



MCP1600-E02AE26-OPC

Mellanox® MCP1600-E02AE26 Compatible TAA Compliant 56G/100GBase-CU QSFP28 Direct Attach Cable (Passive Twinax, 2.5m)

Features

- QSFP Module Compliant to SFF-8661
- Transmission Data Rate up to 25.78Gbps Per Channel
- Enable 100Gbps Transmission
- Wire Gauge: 26AWG
- Operating Temperature: 0 to 70 Celsius
- Built-In EEPROM Functions
- RoHS Compliant and Lead-Free



Applications:

- 100GBase Ethernet

Product Description

This is a Mellanox® MCP1600-E02AE26 compatible 56G/100GBase-CU QSFP28 to QSFP28 direct attach cable that operates over passive copper with a maximum reach of 2.5m (8.2ft). 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.

General Specifications

Parameter	Symbol	Min.	Typ.	Max.	Unit
Supply Voltage	Vcc	3.13	3.3	3.47	V
Storage Temperature	Tstg	-40		85	°C
Operating Temperature	Tc	0		70	°C
Relative Humidity	RH	5		85	%
Data Rate			100		Gbps

Physical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit
Length	L			3	M
AWG				26	AWG
Jacket Material		LSZH, Black			
Relative Humidity	RH	VW-1			

Electrical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Resistance	Rcon			3	Ω	
Insulation Resistance	Rins			10	MΩ	
Raw Cable Impedance	Zca	95	100	110	Ω	
Mated Connector Impedance	Zmated	85	100	115	Ω	
Insertion Loss @12.89GHz	SDD21			16.74	dB	
Common-Mode Return Loss @50MHz to 26GHz	SCC22			-2		
Return Loss @12.89GHz	SDD11/22	$\text{Return_Loss}(f) \leq \begin{cases} -9.5+0.37f & 0.5 \leq f < 8 \\ -4.75+7.4*\lg(f/14) & 8 \leq f \leq 26 \end{cases}$			dB	1
Differential to Common-Mode Return Loss	SCD11/22	$\text{Reflection}(f) \leq \begin{cases} 22-(20/25.78)f & 0.01 \leq f \leq 12.89 \\ -15+(6/25.78)f & 12.89 \leq f \leq 26 \end{cases}$			dB	1
Differential to Common-Mode Conversion Loss	SCD21-SDD21	$\text{Deviation}(f) \leq \begin{cases} 0.75 & 0.01 \leq f < 5 \\ (0.26)(f-5)+0.75 & 5 \leq f < 15.5 \\ 3.5 & 15.5 \leq f \leq 19.5 \end{cases}$			dB	2

Notes:

- For $0.05 \leq f \leq 26\text{GHz}$, where “f” is the frequency in GHz.
- For $0.01 \leq f \leq 19.5\text{GHz}$, where “f” is the frequency in GHz.

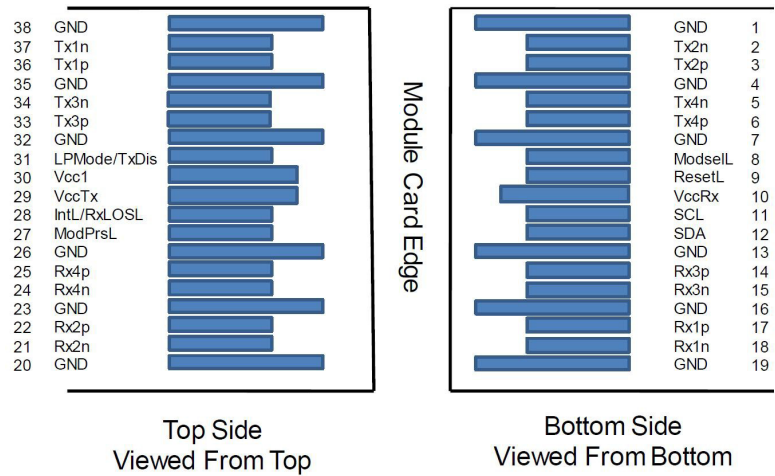
Pin Descriptions

Pin	Logic	Symbol	Name/Description	Plug Sequence	Notes
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	2
9	LVTTL-I	ResetL	Module Reset.	3	2
10		VccRx	+3.3V Receiver Power Supply.	2	
11	LVC MOS-I/O	SCL	2-Wire Serial Interface Clock.	3	2
12	LVC MOS-I/O	SDA	2-Wire Serial Interface Data.	3	2
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.	3	1
21	CML-O	Rx2-	Receiver Inverted Data Output.	3	
22	CML-O	Rx2+	Receiver Non-Inverted Data Output.	1	
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.	3	2
29		VccTx	+3.3V Transmitter Power Supply.	2	
30		Vcc1	+3.3V Power Supply.	2	
31	LVTTL-I	LPMode	Low-Power Mode.	3	2
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

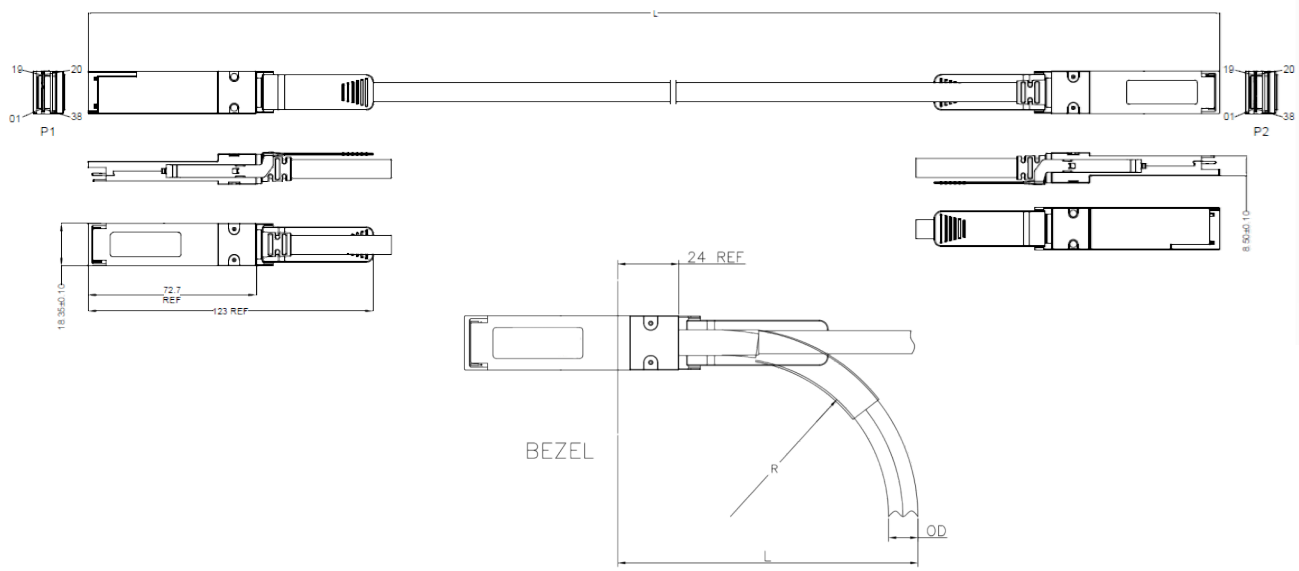
Notes:

- 1. GND is the symbol for signal and supply (power) common for the QSFP+ module. All are common within the QSFP+ module, and all module voltages are references to this potential unless otherwise noted. Connect the directly to the host board signal-common ground plane.
- 2. VccRx, Vcc1, and VccTx are the receiver and transmitter power supplies and shall be applied concurrently. Requirements defined for the host board power supply filtering is shown below. VccRx, Vcc1, and VccTx may be internally connected within the QSFP+ module in any combination. The connector pins are each for a maximum current of 500mA.

Electrical Pin-Out Details



Mechanical Specifications



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.

Our Team

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.

Our Mission

To deliver AI-enhanced connectivity that reduces cost, increases speed, and maximizes efficiency—empowering our partners to operate at the forefront of a rapidly evolving digital world.

Let's Connect

Discover how OptioConnect's intelligent infrastructure solutions can power your network's next leap forward.

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