QSFP-40GB-PDAC2MLZ-C

MSA and TAA 40GBase-CU QSFP+ to QSFP+ Direct Attach Cable (Passive Twinax, 2m, Infiniband FDR10, 30AWG, LSZH)

Features:

- QSFP module compliant to SFF-8661
- IEEE802.3bj
- QSFP MSA
- 40Gbps (4x10G Infiniband FDR10)
- 30AWG
- Passive copper
- Operating Temperature 0 to 70 Celsius
- RoHS 2.0 compliant and lead-free

Applications:

- 40GBase-CU
- Infiniband FDR10

Product Description

This is a MSA Compliant 40GBase-CU QSFP+ to QSFP+ Infiniband FDR10 LSZH direct attach cable that operates over passive copper with a maximum reach of 2m. 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.

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."

TAA COMPLIANT

Rev. 092023

Absolute Maximum Ratings

Parameter	Symbol	Min.	Typ.	Max.	Unit
Supply Voltage	Vcc	3.13	3.3	3.47	V
Storage Temperature	Tstg	-40		85	°C
Operating Case Temperature	Tc	0		70	°C
Humidity	RH	5		85	%
Data Rate (FDR10)			40 (4x10)		Gbps

Physical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit
Length	L			2	M
AWG				30	AWG
Jacket Material	LSZH, Black				
Top Shell	Zinc Alloy, Nickel-Plated Over Copper				
Bottom Shell	Zinc Alloy, Nickel-Plated Over Copper				
Pull Latch	Stainless Steel + Pull Ring, PA66, Blue				

Electrical Specifications

Parameter	Symbol	Min.	Typ.	Max.	Unit
Resistance	Rcon			3	Ω
Insulation Resistance	Rins			10	MΩ
Raw Cable Impedance	Zca	95	100	110	Ω
Mated Connector Impedance	Zmated	85	100	110	Ω
Insertion Loss at 7.03125GHz	SDD21			15	dB
Return Loss	SDD11/22	$\text{Return\_Loss(f)} \geq \begin{cases} -9.5 + 0.37(f), & 0.05 \leq f < 8 \\ -4.75 + 7.4 * log10\left(\frac{f}{14}\right), & 8 \leq f < 14.1 \end{cases}$			dB
Differential to Common-Mode Return Loss	SCD11/22	$\text{Return\_Loss(f)} \geq \begin{cases} -22 + 20(\frac{f}{25.78}), & 0.01 \leq \text{f} < 12.89 \\ -15 + 6\left(\frac{6}{25.78}\right), & 12.89 \leq \text{f} \leq 14.1 \end{cases}$			dB
Minimum COM	COM	3			dB
Rise Time (20-80%)				34	ps

Pin Descriptions

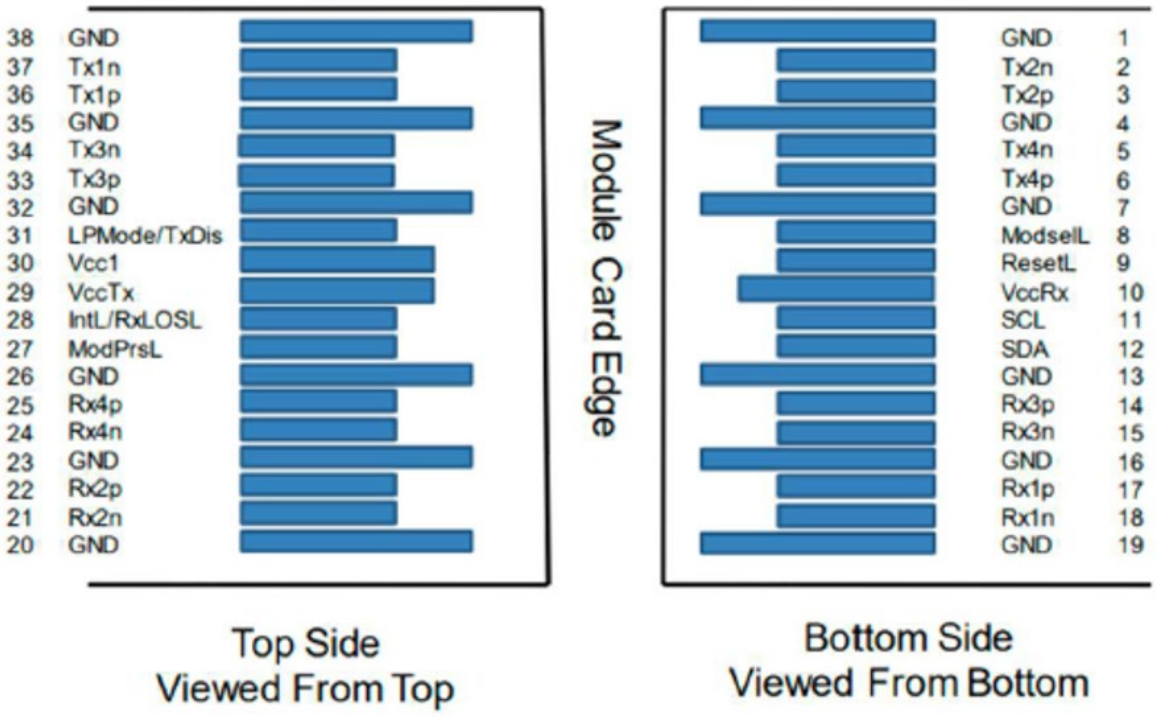
Pin	Logic	Symbol	Name/Description	Plug Sequence	Note
1		GND	Module Ground.	1	1
2	CML-I	Tx2-	Transmitter Inverted Data Input.	3	
3	CML-I	Tx2+	Transmitter Non-Inverted Data Input.	3	
4		GND	Module Ground.	1	1
5	CML-I	Tx4-	Transmitter Inverted Data Input.	3	
6	CML-I	Tx4+	Transmitter Non-Inverted Data Input.	3	
7		GND	Module Ground.	1	1
8	LVTTL-I	ModSelL	Module Select.	3	
9	LVTTL-I	ResetL	Module Reset.	3	
10		VccRx	+3.3V Power Supply Receiver.	2	2
11	LVCMOS-I/O	SCL	2-Wire Serial Interface Clock.	3	
12	LVCMOS-I/O	SDA	2-Wire Serial Interface Data.	3	
13		GND	Module Ground.	1	1
14	CML-O	Rx3+	Receiver Non-Inverted Data Output.	3	
15	CML-O	Rx3-	Receiver Inverted Data Output.	3	
16		GND	Module Ground.	1	1
17	CML-O	Rx1+	Receiver Non-Inverted Data Output.	3	
18	CML-O	Rx1-	Receiver Inverted Data Output.	3	
19		GND	Module Ground.	1	1
20		GND	Module Ground.	1	1
21	CML-O	Rx2-	Receiver Inverted Data Output.	3	
22	CML-O	Rx2+	Receiver Non-Inverted Data Output.	3	
23		GND	Module Ground.	1	1
24	CML-O	Rx4-	Receiver Inverted Data Output.	3	
25	CML-O	Rx4+	Receiver Non-Inverted Data Output.	3	
26		GND	Module Ground.	1	1
27	LVTTL-O	ModPrsL	Module Present.	3	
28	LVTTL-O	IntL/RxLOSL	Interrupt. Optionally configurable as RxLOSL via the management interface (SFF-8636).	3	
29		VccTx	+3.3V Power Supply Transmitter.	2	2
30		Vcc1	+3.3V Power Supply.	2	2
31	LVTTL-I	LPMode/Tx Dis	Low-Power Mode. Optionally configurable as TxDis via the management interface (SFF-8636).	3	
32		GND	Module Ground.	1	1
33	CML-I	Tx3+	Transmitter Non-Inverted Data Input.	3	
34	CML-I	Tx3-	Transmitter Inverted Data Input.	3	

35		GND	Module Ground.	1	1
36	CML-I	Tx1+	Transmitter Non-Inverted Data Input.	3	
37	CML-I	Tx1-	Transmitter Inverted Data Input.	3	
38		GND	Module Ground.	1	1

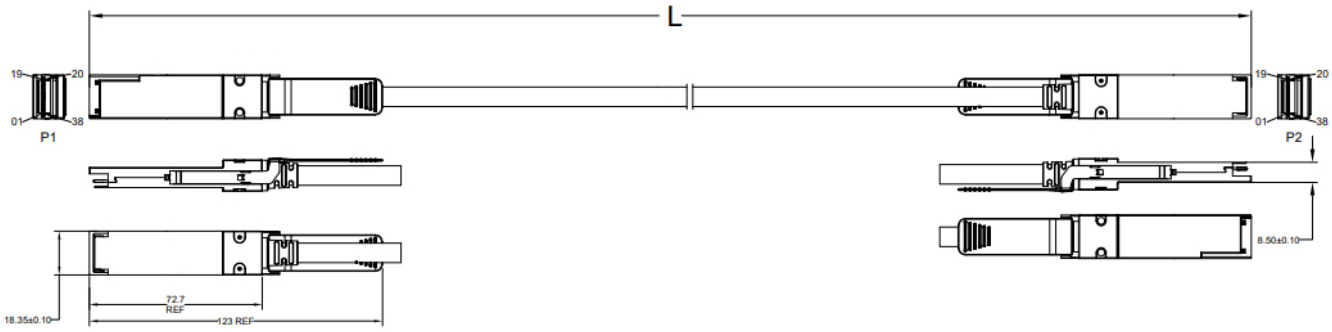
Notes:

1. GND is the symbol for signal and supply (power) common for the module. All are common within the 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. VccRx, Vcc1, and VccTx are applied concurrently and may be internally connected within the module in any combination. Vcc contacts in SFF-8662 and SFF-8672 each have a steady state current rating of 1A.

Electrical Pin-Out Details



Mechanical Specifications



Notes:

1. 8 pairs.
2. 100% conductor test conditions: 5V, insulation resistance of 10MΩ, and conduction resistance maximum of 3Ω. IEEE802.3ba/IB FDR10 standard.

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.

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