**100G-QSFP-QSFP-AOC-0701-PRO**

Brocade® (Formerly) Compatible TAA 100GBase-AOC QSFP28 to QSFP28 Active Optical Cable (850nm, MMF, 7m)

**Features**

- QSFP28 MSA compliant
- Supports 103.1Gbps aggregate bit rate
- Four independent full-duplex channels
- 4x25G electrical interface (OIF CEI-28G-VSR)
- Single 3.3V power supply
- Operating case temperature: 0 to 70 Celsius
- RoHS Compliant and Lead Free
- Maximum power consumption 2.5W each terminal

**Applications:**

- 100GBase Ethernet
- InfiniBand EDR

**Product Description**

This is a Brocade® (Formerly) Compatible 100GBase-AOC QSFP28 to QSFP28 active optical cable that operates over active fiber with a maximum reach of 7m. It has been programmed, uniquely serialized, and data-traffic and application tested to ensure it is 100% compliant and functional. We stand behind the quality of our products and proudly offer a limited lifetime warranty. This cable is TAA (Trade Agreements Act) compliant and is built to comply with MSA (Multi-Source Agreement) standards.

Proline'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.

**Rev. 032924**

## General Specifications

| Parameter | Symbol | Min. | Typ. | Max. | Unit |
|---|---|---|---|---|---|
| **Storage Temperature** | Tstg | -40 | | 85 | ˚C |
| **Operating Case Temperature** | Tc | 0 | | 70 | |
| **Power Supply Voltage** | Vcc | -0.5 | | 3.6 | V |
| **Relative Humidity (Non-Condensing)** | RH | 0 | | 85 | % |

## Electrical Characteristics

| Parameter | Test Point | Min. | Typ. | Max. | Unit | Notes |
|---|---|---|---|---|---|---|
| **Power Consumption** | | | | 2.5 | W | 1 |
| **Supply Current** | Icc | | | 757 | mA | 1 |
| **Power Supply Voltage** | Vcc | 3.135 | 3.3 | 3.465 | V | |
| **Data Rate Per Lane** | | | 25.78125 | | Gbps | |
| **Data Rate Accuracy** | | -100 | | 100 | ppm | |
| **Control Input Voltage - High** | | 2 | | Vcc | V | |
| **Control Input Voltage - Low** | | 0 | | 0.8 | V | |
| **Transmitter (Per Lane)** | | | | | | |
| **Overload Differential Voltage** | TP1a | 900 | | | mV | |
| **Common-Mode Voltage (Vcm)** | TP1 | -350 | | 2825 | mV | 2 |
| **Differential Termination Resistance Mismatch** | TP1 | | | 10 | % | At 1MHz |
| **Differential Return Loss (SDD11)** | TP1 | | | See CEI-28G0VSR Equation 13-19 | dB | |
| **Common-Mode to Differential Conversion and Differential to Common-Mode Conversion** | TP1 | | | See CEI-28G-VSR Equation 13-20 | dB | |
| **Stressed Input Test** | TP1a | See CEI-28G-VSR Section 13.3.11.2.1 | | | | |
| **Receiver (Per Lane)** | | | | | | |
| **Differential Voltage (Pk-Pk)** | TP4 | | | 900 | mV | |
| **Common-Mode Voltage (Vcm)** | TP4 | -350 | | 2850 | mV | 2 |
| **Common-Mode Noise (RMS)** | TP4 | | | 17.5 | mV | |
| **Differential Termination Resistance Mismatch** | TP4 | | | 10 | % | At 1MHz |

| | | | | | | |
|---|---|---|---|---|---|---|
| **Differential Return Loss (SDD22)** | TP4 | | | See CEI-28G-VSR Equation 13-19 | dB | |
| **Common-Mode to Differential Conversion and Differential to Common-Mode Conversion (SCC22)** | TP4 | | | -2 | dB | 3 |
| **Transition Time (20-80%)** | TP4 | 9.5 | | | ps | |
| **Vertical Eye Closure (VEC)** | TP4 | | | 5.5 | dB | |
| **Eye Width at $10^{-15}$ Probability (EW15)** | TP4 | 0.57 | | | UI | |
| **Eye Height at $10^{-15}$ Probability (EH15)** | TP4 | 0.57 | | | UI | |

**Notes:**

1. Per terminal.
2. Vcm is generated by the host. Specification includes the effects of ground offset voltage.
3. From 250MHz to 30GHz.

**Pin Descriptions**

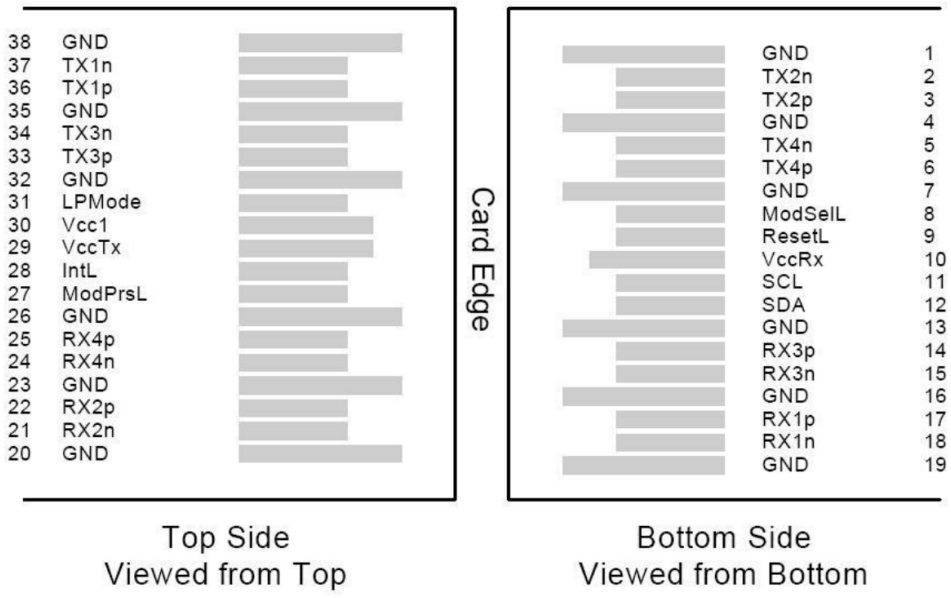
| Pin | Logic | Symbol | Name/Description | Notes |
|---|---|---|---|---|
| **1** | | GND | Module Ground. | 1 |
| **2** | CML-I | Tx2- | Transmitter Inverted Data Input. | |
| **3** | CML-I | Tx2+ | Transmitter Non-Inverted Data Input. | |
| **4** | | GND | Module Ground. | 1 |
| **5** | CML-I | Tx4- | 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. | |
| **25** | CML-O | Rx4+ | Receiver Non-Inverted Data Output. | |
| **26** | | GND | Module Ground. | 1 |
| **27** | LVTTL-O | ModPrsL | Module Present. Internally pulled down to the 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 |

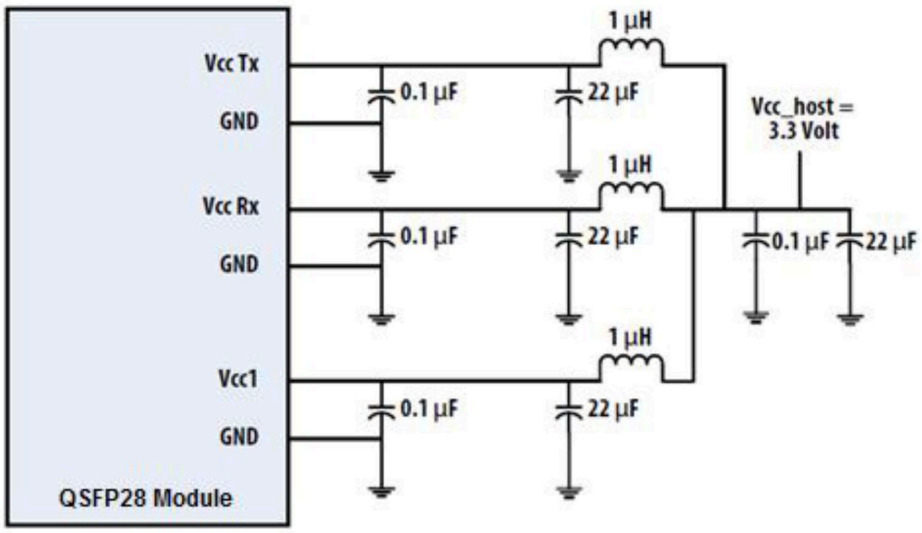
**Notes:**

1. The module circuit ground is isolated from the module chassis ground within the module.
2. Open collector. Should be pulled up with 4.7kΩ to 10kΩ on the host board to a voltage between 3.15V and 3.6V.

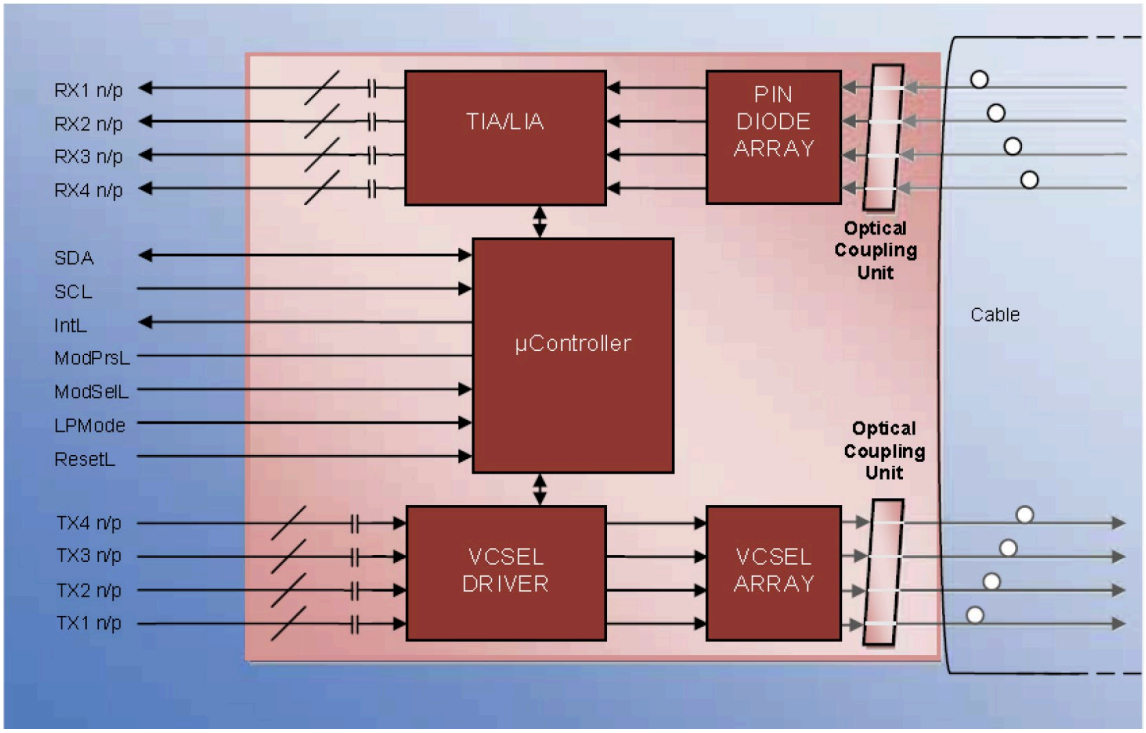
**Electrical Pin-Out Details**



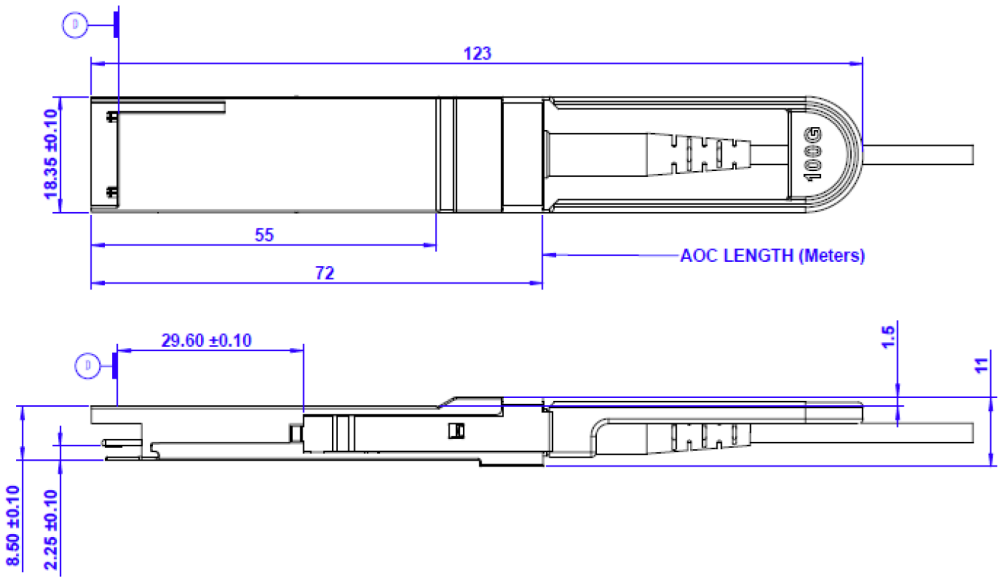
**Recommended Power Supply Filter**




**Block Diagram**



**Mechanical Specifications**



**About Us:**

Proline Options is one of North America's leading providers of transceivers and high speed cabling. With a reputation for quality, tested products that cover the connectivity spectrum, Proline Options has a solution for you regardless of the specification.

At Proline Options, every product is tested in its intended application - never batch or spec tested only. We run bandwidth, distance and IOS network tests. We have documented an impressive 0.03% failure rate over the last 10 years. To continue this rate of success we invest millions annually in our own on-site testing lab.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