OPTIO CONNECT

QSFP28-2QSFP28-PDAC1M-DE-OPC

Dell® Compatible TAA Compliant 100GBase-CU QSFP28 to 2xQSFP28 Direct Attach Cable (Passive Twinax, 1m)

Features

- • QSFP Module Complaint to SFF-8661
- • Transmission Data Rate up to 25.78 Gbps per Channel
- • Enable (4x25.78)100Gbps Transmission
- • Built in EEPROM Functions
- • Operating Temperature: 0 to 70 Celcius
- • RoHS Complaint and Lead-Free

Applications:

- • Switch, Storage, Server

Product Description

This is a Dell® QSFP28-2QSFP28-PDAC1M-DE compatible 100GBase-CU QSFP28 to 2xQSFP28 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.

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

Electrical Specifications

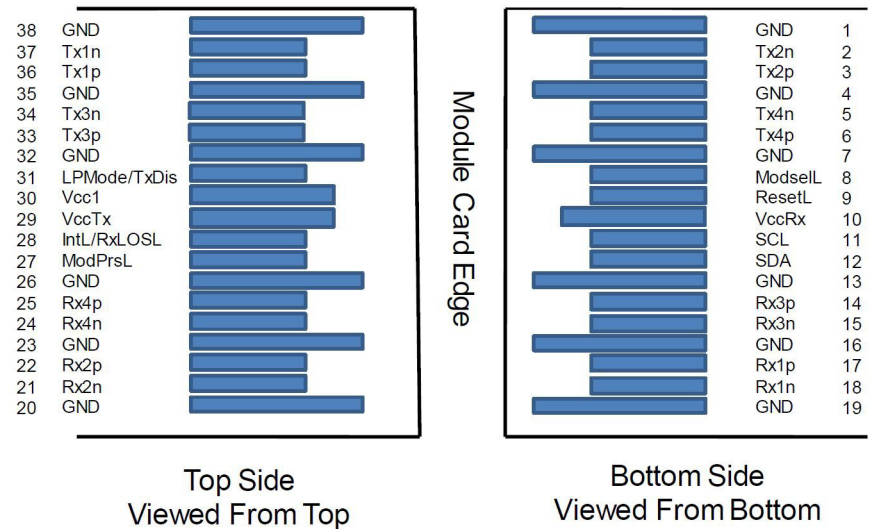| Parameter	Symbol	Min.	Typ.	Max.	Unit
Resistance	Rcon			3	Ω
Insulation Resistance	Rins			10	MΩ
Raw Cable Impedance	Zca	95	100	105	Ω
Mated Connector Impedance	Zmated	85	100	115	Ω
Insertions Loss at 12.89 GHz	SDD21	8		22.48	dB
Return Loss at 12.89GHz	SDD11/22	$\text{Return\_Loss}(f) \geq \begin{cases} 16.5 - 2\sqrt{f} & 0.5 \leq f < 4.1 \\ 10.66 - 14\log_{10}(f/5.5) & 4.1 \leq f \leq 19 \end{cases}$			dB
Differential to Common-Mode Return Loss	SCD11/22	$\text{Return\_Loss}(f) \geq \begin{cases} 22 - (20/25.78)f & 0.01 \leq f \leq 12.89 \\ 15 - (6/25.78)f & 12.89 \leq f \leq 19 \end{cases}$			dB
Differential to Common-Mode Conversion Loss	SCD21-SDD21	$\text{Conversion\_Loss}(f) \geq -IL(f) \geq \begin{cases} 10 & 0.01 \leq f < 12.89 \\ 27 - (29/22)f & 0.01 \leq f < 15.7 \\ 6.3 & 15.7 \leq f \leq 19 \end{cases}$			dB
Minimum COM	COM	3			dB

Pin Descriptions

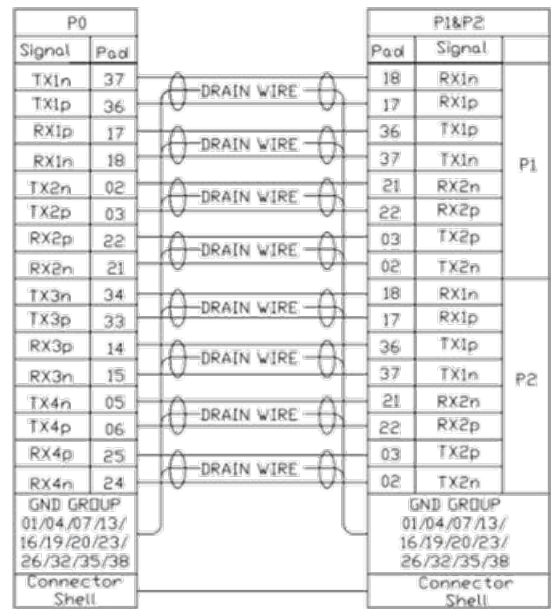| Pin	Logic	Symbol	Name/Descriptions	Plug Sequence	Ref.
1		GND	Module Ground.	1	1
2	CML-I	Tx2-	Transmitter Inverted Data Input.	3	
3	CML-I	Tx2+	Transmitter Non-Inverted Data Input.	3	
4		GND	Module Ground.	1	1
5	CML-I	Tx4-	Transmitter Inverted Data Input.	3	
6	CML-I	Tx4+	Transmitter Non-Inverted Data 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	LVCMOS-I/O	SCL	2-Wire Serial Interface Clock.	3	2
12	LVCMOS-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. Internally pulled down to the GND.	3	
28	LVTTL-O	IntL	Interrupt output should be pulled up on the host board.	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 in host board figure. 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.
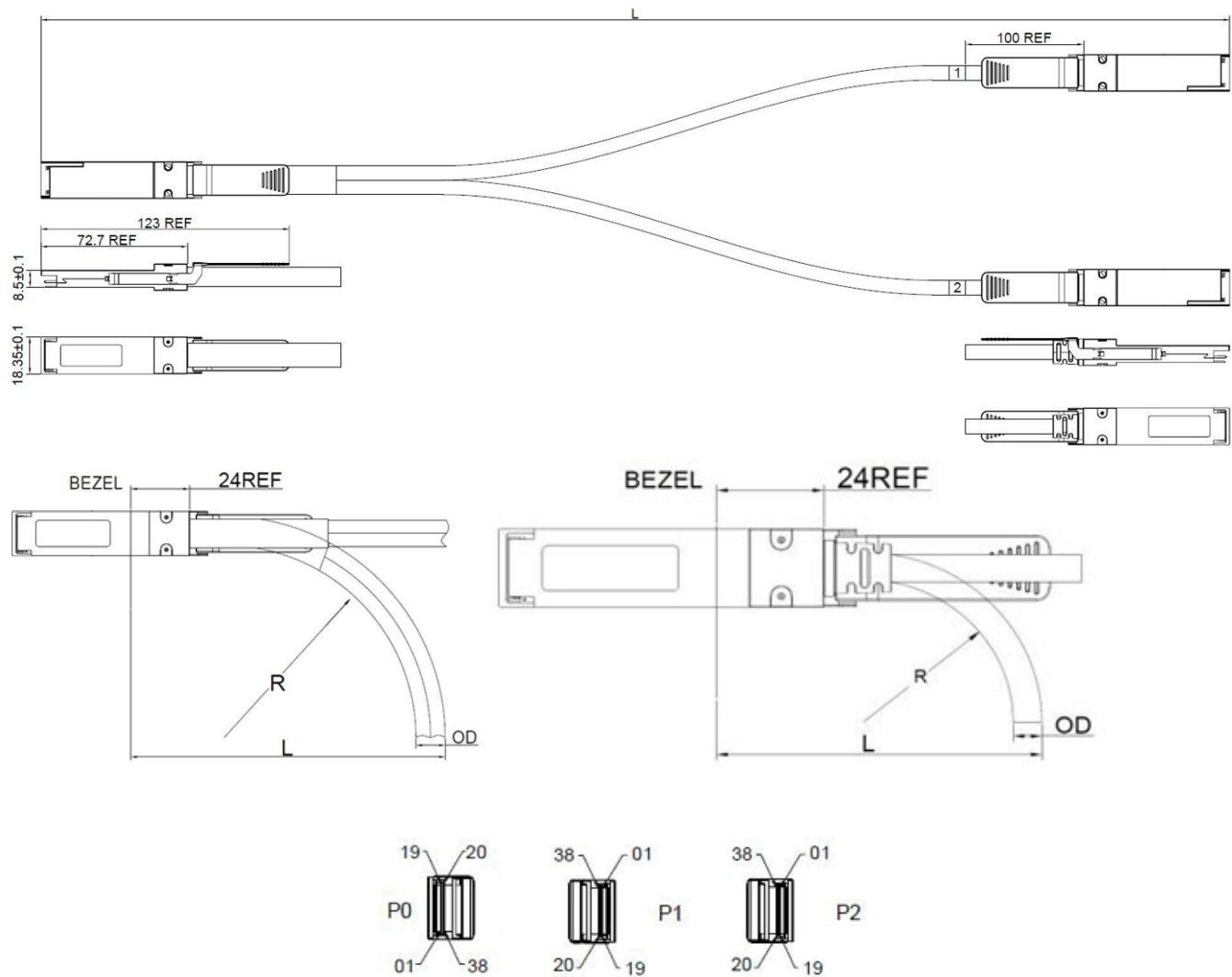
Electrical Pin-out Details

Top Side (Viewed From Top)		Bottom Side (Viewed From Bottom)	
38	GND	GND	1
37	Tx1n	Tx2n	2
36	Tx1p	Tx2p	3
35	GND	GND	4
34	Tx3n	Tx4n	5
33	Tx3p	Tx4p	6
32	GND	GND	7
31	LPMode/TxDis	ModselL	8
30	Vcc1	ResetL	9
29	VccTx	VccRx	10
28	IntL/RxLOSL	SCL	11
27	ModPrsL	SDA	12
26	GND	GND	13
25	Rx4p	Rx3p	14
24	Rx4n	Rx3n	15
23	GND	GND	16
22	Rx2p	Rx1p	17
21	Rx2n	Rx1n	18
20	GND	GND	19

Module Card Edge

Wire Diagram

P0 Signal	Pad		Pad	P1&P2 Signal	
TX1n	37	DRAIN WIRE	18	RX1n	P1
TX1p	36		17	RX1p	
RX1p	17	DRAIN WIRE	36	TX1p	
RX1n	18		37	TX1n	
TX2n	02	DRAIN WIRE	21	RX2n	
TX2p	03		22	RX2p	
RX2p	22	DRAIN WIRE	03	TX2p	
RX2n	21		02	TX2n	
TX3n	34	DRAIN WIRE	18	RX1n	P2
TX3p	33		17	RX1p	
RX3p	14	DRAIN WIRE	36	TX1p	
RX3n	15		37	TX1n	
TX4n	05	DRAIN WIRE	21	RX2n	
TX4p	06		22	RX2p	
RX4p	25	DRAIN WIRE	03	TX2p	
RX4n	24		02	TX2n	
GND GROUP 01/04/07/13/ 16/19/20/23/ 26/32/35/38				GND GROUP 01/04/07/13/ 16/19/20/23/ 26/32/35/38	
Connector Shell				Connector Shell	

Mechanical Specifications

Cable Specifications

Parameter		Symbol	Min.	Typ.	Max.	Unit
Length		L	0.5		5.0	M
AWG				30		AWG
Jacket Material			PVC, Black (or Customization)			
OD	P0			12MM		
	P1 & P2			6MM		
Bend Radius	P0	R		60MM		
	P1 & P2			30MM		
Minimum Bend Radius	P0	L		96MM		
	P1 & P2			60MM		

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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