

QSFP28-100GB-PLR4-AR-AO

Arista Networks® Compatible TAA 100GBase-PLR4 QSFP28 Transceiver (SMF, 1310nm, 10km, MPO, DOM)

Features

- SFF-8665 Compliance
- MPO Connector
- Commercial Temperature 0 to 70 Celsius
- Single-mode Fiber
- Hot Pluggable
- Excellent ESD Protection
- Metal with Lower EMI
- RoHS Compliant and Lead Free



Applications

- 100GBase Ethernet
- Access and Enterprise

Product Description

This Arista Networks® QSFP28 transceiver provides 100GBase-PLR4 throughput up to 10km over single-mode fiber (SMF) using a wavelength of 1310nm via an MPO connector. It is guaranteed to be 100% compatible with the equivalent Arista 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.

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."



Absolute Maximum Ratings

| Parameter | Symbol | Min. | Typ. | Max. | Unit |
|----------------------------|-----------------|------|----------|------|------|
| Maximum Supply Voltage | V _{cc} | -0.5 | | 4.0 | V |
| Storage Temperature | T _S | -40 | | 85 | °C |
| Operating Case Temperature | T _c | 0 | 25 | 70 | °C |
| Relative Humidity | RH | 5 | | 95 | % |
| Data Rate Per Channel | | | 25.78125 | | Gbps |

Electrical Characteristics

| Parameter | Symbol | Min. | Typ. | Max. | Unit | Notes |
|--|----------------------|-------|------|-------|-------|-------|
| Power Supply Voltage | V _{cc} | 3.135 | 3.30 | 3.465 | V | |
| Power Supply Current | I _{cc} | | | 1100 | mA | |
| Power Dissipation | P _D | | | 3500 | mW | |
| Transmitter | | | | | | |
| Differential data input swing | V _{in,pp} | 190 | | 700 | mVp-p | |
| Input differential impedance | Z _{in} | 90 | 100 | 110 | Ω | |
| AC Common Mode Input Voltage Tolerance | | 15 | | | mV | |
| Receiver | | | | | | |
| Differential data output swing | V _{out, pp} | 300 | | 850 | mV | 1 |
| Output differential impedance | Z _{in} | 90 | 100 | 110 | Ω | |
| AC Common Mode Output Voltage | | | | 7.5 | mV | |
| Single-ended Output Voltage | | -0.3 | | 4 | V | |

Notes:

1. Internally AC coupled, but requires an external 100Ω differential load termination.

Optical Characteristics

| Parameter | Symbol | Min. | Typ. | Max. | Unit | Notes |
|--|------------------|-------------------------------|------|-------|------|-------|
| Transmitter | | | | | | |
| Launch Optical Power Per Lane | P _o | -4 | | +2 | dBm | 1 |
| Side Mode Suppression Ratio | SMSR | 30 | | | dB | |
| Optical Return Loss Tolerance | ORLT | | | 12 | dB | |
| Optical Extinction Ratio | ER | 3.5 | | | dB | 2 |
| Optical Wavelength | Tλ | 1295 | 1310 | 1325 | nm | |
| Pout @TX-Disable Asserted | P _{out} | | | -30 | dBm | 1 |
| Transmitter eye mask definition {X1, X2, X3, Y1, Y2, Y3} | | {0.31,0.4,0.45,0.34,0.38,0.4} | | | | |
| Receiver | | | | | | |
| Receiver wavelength | Rλ | 1295 | | 1325 | nm | |
| Receiver Sensitivity | S | | | -12.0 | dBm | 3 |
| Damage Threshold | P _{OL} | 3.0 | | | dBm | |
| LOS De-Assert | LOS _D | | | -12.5 | dBm | |
| LOS Assert | LOS _A | -24 | | | dBm | |
| LOS Hysteresis | | 0.5 | | | dB | |

Notes:

1. The optical power is launched into SMF.
2. Measured with a PRBS 2³¹-1 test pattern @25.78125Gbps.
3. Measured with PRBS 2³¹-1 test pattern, 25.78125Gb/s, BER of 5×10⁻⁵(informative)

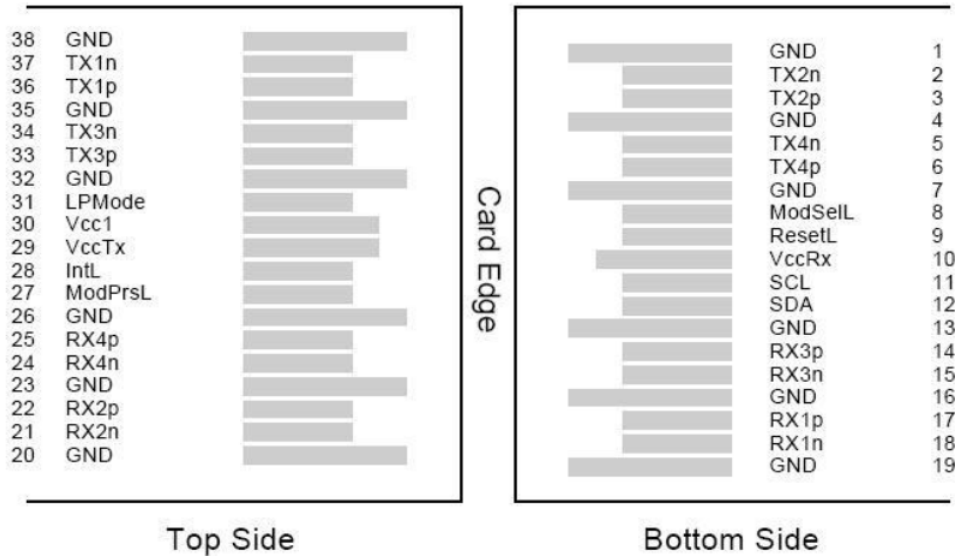
Pin Descriptions

| Pin | Symbol | Name/Descriptions | Ref. |
|-----|---------|--|------|
| 1 | GND | Transmitter Ground (Common with Receiver Ground) | 1 |
| 2 | Tx2- | Transmitter Inverted Data Input | |
| 3 | Tx2+ | Transmitter Non-Inverted Data output | |
| 4 | GND | Transmitter Ground (Common with Receiver Ground) | 1 |
| 5 | Tx4- | Transmitter Inverted Data Input | |
| 6 | Tx4+ | Transmitter Non-Inverted Data output | |
| 7 | GND | Transmitter Ground (Common with Receiver Ground) | 1 |
| 8 | ModSelL | Module Select | 2 |
| 9 | ResetL | Module Reset | 2 |
| 10 | VccRx | 3.3V Power Supply Receiver | |
| 11 | SCL | 2-Wire serial Interface Clock | 2 |
| 12 | SDA | 2-Wire serial Interface Data | 2 |
| 13 | GND | Transmitter Ground (Common with Receiver Ground) | 1 |
| 14 | Rx3+ | Receiver Non-Inverted Data Output | |
| 15 | Rx3- | Receiver Inverted Data Output | |
| 16 | GND | Transmitter Ground (Common with Receiver Ground) | 1 |
| 17 | Rx1+ | Receiver Non-Inverted Data Output | |
| 18 | Rx1- | Receiver Inverted Data Output | |
| 19 | GND | Transmitter Ground (Common with Receiver Ground) | 1 |
| 20 | GND | Transmitter Ground (Common with Receiver Ground) | 1 |
| 21 | Rx2- | Receiver Inverted Data Output | |
| 22 | Rx2+ | Receiver Non-Inverted Data Output | |
| 23 | GND | Transmitter Ground (Common with Receiver Ground) | 1 |
| 24 | Rx4- | Receiver Inverted Data Output | 1 |
| 25 | Rx4+ | Receiver Non-Inverted Data Output | |
| 26 | GND | Transmitter Ground (Common with Receiver Ground) | 1 |
| 27 | ModPrsl | Module Present | |
| 28 | IntL | Interrupt | 2 |
| 29 | VccTx | 3.3V power supply transmitter | |
| 30 | Vcc1 | 3.3V power supply | |
| 31 | LPMode | Low Power Mode | 2 |
| 32 | GND | Transmitter Ground (Common with Receiver Ground) | 1 |
| 33 | Tx3+ | Transmitter Non-Inverted Data Input | |
| 34 | Tx3- | Transmitter Inverted Data Output | |
| 35 | GND | Transmitter Ground (Common with Receiver Ground) | 1 |
| 36 | Tx1+ | Transmitter Non-Inverted Data Input | |
| 37 | Tx1- | Transmitter Inverted Data Output | |
| 38 | GND | Transmitter Ground (Common with Receiver Ground) | 1 |

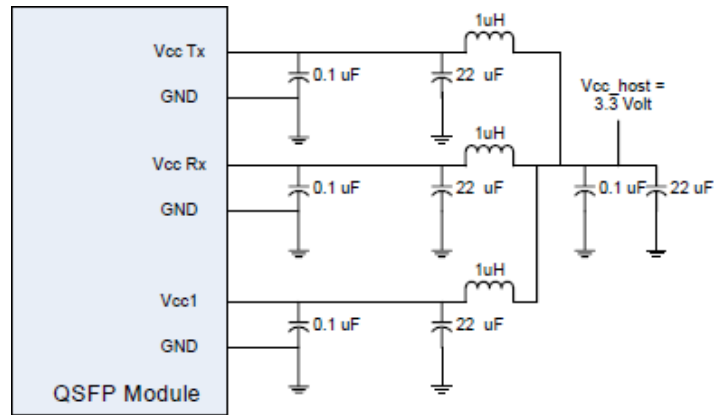
Notes:

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 to 10KΩ pull-up resistor to VccHost.

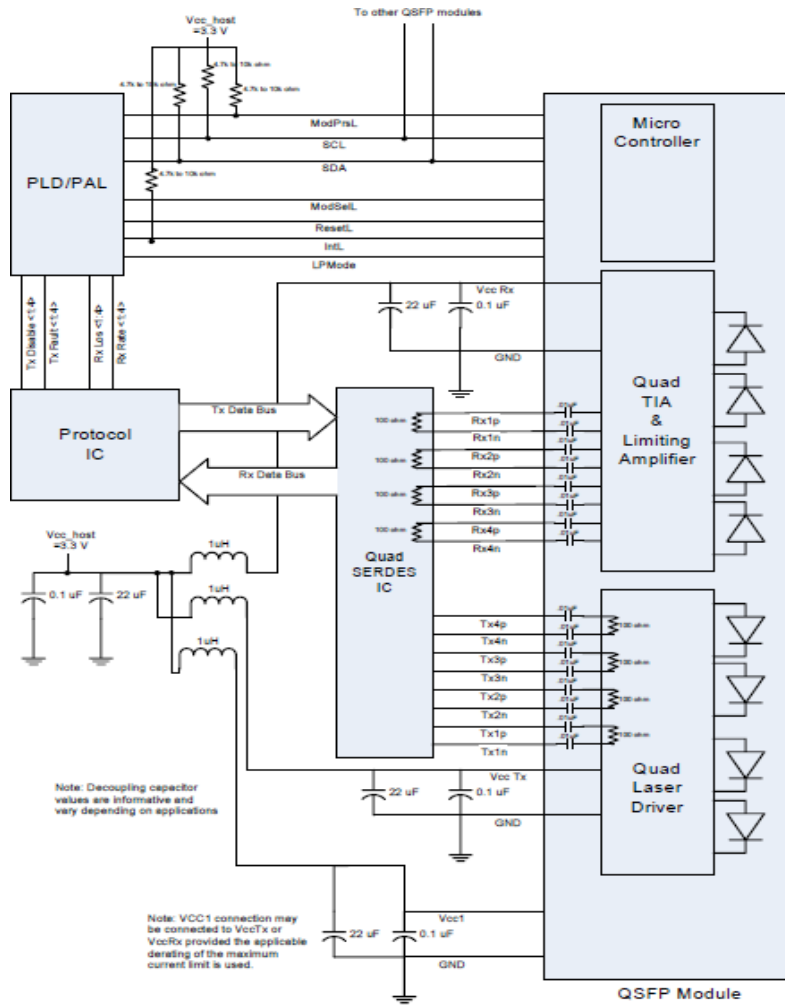
Electrical Pin-out Details



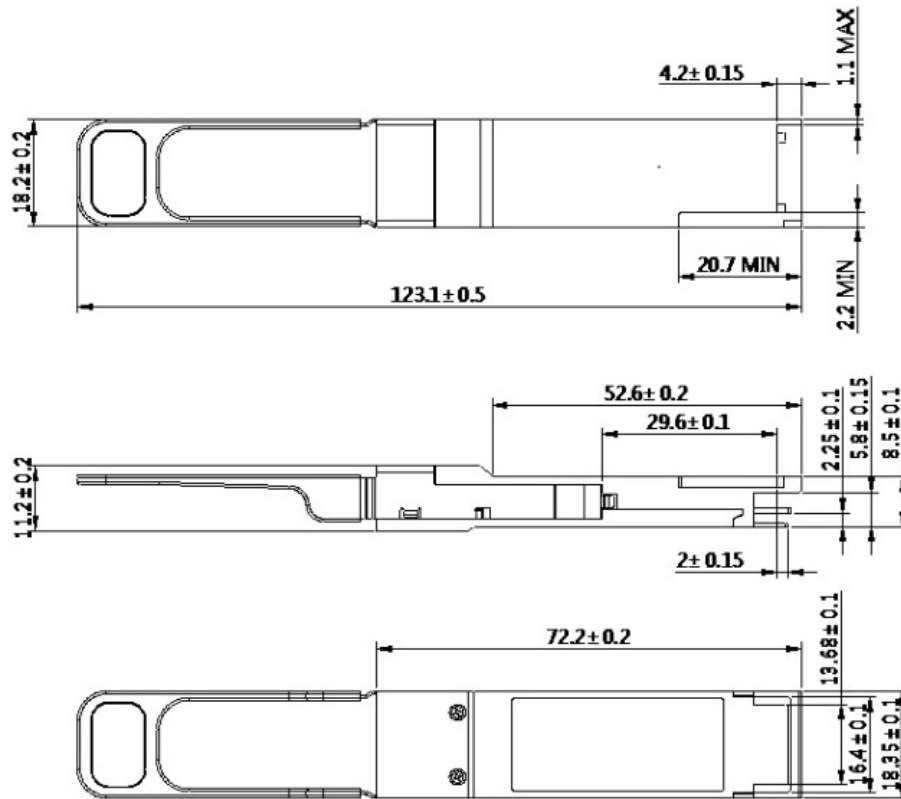
Recommended Host Board Power Supply Filter Network



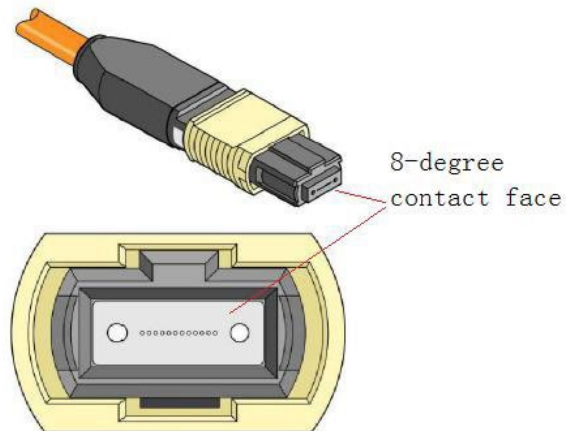
Recommended Application Interface Block Diagram



Mechanical Specifications



Attention: To minimize MPO connection induced reflections, an MPO receptacle with 8-degree angled end-face is utilized for this product. A female MPO connector with 8-degree end-face should be used with this product as illustrated in below Figure.



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 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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