

### **C-Q28ARBEQ28MXBK-P1M**

Arista Networks® (Blue Tab) to Mellanox® (Black Tab) Compatible TAA 100GBase-CU QSFP28 to QSFP28 DAC (Passive Twinax, 1m)

#### **Features:**

- QSFP28 MSA Compliant
- IEEE 802.3bj Compliant
- Up to 100Gbps Bi-Directional Data Links
- Blue and Black Pull Tabs
- 30AWG Wire Gauge
- Single 3.3V Power Supply
- Power Consumption is
- Commercial Temperature 0 to 70 Celsius
- Metal with Lower EMI
- Excellent ESD Protection
- 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 1.0m (3.3ft). 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.

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."



## General Specifications

Parameter	Symbol	Min	Typ.	Max.	Unit	Notes
Input Voltage	V <sub>cc</sub>	3.14	3.3	3.46	V	
Operating Temperature	T <sub>c</sub>	0		70	°C	1
Storage Temperature	T <sub>stg</sub>	-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				30	AWG	
Cable Impedance	Z	90	100	110	Ω	
30AWG Product Weight	G <sub>D30</sub>		145		g/PCS	1
30AWG Cable Weight	G <sub>C30</sub>		64		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)
30	6.9	35

## Length Tolerance

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

## Pin Descriptions

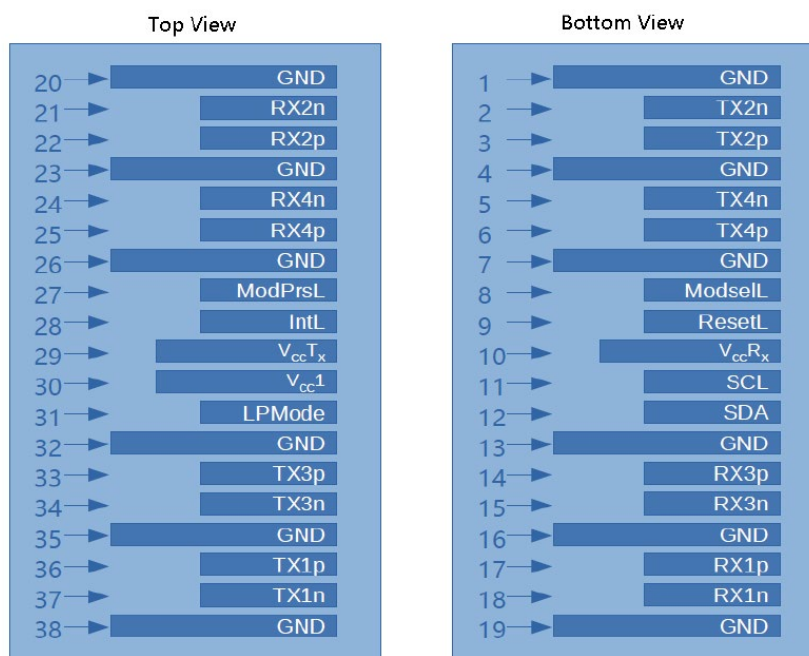
Pin	Symbol	Name/Description	Notes
1	GND	Module Ground.	5
2	Tx2-	Transmitter Inverted Data Input. LAN2.	
3	Tx2+	Transmitter Non-Inverted Data Input. LAN2.	
4	GND	Module Ground.	5
5	Tx4-	Transmitter Inverted Data Input. LAN4.	
6	Tx4+	Transmitter Non-Inverted Data Input. LAN4.	
7	GND	Module Ground.	5
8	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.	

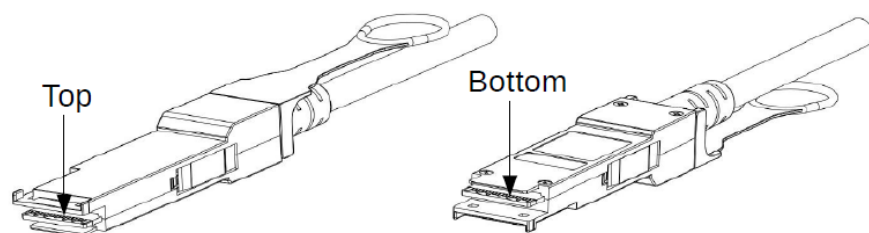
35	GND	Module Ground.	5
36	Tx1+	Transmitter Non-Inverted Data Input. LAN1.	
37	Tx1-	Transmitter Inverted Data Input. LAN1.	
38	GND	Module Ground.	5

#### Notes:

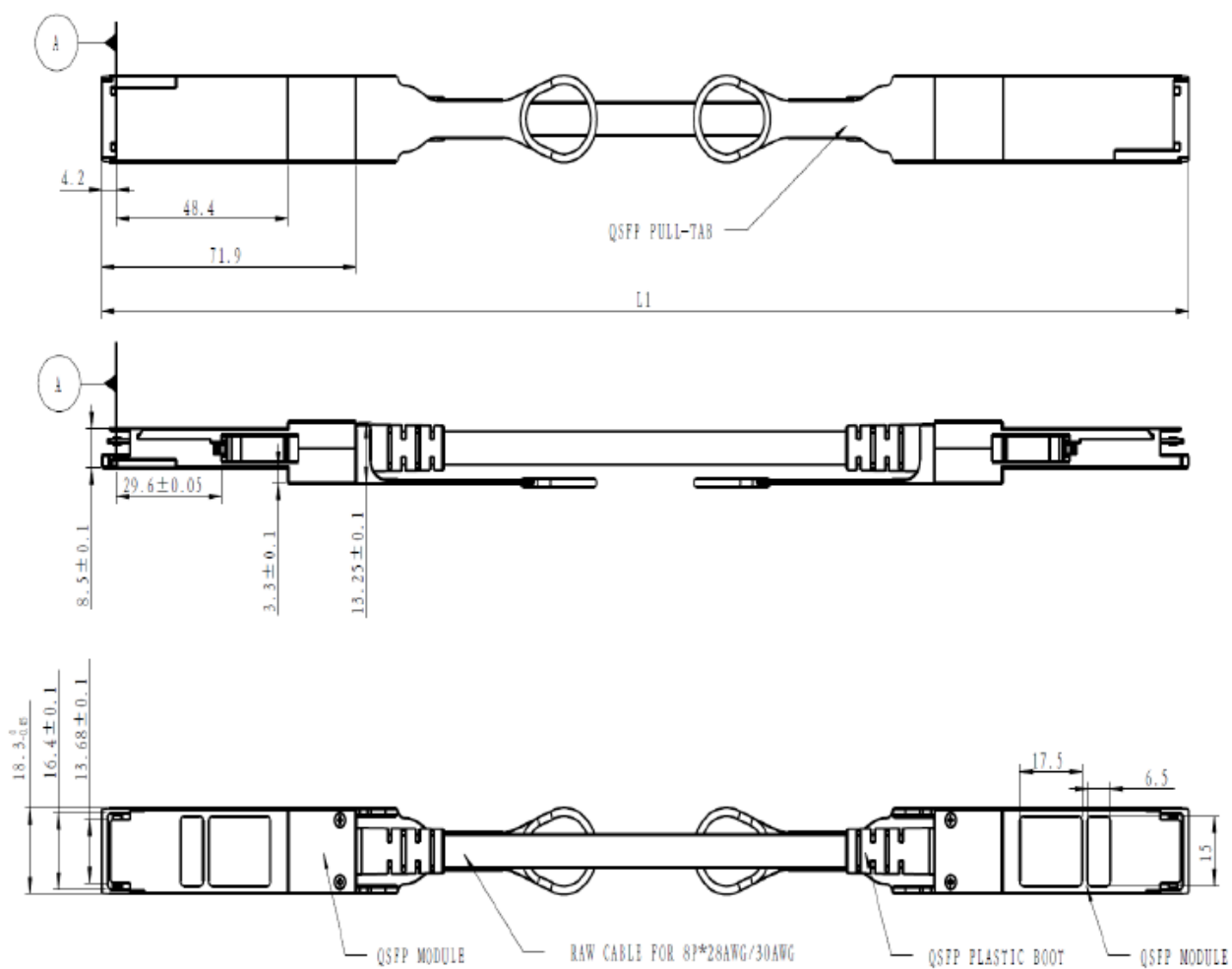
1. ModSelL is the input pin. The module responds to 2-wire serial communication commands when it is held “low” by the host. ModSelL allows multiple QSFP modules to be used on a single 2-wire interface bus. If ModSelL is “high,” the module will not respond to any 2-wire interface communication from the 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 ±0.2mm unless otherwise specified. Unit: mm.

## 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.



## Contact Information

ProLabs US

Email: [sales@prolabs.com](mailto:sales@prolabs.com)

Telephone: 952-852-0252

ProLabs UK

Email: [salesupport@prolabs.com](mailto:salesupport@prolabs.com)

Telephone: +44 1285 719 600