



### **QSFP-40GB-PDAC4MLZ-J-OPC**

Juniper Networks® Compatible TAA 40GBase-CU QSFP+ to QSFP+ Direct Attach Cable (Passive Twinax, 4m, Infiniband FDR10, 26AWG, LSZH)

#### **Features**

- QSFP module compliant to SFF-8661
- IEEE802.3bj
- QSFP MSA
- 40Gbps (4x10G Infiniband FDR10)
- 26AWG
- 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 Juniper Networks® compatible 40GBase-CU QSFP+ to QSFP+ Infiniband FDR10 LSZH direct attach cable that operates over passive copper with a maximum reach of 4.0m (13.1ft). It has been programmed, uniquely serialized, and data-traffic and application tested to ensure it is 100% compliant and functional. This direct attach cable is TAA (Trade Agreements Act) compliant, and is built to comply with MSA (Multi-Source Agreement) standards. We stand behind the quality of our products and proudly offer a limited lifetime warranty.

OptioConnect's transceivers are RoHS compliant and lead-free.

## 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			4	M
AWG				26	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	$\text{Return\_Loss}(f) \geq \begin{cases} -9.5 + 0.37(f), & 0.05 \leq f < 8 \\ -4.75 + 7.4 * \log_{10}\left(\frac{f}{14}\right), & 8 \leq f < 14.1 \end{cases}$			dB
Differential to Common-Mode Return Loss	SCD11/22	$\text{Return\_Loss}(f) \geq \begin{cases} -22 + 20\left(\frac{f}{25.78}\right), & 0.01 \leq f < 12.89 \\ -15 + 6\left(\frac{6}{25.78}\right), & 12.89 \leq f \leq 14.1 \end{cases}$			dB
Minimum COM	COM	3			dB
Rise Time (20-80%)				34	ps

## Pin Descriptions

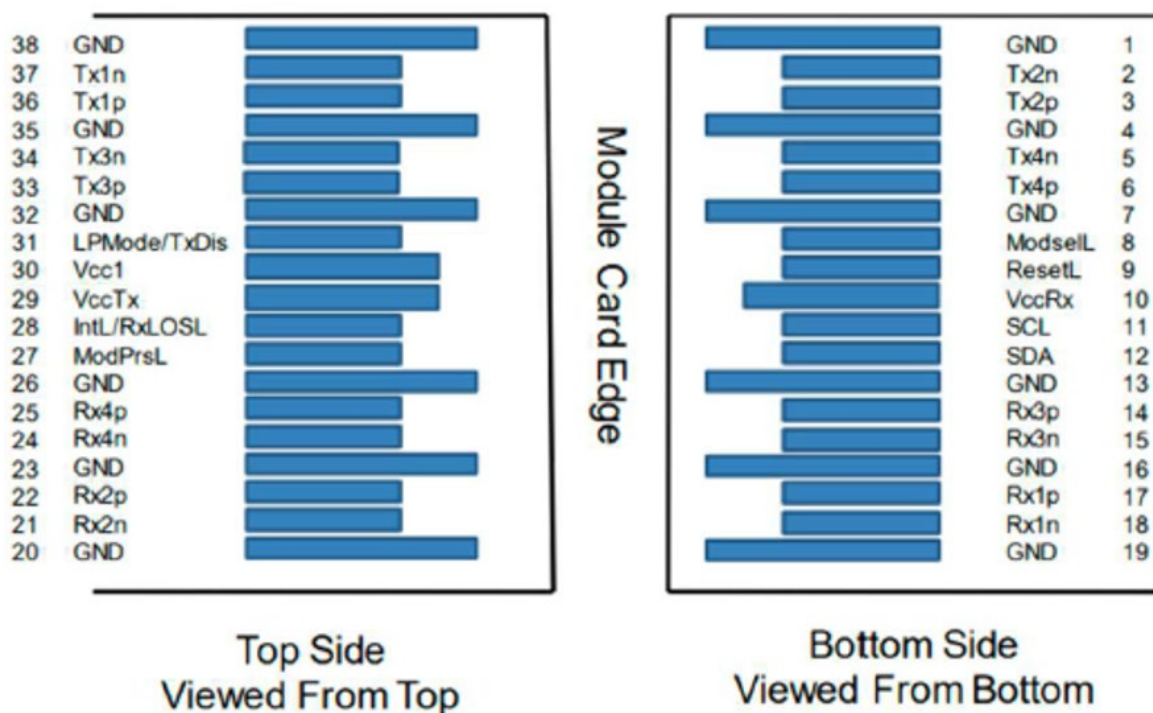
Pin	Logic	Symbol	Name/Description	Plug Sequence	Note
1		GND	Module Ground.	1	1
2	CML-I	Tx2-	Transmitter Inverted Data Input.	3	
3	CML-I	Tx2+	Transmitter Non-Inverted Data Input.	3	
4		GND	Module Ground.	1	1
5	CML-I	Tx4-	Transmitter Inverted Data Input.	3	
6	CML-I	Tx4+	Transmitter Non-Inverted Data Input.	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	LVC MOS-I/O	SCL	2-Wire Serial Interface Clock.	3	
12	LVC MOS-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

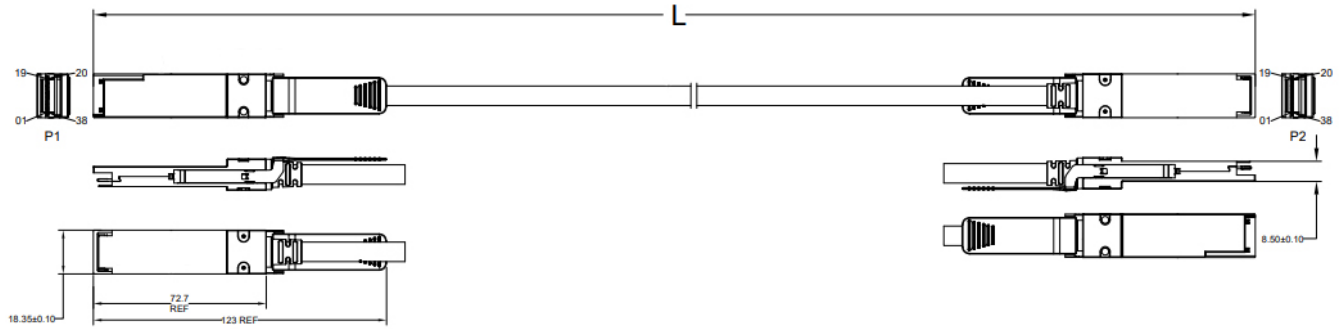
#### Notes:

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 10M $\Omega$ , and conduction resistance maximum of 3 $\Omega$ . IEEE802.3ba/IB FDR10 standard.

## **OptioConnect**

### **Innovation for the Future of High-Speed Networking**

#### **Who We Are**

OptioConnect is reshaping the landscape of communication and high-speed networking through intelligent technology. With a core focus on cutting edge technology, we deliver smarter fiber optic solutions for enterprise networks, data centers, and next-gen telecom infrastructures.

#### **What We Do**

At OptioConnect, we fuse advanced engineering with intelligent automation to drive the future of networking. Our AI-integrated solutions are designed to optimize performance and streamline operations with:

- Superior Performance
- Network and traffic optimization
- Intelligent energy management
- Seamless OEM compatibility
- Scalable cost-efficiency

#### **Smarter Networks by Design**

Innovation isn't just a goal—it's our process. We embed AI and machine learning across our R&D and product lines, enabling adaptive performance, automated tuning, and faster deployment cycles. The result? Networks that don't just work—they learn, evolve, and outperform.

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Our engineers, data scientists, and network architects bring decades of experience and a future-focused mindset. We provide hands-on support with intelligent insights that turn complex challenges into simple solutions.

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