**81.71T-Q40GSR4-R6-AO**

Coriant® 81.71T-Q40GSR4-R6 Compatible TAA 40GBase-SR4 QSFP+ Transceiver (MMF, 850nm, 150m, MPO, DOM)

**Features**

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

**Applications**

- 4x10G Breakout Option
- 40GBase Ethernet
- Access and Enterprise

**Product Description**

This Tellabs® 81.71T-Q40GSR4-R6 compatible QSFP+ transceiver provides 40GBase-SR4 throughput up to 150m over multi-mode fiber (MMF) using a wavelength of 850nm via an MPO connector. It is guaranteed to be 100% compatible with the equivalent Tellabs® 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.

AddOn's 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."

TAA COMPLIANT

## Absolute Maximum Ratings

| Parameter | Symbol | Min. | Typ. | Max. | Unit |
|---|---|---|---|---|---|
| **Supply Voltage** | Vcc | -0.5 | | 4.0 | V |
| **Storage Temperature** | Tstg | -40 | | 85 | °C |
| **Operating Case Temperature** | Tc | 0 | 25 | 70 | °C |
| **Relative Humidity** | RH | 5 | | 95 | % |
| **Data Rate Per Channel** | | | 10.3125 | | Gbps |

## Electrical Characteristics

| Parameter | Symbol | Min. | Typ. | Max. | Unit | Notes |
|---|---|---|---|---|---|---|
| **Supply Voltage** | Vcc | 3.135 | 3.3 | 3.465 | V | |
| **Module Supply Current** | Icc | | | 430 | mA | |
| **Power Dissipation** | $P_{DISS}$ | | | 1.5 | W | |
| **Transmitter** | | | | | | |
| **Input Differential Impedance** | ZIN | | 100 | | Ω | |
| **Differential Data Input Swing** | VIN,pp | 180 | | 900 | mVp-p | |
| **Receiver** | | | | | | |
| **Output Differential Impedance** | ZOUT | | 100 | | Ω | |
| **Differential Data Output Swing** | VOUT,pp | 300 | | 850 | mVp-p | 1 |
| **Data Output Rise Time/Fall Time** | Tr/Tf | 28 | | | ps | 2 |

**Notes:**

1. Internally AC coupled but requires an external 100Ω differential load termination.
2. 20 – 80 %.

**Optical Characteristics**

| Parameter | Symbol | Min. | Typ. | Max. | Unit | Notes |
|---|---|---|---|---|---|---|
| **Transmitter** | | | | | | |
| **Launch Optical Power** | Po | -7.6 | | +2.4 | dBm | 1 |
| **Center Wavelength Range** | λC | 830 | 850 | 860 | nm | |
| **Extinction Ratio** | ER | 3 | | | dB | 2 |
| **Spectral Width (RMS)** | Δλ | | | 0.65 | nm | |
| **Transmitter and Dispersion Penalty** | TDP | | | 3.2 | dB | |
| **Optical Return Loss Tolerance** | ORLT | | | 12 | dB | |
| **Eye Diagram** | IEEE Std 802.3ba Compatible | | | | | |
| **Receiver** | | | | | | |
| **Center Wavelength** | λC | 830 | 850 | 860 | nm | |
| **Receiver Sensitivity ($P_{avg}$)** | S | | | -9.5 | dBm | 3 |
| **Damage Threshold** | $P_{OL}$ | 2.5 | | | dBm | 3 |
| **Optical Return Loss** | ORL | 12 | | | dB | |
| **LOS Assert** | LOSA | -30 | | | dBm | |
| **LOS De-Assert** | LOSD | | | -11 | dBm | |
| **LOS Hysteresis** | | 0.5 | | | dB | |

**Notes:**

1. The optical power is launched into OM3 MMF.
2. Measured with a PRBS $2^{31}$-1 test pattern @10.3125Gbps.
3. Measured with PRBS $2^{31}$-1 test pattern, 10.3125Gbps, and BER<$10^{-12}$.

**Pin Descriptions**

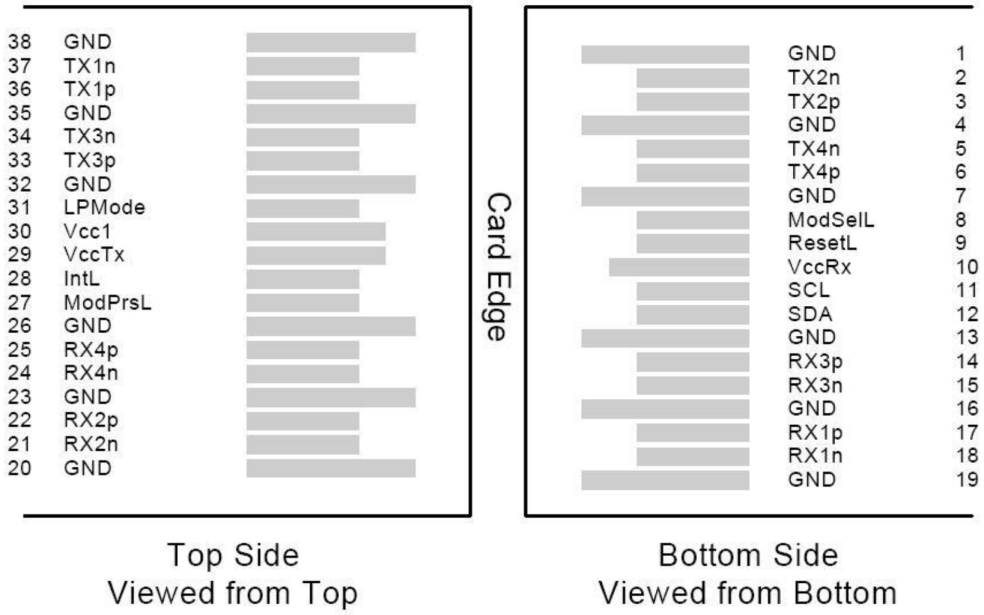
| Pin | Logic | Symbol | Name/Descriptions | Notes |
|---|---|---|---|---|
| **1** | | GND | Module Ground. | 1 |
| **2** | CML-I | Tx2- | Transmitter Inverted Data Input. | |
| **3** | CML-I | Tx2+ | Transmitter Non-Inverted Data Input. | |
| **4** | | GND | Module Ground. | 1 |
| **5** | CML-I | Tx4- | Transmitter Inverted Data Input. | |
| **6** | CML-I | Tx4+ | Transmitter Non-Inverted Data Input. | |
| **7** | | GND | Module Ground. | 1 |
| **8** | LVTTL-I | ModSelL | Module Select. | 2 |
| **9** | LVTTL-I | ResetL | Module Reset. | 2 |
| **10** | | VccRx | +3.3V Receiver Power Supply. | |
| **11** | LVCMOS-I | SCL | 2-Wire Serial Interface Clock. | 2 |
| **12** | LVCMOS-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. | 1 |
| **25** | CML-O | Rx4+ | Receiver Non-Inverted Data Output. | |
| **26** | | GND | Module Ground. | 1 |
| **27** | LVTTL-O | ModPrsL | Module Present. Internally pulled down to GND. | |
| **28** | LVTTL-O | IntL | Interrupt Output. Should be pulled up on the host board. | 2 |
| **29** | | VccTx | +3.3V Transmitter Power Supply. | |
| **30** | | Vcc1 | +3.3V Power Supply. | |
| **31** | LVTTL-I | LPMode | 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 |

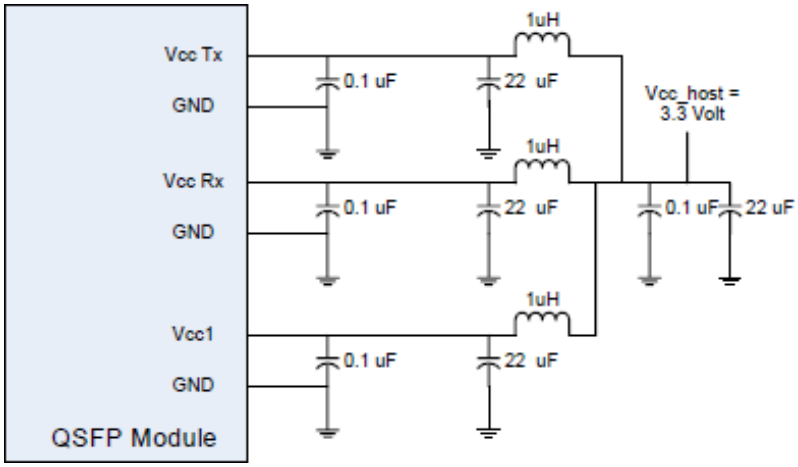
**Notes:**

1. The module signal grounds are isolated from the module case.
2. This is an open collector/drain output that on the host board requires a 4.7kΩ-10kΩ pull-up resistor to the Host_Vcc.

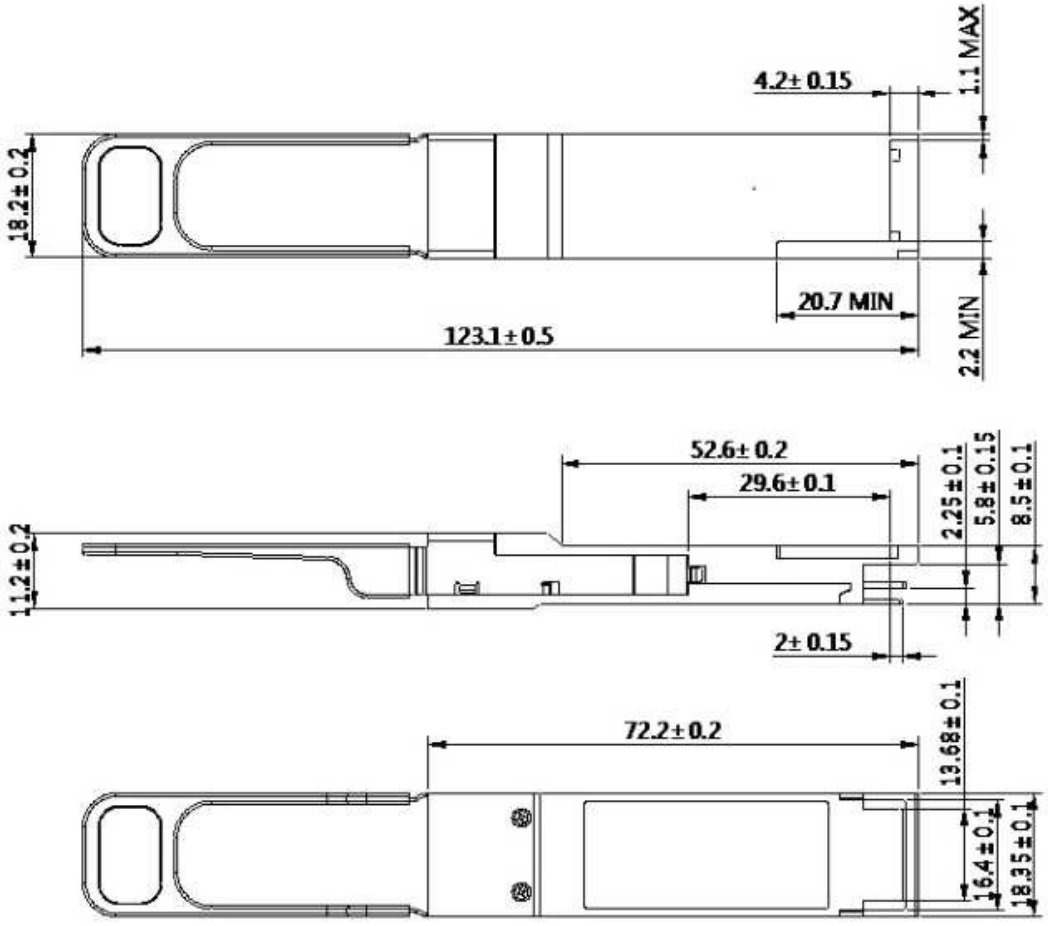
**Electrical Pin-Out Details**



**Recommended Host Board Power Supply Filter Network**




**Mechanical Specifications**



**About AddOn Networks**

In 1999, AddOn Networks entered the market with a single product. Our founders fulfilled a severe shortage for compatible, cost-effective optical transceivers that compete at the same performance levels as leading OEM manufacturers. Adhering to the idea of redefining service and product quality not previously had in the fiber optic networking industry, AddOn invested resources in solution design, production, fulfillment, and global support.

Combining one of the most extensive and stringent testing processes in the industry, an exceptional free tech support center, and a consistent roll-out of innovative technologies, AddOn has continually set industry standards of quality and reliability throughout its history.

Reliability is the cornerstone of any optical fiber network and is in engrained in AddOn's DNA. It has played a key role in nurturing the long-term relationships developed over the years with customers. AddOn remains committed to exceeding industry standards with certifications from ranging from NEBS Level 3 to ISO 9001:2005 with every new development while maintaining the signature reliability of its products.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