TIBTRONIX TECHNOLOGY CO., LTD.

TQCA0Q

40Gb/s QSFP+ Active cable
Hot Pluggable, +3.3V, 10m

2015/3/9

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Features:

- ✧ High-Density QSFP 38-PIN Connector
- ✧ QSFP+ conforms to the Small Form Factor SFF-8436
- ✧ Maximum aggregate data rate: 41.25 Gbps (4 x10.3125Gbit/s)
- ✧ Copper link length up to 10m (active limiting)
- ✧ Power Supply :+3.3V
- ✧ Low power consumption: 2.5 W (typ.)
- ✧ Temperature Range: 0~ 70°C

Applications:

- ✧ 10G/40Gigabit Ethernet
- ✧ InfiniBand SDR, DDR, QDR
- ✧ 2.5 , 5 Gigabit PCI-Express Extension
- ✧ Proprietary Interconnect
- ✧ 2, 4, 8, 10 Gigabit Fiber Channel

Description:

The TQCA0Q QSFP+ cable assemblies are high performance, cost effective I/O solutions for 40G LAN, HPC and SAN applications. QSFP+ copper modules allow hardware manufactures to achieve high port density, configurability and utilization at a very low cast and reduced power budget. The high speed cable assemblies meet and exceed Gigabit Ethernet, InfiniBand and Fiber Channel industry standard requirements for performance and reliability.

● Absolute Maximum Ratings

Parameter	Symbol	Min.	Typical	Max.	Unit
Storage Temperature	T_S	-40		+85	°C

Supply Voltage	$V_{CC}T$, R	-0.5		4	V
Relative Humidity	RH	0		85	%

● Recommended Operating Environment:

Parameter	Symbol	Min.	Typical	Max.	Unit
Case operating Temperature	T_C	0		+70	°C
Supply Voltage	$V_{CCT, R}$	+3.13	3.3	+3.47	V
Power Dissipation	PD			2.5	W

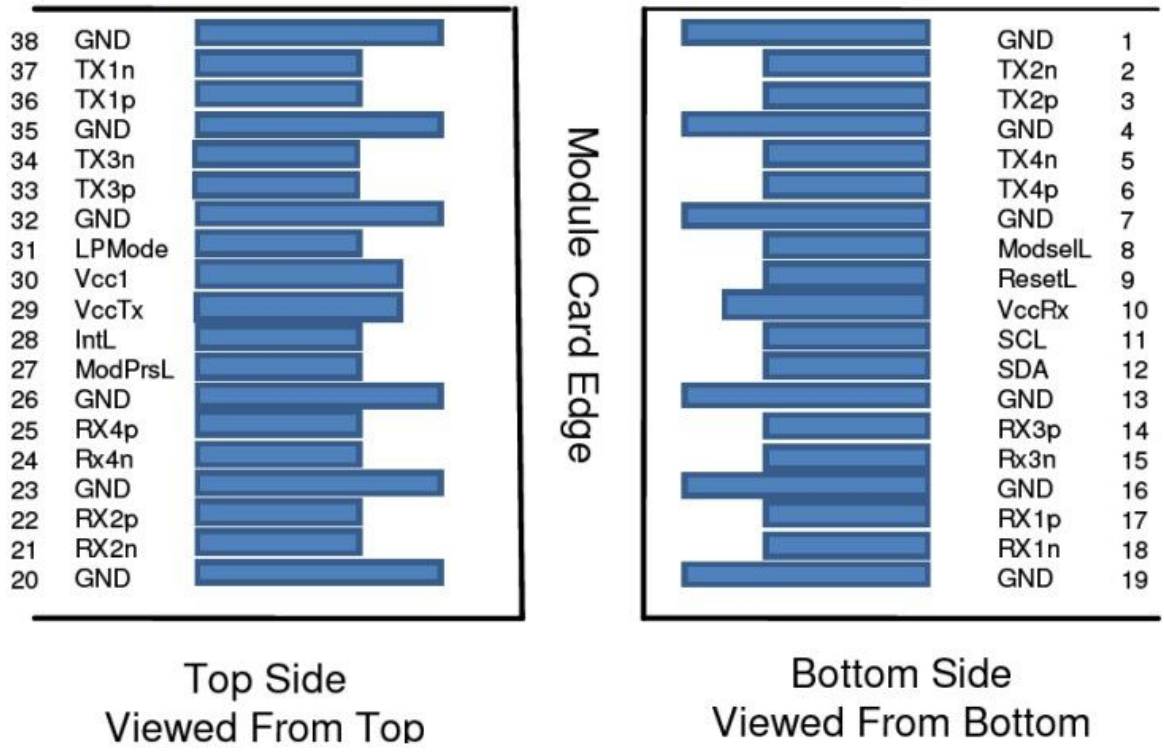
● QSFP+ Pin Descriptions

Pin	Logic.	Symbol	Name/Description	Note
1		GND	Ground	1
2	CML-I	Tx2n	Transmitter Inverted Data Input	
3	CML-I	Tx2p	Transmitter Non-Inverted Data Input	
4		GND	Ground	1
5	CML-I	Tx4n	Transmitter Inverted Data Input	
6	CML-I	Tx4p	Transmitter Non-Inverted Data Input	
7		GND	Ground	1
8	LVTTL-I	ModSelL	Module Select	
9	LVTTL-I	ResetL	Module Reset	
10		Vcc Rx	+3.3V Power Supply Receiver	2
11	LVCMOSI/O	SCL	2-wire serial interface clock	
12	LVCMOSI/O	SDA	2-wire serial interface data	
13		GND	Ground	1
14	CML-O	Rx3p	Receiver Non-Inverted Data Output	
15	CML-O	Rx3n	Receiver Inverted Data Output	
16		GND	Ground	1
17	CML-O	Rx1p	Receiver Non-Inverted Data Output	
18	CML-O	Rx1n	Receiver Inverted Data Output	
19		GND	Ground	1
20		GND	Ground	1
21	CML-O	Rx2n	Receiver Inverted Data Output	
22	CML-O	Rx2p	Receiver Non-Inverted Data Output	
23		GND	Ground	1

24	CML-O	Rx4n	Receiver Inverted Data Output	
25	CML-O	Rx4p	Receiver Non-Inverted Data Output	
26		GND	Ground	1
27	LVTTL-O	ModPrsL	Module Present	
28	LVTTL-O	IntL	Interrupt	
29		Vcc Tx	+3.3V Power supply transmitter	2
30		Vcc1	+3.3V Power supply	2
31	LVTTL-I	LPMode	Low Power Mode	
32		GND	Ground	1
33	CML-I	Tx3p	Transmitter Non-Inverted Data Input	

Note:

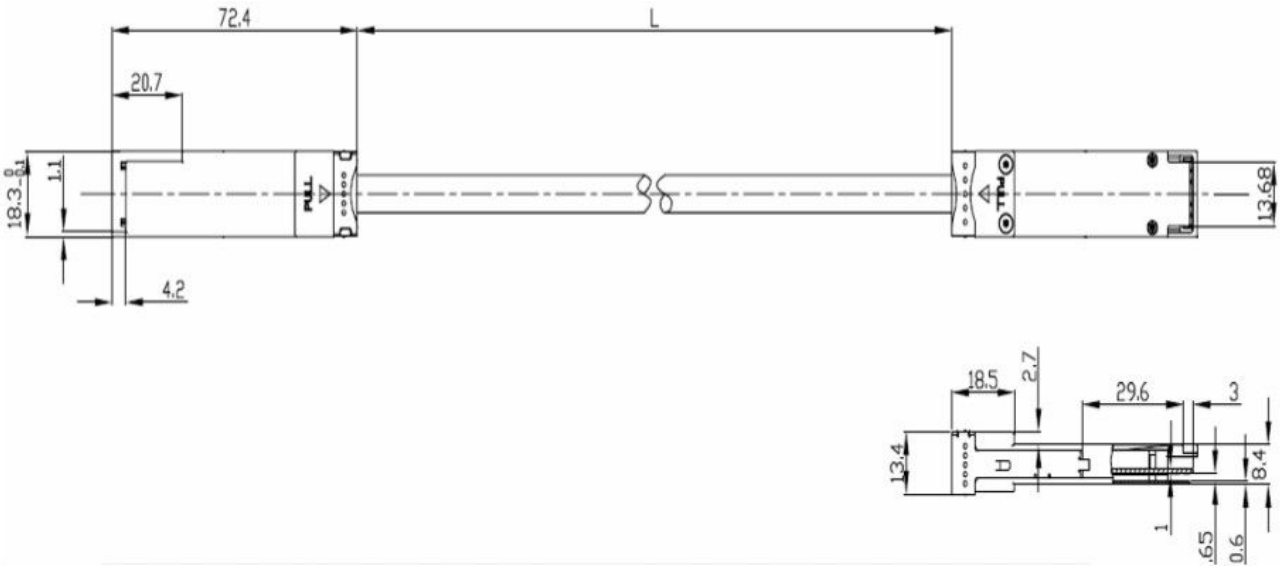
1. GND is the symbol for signal and supply (power) common for the QSFP+ module. All are common within the QSFP+ module and all module voltages are referenced to this potential unless otherwise noted. Connect these directly to the host board signal-common ground plane.
2. Vcc Rx, Vcc1 and Vcc Tx are the receiver and transmitter power supplies and shall be applied concurrently. Vcc Rx Vcc1 and Vcc Tx may be internally connected with- in the QSFP+ Module module in any combination. The connector pins are each rated for a maximum current of 500 mA.

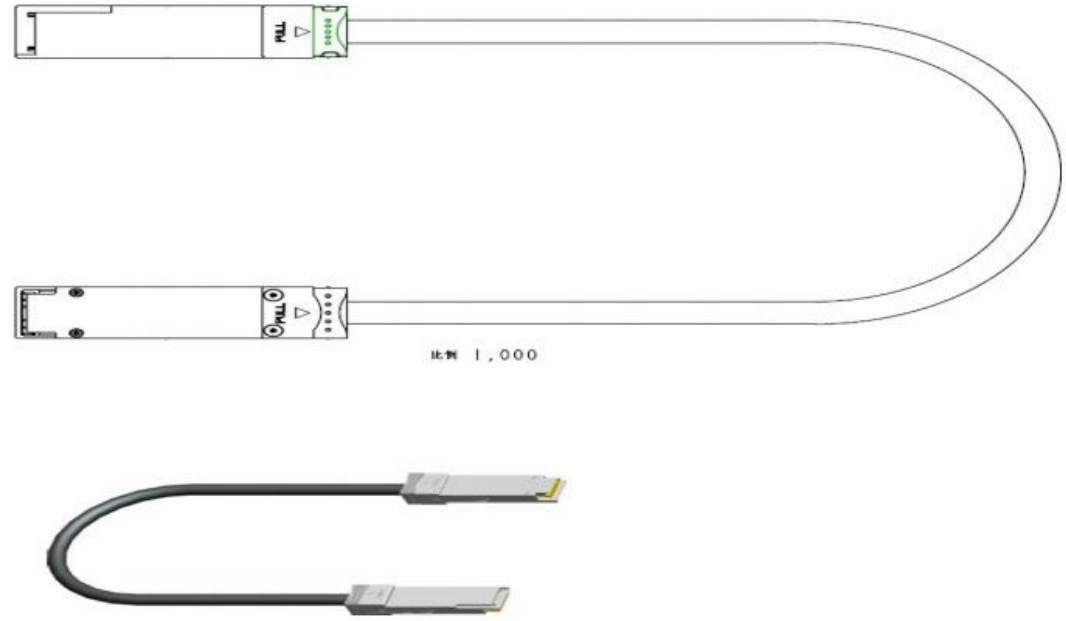


Top Side
Viewed From Top

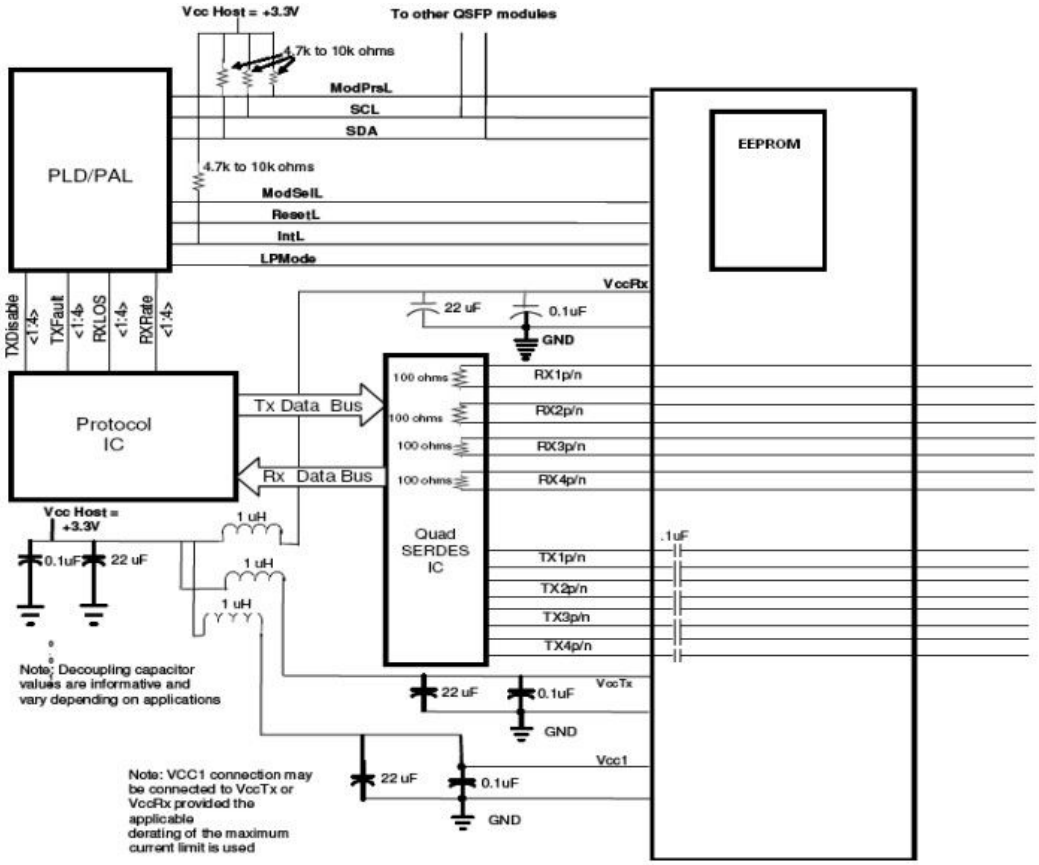
Bottom Side
Viewed From Bottom

- **Mechanical Dimensions**





QSFP+ Host Board Schematic for passive copper cables



Ordering information

PN	Description
TQCA0Q	QSFP+ Active Cable, 10m, 0ºC ~ +70ºC

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