

### PRO-Q28ARBEQ28MXBK-P4M

Arista Networks® (Blue Tab) to Mellanox® (Black Tab) Compatible 100GBase-CU QSFP28 Direct Attach Cable (Passive Twinax, 4m)

#### Features

- QSFP28 MSA Compliant
- Up to 100Gbps Bi-Directional Data Links
- IEEE 802.3bj Compliant
- 26AWG Wire Gauge
- Single 3.3V Power Supply
- Blue and Black Pull Tabs
- Commercial Temperature 0 to 70 Celsius
- Power Consumption is
- Excellent ESD Protection
- Metal with Lower EMI
- RoHS Compliant and Lead-Free



#### Applications:

- 100GBase Ethernet

#### Product Description

This Arista Networks® (Blue Tab) to Mellanox® (Black Tab) dual oem compatible 100GBase-CU QSFP28 to QSFP28 passive direct attach cable has a maximum reach of 4.0m (13.1ft). It is 100% Arista Networks® to Mellanox® compatible and has been programmed, uniquely serialized, data-traffic and application tested to ensure that it is compliant and functional. This cable will initialize and perform identically to Arista Networks® and Mellanox®'s individual cables and is built to meet or exceed OEM specifications. This product complies with MSA (Multi-Source Agreement) standards and is TAA (Trade Acts Agreement) compliant. We stand behind the quality of our products and proudly offer a limited lifetime warranty.

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.



## General Specifications

| Parameter             | Symbol | Min  | Typ. | Max.              | Unit | Notes |
|-----------------------|--------|------|------|-------------------|------|-------|
| Input Voltage         | Vcc    | 3.14 | 3.3  | 3.46              | V    |       |
| Operating Temperature | Tc     | 0    |      | 70                | °C   | 1     |
| Storage Temperature   | Tstg   | -40  |      | 85                | °C   | 2     |
| Bit Error Rate        | BER    |      |      | 10 <sup>-12</sup> |      |       |

### Notes:

1. Case temperature.
2. Ambient temperature.

## Cable Specifications

| Parameter            | Symbol           | Min | Typ. | Max. | Unit  | Notes |
|----------------------|------------------|-----|------|------|-------|-------|
| Wire Gauge           |                  |     |      | 26   | AWG   |       |
| Cable Impedance      | Z                | 90  | 100  | 110  | Ω     |       |
| 26AWG Product Weight | G <sub>D26</sub> |     | 190  |      | g/PCS | 1     |
| 26AWG Cable Weight   | G <sub>C26</sub> |     | 110  |      | g/M   |       |
| Dust Cap Weight      | G <sub>Q</sub>   |     | 1.40 |      | g/PCS |       |

### Notes:

1. The weight of the product. For example, the weight of the 5M product is 190+110\*(5-1)+1.4\*2=632.8g.

## Cable Dimensions

| Standard Wire Gauge (AWG) | Cable Diameter OD (mm) | Minimum Bending Radius R (mm) |
|---------------------------|------------------------|-------------------------------|
| 26                        | 9.2                    | 45                            |

## Length Tolerance

| Nominal Length L1 (m) | Tolerance Range ± (cm) |
|-----------------------|------------------------|
| L1≤2                  | 2                      |
| 2<L1≤4                | 4                      |
| 4<L1≤5                | 6                      |

## Pin Descriptions

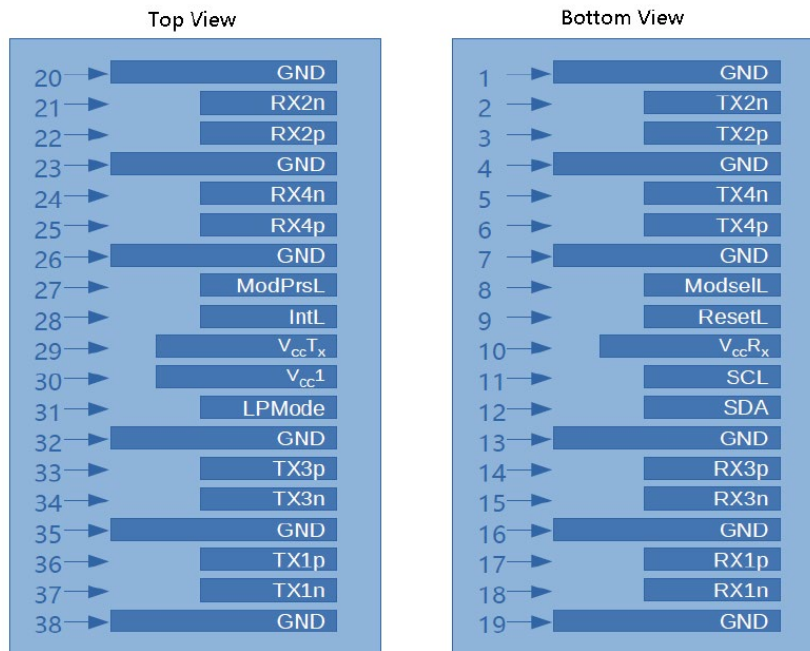
| Pin | Symbol  | Name/Description  | Notes |
|-----|---------|---|-------|
| 1   | GND     | Module Ground.  | 5     |
| 2   | Tx2-    | Transmitter Inverted Data Input. LAN2.  |       |
| 3   | Tx2+    | Transmitter Non-Inverted Data Input. LAN2.  |       |
| 4   | GND     | Module Ground.  | 5     |
| 5   | Tx4-    | Transmitter Inverted Data Input. LAN4.  |       |
| 6   | Tx4+    | Transmitter Non-Inverted Data Input. LAN4.  |       |
| 7   | GND     | Module Ground.  | 5     |
| 8   | ModSelL | Module Select Pin. The module responds to 2-wire serial communication when low level. | 1     |
| 9   | ResetL  | Module Reset.   | 2     |
| 10  | VccRx   | +3.3V Receiver Power Supply.  |       |
| 11  | SCL     | 2-Wire Serial Interface Clock.  |       |
| 12  | SDA     | 2-Wire Serial Interface Data.   |       |
| 13  | GND     | Module Ground.  | 5     |
| 14  | Rx3+    | Receiver Non-Inverted Data Output. LAN3.  |       |
| 15  | Rx3-    | Receiver Inverted Data Output. LAN3.  |       |
| 16  | GND     | Module Ground.  | 5     |
| 17  | Rx1+    | Receiver Non-Inverted Data Output. LAN1.  |       |
| 18  | Rx1-    | Receiver Inverted Data Output. LAN1.  |       |
| 19  | GND     | Module Ground.  | 5     |
| 20  | GND     | Module Ground.  | 5     |
| 21  | Rx2-    | Receiver Inverted Data Output. LAN2.  |       |
| 22  | Rx2+    | Receiver Non-Inverted Data Output. LAN2.  |       |
| 23  | GND     | Module Ground.  | 5     |
| 24  | Rx4-    | Receiver Inverted Data Output. LAN4.  |       |
| 25  | Rx4+    | Receiver Non-Inverted Data Output. LAN4.  |       |
| 26  | GND     | Module Ground.  | 5     |
| 27  | ModPrsL | The module is inserted into the indicate pin and grounded within the module.          | 3     |
| 28  | IntL    | Interrupt.  | 4     |
| 29  | VccTx   | +3.3V Transmitter Power Supply.   |       |
| 30  | Vcc1    | +3.3V Power Supply.   |       |
| 31  | LPMode  | Low-Power Mode.   | 5     |
| 32  | GND     | Module Ground.  | 5     |
| 33  | Tx3+    | Transmitter Non-Inverted Data Input. LAN3.  |       |
| 34  | Tx3-    | Transmitter Inverted Data Input. LAN3.  |       |

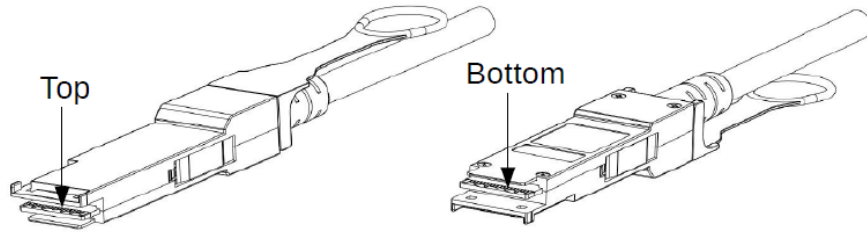
|    |      |  |   |
|----|------|--|---|
| 35 | GND  | Module Ground.                             | 5 |
| 36 | Tx1+ | Transmitter Non-Inverted Data Input. LAN1. |   |
| 37 | Tx1- | Transmitter Inverted Data Input. LAN1.     |   |
| 38 | GND  | Module Ground.                             | 5 |

**Notes:**

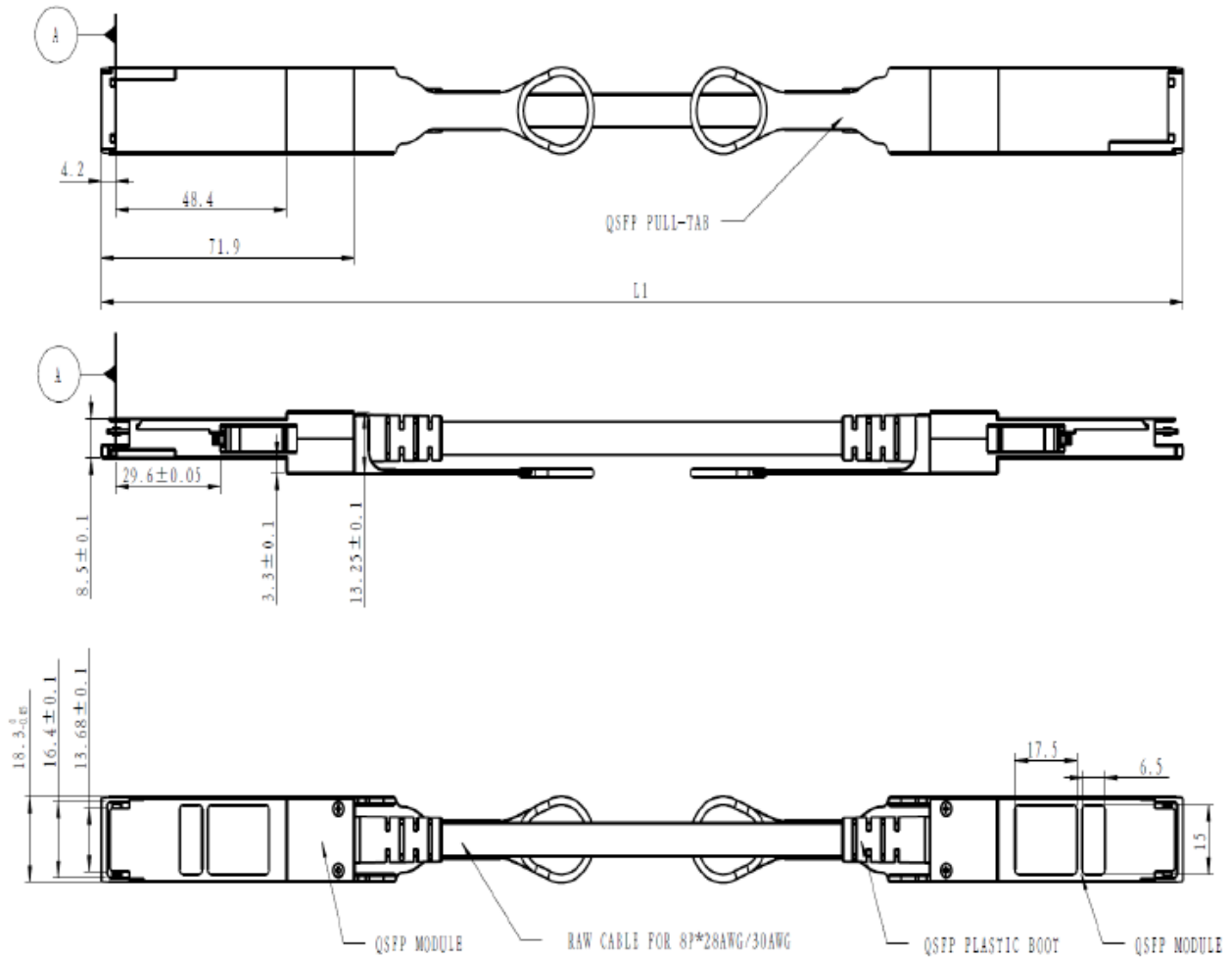
1. ModSelL is the input pin. The module responds to 2-wire serial communication commands when it is held “low” by the host. ModSelL allows multiple QSFP modules to be used on a single 2-wire interface bus. If ModSelL is “high,” the module will not respond to any 2-wire interface communication from the host. ModSelL has internal pull-up resistors in the module.
2. The module restart pin. When the low level on the ResetL pin lasts longer than the minimum pulse length, the pin resets the module and restores all user modules to their default state. When performing the device reset, the host should ignore all status bits. Until the module reset interrupt is completed, please note that, during hot plugging, the module will issue this information to complete the reset interrupt without resetting.
3. This pin is active “high,” indicating that the module is running under a low-power module.
4. IntL is the output pin which is the open collector output and must be pulled up to the Vcc on the motherboard. When it is “low,” it indicates that the module may malfunction. The host uses a 2-wire serial interface to identify the interrupt source.
5. Circuit ground is internally isolated from the chassis ground.

**Electrical Pin-Out Details**





### Mechanical Specifications



### Notes:

1. All dimensions are  $\pm 0.2\text{mm}$  unless otherwise specified. Unit: mm.

**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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