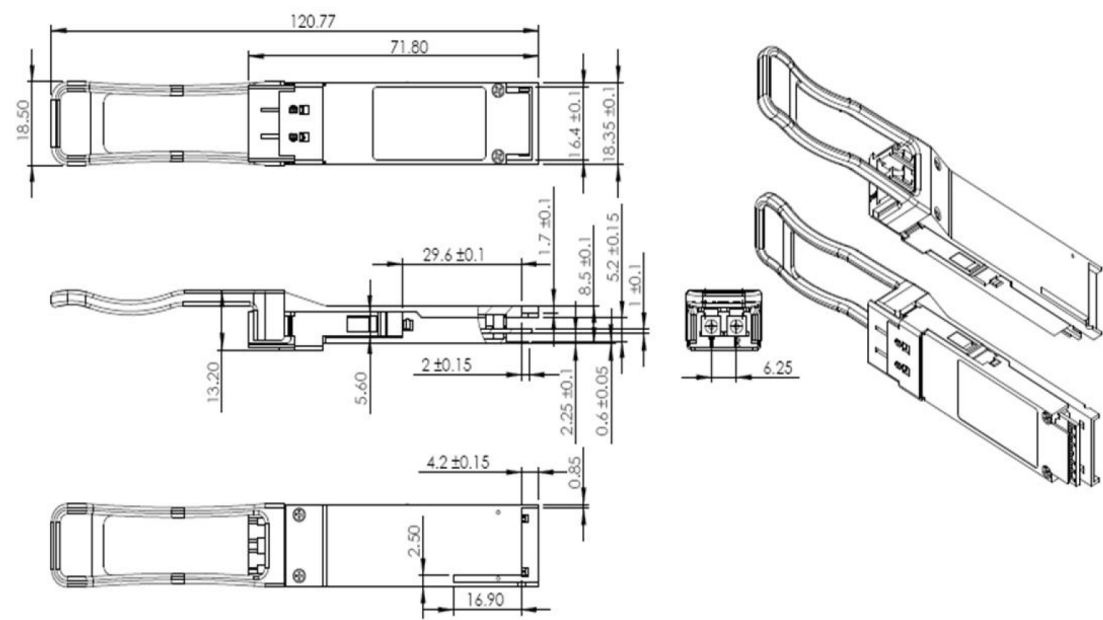
| Pin | Logic | Symbol | Name/Descriptions | Ref. |
|-----|-------------|---------------------|--|------|
| 1 | | GND | Module Ground | 1 |
| 2 | CML-I | Tx2- | Transmitter inverted data input | |
| 3 | CML-I | Tx2+ | Transmitter non-inverted data input | |
| 4 | | GND | Module Ground | 1 |
| 5 | CML-I | Tx4- | Transmitter inverted data input | |
| 6 | CML-I | Tx4+ | Transmitter non-inverted data input | |
| 7 | | GND | Module Ground | 1 |
| 8 | LVTTL-I | MODSEIL | Module Select | 2 |
| 9 | LVTTL-I | ResetL | Module Reset | 2 |
| 10 | | VCCR _x | +3.3v Receiver Power Supply | |
| 11 | LVC MOS-I | SCL | 2-wire Serial interface clock | 2 |
| 12 | LVC MOS-I/O | SDA | 2-wire Serial interface data | 2 |
| 13 | | GND | Module Ground | 1 |
| 14 | CML-O | RX3+ | Receiver non-inverted data output | |
| 15 | CML-O | RX3- | Receiver inverted data output | |
| 16 | | GND | Module Ground | 1 |
| 17 | CML-O | RX1+ | Receiver non-inverted data output | |
| 18 | CML-O | RX1- | Receiver inverted data output | |
| 19 | | GND | Module Ground | 1 |
| 20 | | GND | Module Ground | 1 |
| 21 | CML-O | RX2- | Receiver inverted data output | |
| 22 | CML-O | RX2+ | Receiver non-inverted data output | |
| 23 | | GND | Module Ground | 1 |
| 24 | CML-O | RX4- | Receiver inverted data output | |
| 25 | CML-O | RX4+ | Receiver non-inverted data output | |
| 26 | | GND | Module Ground | 1 |
| 27 | LVTTL-O | ModPrsL | Module Present, internal pulled down to GND | |
| 28 | LVTTL-O | IntL | Interrupt output should be pulled up on host board | 2 |
| 29 | | VCCT _x | +3.3v Transmitter Power Supply | |
| 30 | | VCC1 | +3.3v Power Supply | |
| 31 | LVTTL-I | LPM _{Mode} | Low Power Mode | 2 |
| 32 | | GND | Module Ground | 1 |
| 33 | CML-I | Tx3+ | Transmitter non-inverted data input | |
| 34 | CML-I | Tx3- | Transmitter inverted data input | |
| 35 | | GND | Module Ground | 1 |
| 36 | CML-I | Tx1+ | Transmitter non-inverted data input | |
| 37 | CML-I | Tx1- | Transmitter inverted data input | |
| 38 | | GND | Module Ground | 1 |

Notes:

1. Module circuit ground is isolated from module chassis ground with in the module.
2. Open collector; should be pulled up with 4.7k-10k ohms on host board to a voltage between 3.15V and 3.6V.

Electrical Pin-out Details**Recommended Circuit Schematic**

Mechanical Specifications



About ProLabs

Our experience comes as standard; for over 15 years ProLabs has delivered optical connectivity solutions that give our customers freedom and choice through our ability to provide seamless interoperability. At the heart of our company is the ability to provide state-of-the-art optical transport and connectivity solutions that are compatible with over 90 optical switching and transport platforms.

Complete Portfolio of Network Solutions

ProLabs is focused on innovations in optical transport and connectivity. The combination of our knowledge of optics and networking equipment enables ProLabs to be your single source for optical transport and connectivity solutions from 100Mb to 400G while providing innovative solutions that increase network efficiency. We provide the optical connectivity expertise that is compatible with and enhances your switching and transport equipment.

Trusted Partner

Customer service is our number one value. ProLabs has invested in people, labs and manufacturing capacity to ensure that you get immediate answers to your questions and compatible product when needed. With Engineering and Manufacturing offices in the U.K. and U.S. augmented by field offices throughout the U.S., U.K. and Asia, ProLabs is able to be our customers best advocate 24 hours a day.



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