



### **QSFP28-100GB-PDAC1MLZ-C-OPC**

Cisco® Compatible TAA 100GBase-CU QSFP28 to QSFP28 Direct Attach Cable (Passive Twinax, 1m, 30AWG, LSZH)

#### **Features**

- Compliant to SFF-8661
- 100Gbps
- 30AWG
- Passive copper
- Operating Temperature 0 to 70 Celsius
- RoHS 2.0 compliant and lead-free



#### **Applications:**

- 100GBase Ethernet

#### **Product Description**

This is a Cisco® compatible 100GBase-CU QSFP28 to QSFP28 LSZH direct attach cable that operates over passive copper with a maximum reach of 1.0m (3.3ft). 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			100		Gbps

## Physical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit
Length	L			1	M
AWG				30	AWG
Jacket Material	LSZH, Black				

## 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 12.89GHz	SDD21	8		22.48	dB
Return Loss at 12.89GHz	SDD11/22	$\text{Return\_Loss}(f) \geq \begin{cases} 16.5 - 2\sqrt{f}, & 0.05 \leq f < 4.1 \\ 10.66 - 14\log_{10}\left(\frac{f}{5.5}\right), & 4.1 \leq f \leq 19 \end{cases}$			dB
Differential to Common-Mode Return Loss	SCD11/22	$\text{Return\_Loss}(f) \geq \begin{cases} 22 - \left(\frac{20}{25.78}\right)f, & 0.01 \leq f < 12.89 \\ 15 - \left(\frac{6}{25.78}\right)f, & 12.89 \leq f \leq 19 \end{cases}$			dB
Differential to Common-Mode Conversion Loss	SCD21-SDD21	$\text{Conversion\_Loss}(f) - \text{IL}(f) \geq \begin{cases} 10, & 0.01 \leq f < 12.89 \\ 27 - \left(\frac{29}{22}\right)f, & 12.89 \leq f < 15.7 \\ 6.3, & 15.7 \leq f \leq 19 \end{cases}$			dB
Minimum COM	COM	3			dB
Rise Time (20-80%)				25	ps

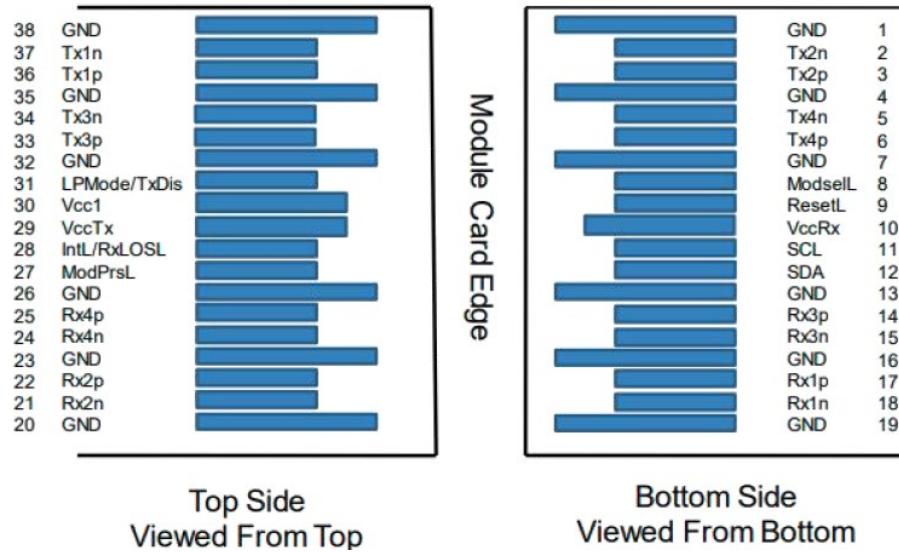
## Pin Descriptions

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	MODSEIL	Module Select.	3	
9	LVTTL-I	ResetL	Module Reset.	3	
10		VccRx	+3.3V Receiver Power Supply.	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	Interrupt. Optionally configurable as RxLOSL via the management interface (SFF-8636).	3	
29		VccTx	+3.3V Transmitter Power Supply.	2	2
30		Vcc1	+3.3V Power Supply.	2	2
31	LVTTL-I	LPMode	Low-Power Mode. Optionally configurable as Tx_Disable 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

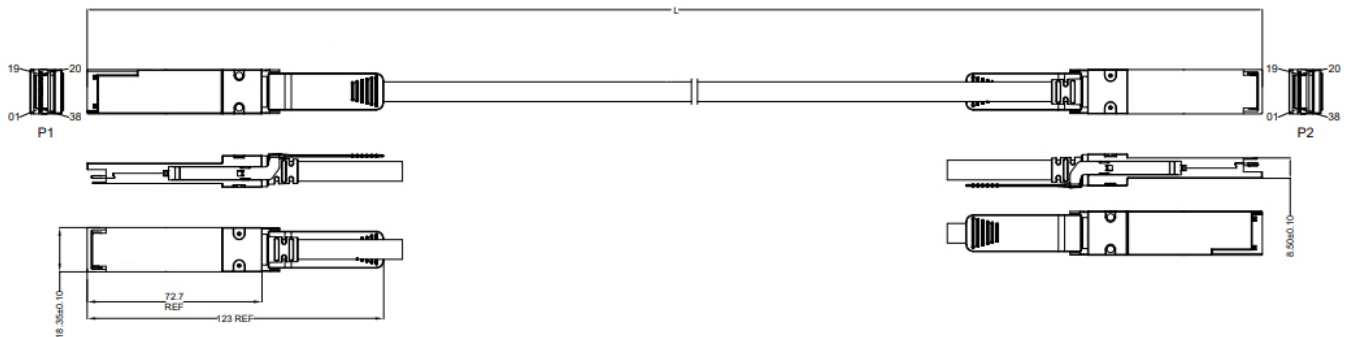
### Notes:

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.

## **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.

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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

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#### **Our Mission**

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