



DAPQQM04C000AV2

Mellanox® MCP1600-E004E26 Compatible 56G/100GBase-CU QSFP28 Direct Attach Cable (Passive Twinax, 4m)

Product Description

This is a Mellanox® MCP1600-E004E26 compatible 56G/100GBase-CU QSFP28 to QSFP28 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 built to comply with MSA (Multi-Source Agreement) standards. We stand behind the quality of our products and proudly offer a limited lifetime warranty.

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

Features:

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



Applications:

- 100GBase Ethernet
- Infiniband
- Serial Data Transmission

For your product safety, please read the following information carefully before any manipulation of the transceiver:



ESD

This transceiver is specified as ESD threshold 1kV for SFI pins and 2kV for all others electrical input pins, tested per MIL-STD-883G, Method 3015.4 / JESD22-A114-A (HBM). However, normal ESD precautions are still required during the handling of this module.



LASER SAFETY

This is a Class1 Laser Product according to IEC 60825-1:2007. This product complies with 21 CFR 1040.10 and 1040.11 except for deviations pursuant to Laser Notice No. 50, dated (June 24, 2007).

The optical ports of the module need to be terminated with an optical connector or with a dust plug in order to avoid contamination.

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	Return_Loss(f) ≤ $\begin{cases} -9.5+0.37f & 0.5 \leq f < 8 \\ -4.75+7.4*\lg(f/14) & 8 \leq f \leq 26 \end{cases}$			dB	1
Differential to Common-Mode Return Loss	SCD11/22	Reflection(f) ≤ $\begin{cases} 22-(20/25.78)f & 0.01 \leq f \leq 12.89 \\ -15+(6/25.78)f & 12.89 \leq f \leq 26 \end{cases}$			dB	1
Differential to Common-Mode Conversion Loss	SCD21-SDD21	Deviation(f) ≤ $\begin{cases} 0.75 & 0.01 \leq f < 5 \\ (0.26)(f-5)+0.75 & 5 \leq f < 15.5 \\ 3.5 & 15.5 \leq f \leq 19.5 \end{cases}$			dB	2

Notes:

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

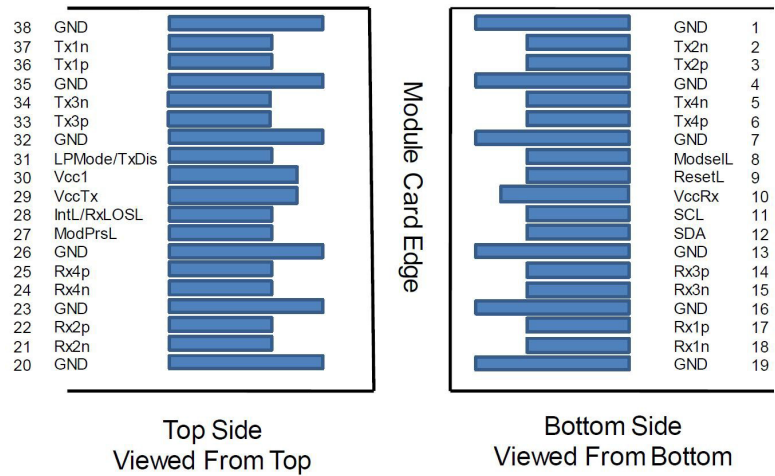
Pin Descriptions

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

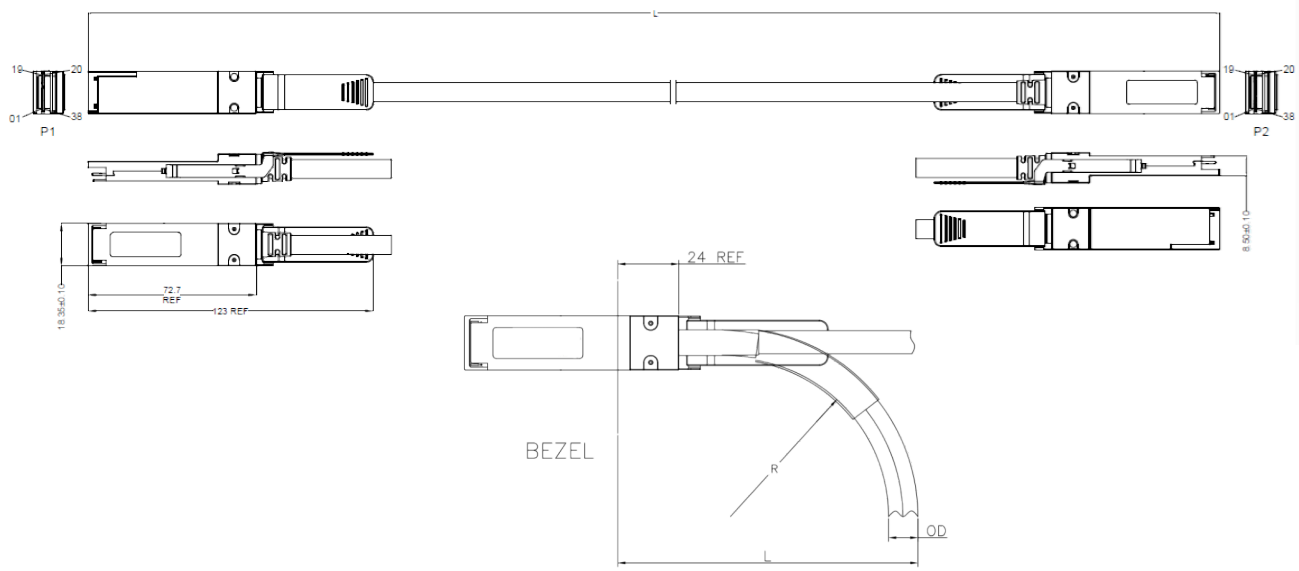
Notes:

- 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



About Skylane Optics

Skylane is a leading provider of transceivers for optical communication.

We offer an extensive portfolio for the enterprise, access, datacenter and metropolitan fiber optical market as well as for smart home applications and home networks.

We cover the European, South American and North American market with a strong partner network and have offices in Belgium, Brazil, Sweden and USA.

Our offerings are characterized by high quality and performance. In combination with our strong technical support, we enable our customers to build cost optimized network solutions.

We offer an extensive range of high-quality products including transceivers (Optical and copper), Active Optical Cable (AOC), Direct Attach Cable (DAC), Mux/Demux, Coding Box.

