QDD-2X100G-SR4-C

Juniper Networks® QDD-2X100G-SR4 Compatible TAA 2x 100GBase-SR4 QSFP28-DD Transceiver (MMF, 850nm, 100m, MPO-24, DOM)

Features:

- SFF-8665 Compliance
- MPO Connector
- Multi-mode Fiber
- Commercial Temperature 0 to 70 Celsius
- Hot Pluggable
- Metal with Lower EMI
- Excellent ESD Protection
- RoHS Compliant and Lead Free

Applications:

- 2x100GBase Ethernet
- Access and Enterprise

Product Description

This Juniper Networks® QDD-2X100G-SR4 compatible QSFP28-DD transceiver provides 200GBase-SR4 throughput up to 100m over multi-mode fiber (MMF) using a wavelength of 850nm via an MPO-24 connector. It is guaranteed to be 100% compatible with the equivalent Juniper Networks® transceiver. This easy to install, hot swappable transceiver has been programmed, uniquely serialized and data-traffic and application tested to ensure that it will initialize and perform identically. Digital optical monitoring (DOM) support is also present to allow access to real-time operating parameters. This transceiver is Trade Agreements Act (TAA) compliant. We stand behind the quality of our products and proudly offer a limited lifetime warranty.

ProLabs' transceivers are RoHS compliant and lead-free.

TAA refers to the Trade Agreements Act (19 U.S.C. & 2501-2581), which is intended to foster fair and open international trade. TAA requires that the U.S. Government may acquire only "U.S. – made or designated country end products."

TAA COMPLIANT

Rev. 040523

Absolute Maximum Ratings

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Maximum Supply Voltage	Vcc	-0.5		3.6	V	
Storage Temperature	T_S	-40		+85	ºC	
Relative Humidity - Storage	RH	5		85	%	1
Operating Case Temperature	T_C	0		70	ºC	
Data Rate	DR		2x100		Gbps	
Distance				70 (OM3) 100 (OM4)	M	

Notes:

1. Non-condensing

Electrical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Module Supply Voltage	V_{CC}	3.13	3.3	3.47	V	
Module Supply Current (Tx and Rx)	I_{IN}			1440	mA	
Power Consumption	P_D			5	W	
Transmitter						
Data Input Differential Peak-to Peak Voltage Swing	Vin,pp	20		950	mVpp	1
LOS Assert Threshold	Vin,pp LOS	120			mVpp	2
Receiver						
Data Output Differential Peak-to Peak Voltage Swing, each lane	ΔVDO pp	300		800	mVpp	3

Notes:

1. AC coupled internally.
2. Tx Data Input Differential Peak-to-Peak Voltage Swing
3. AC coupled with 100ohm differential output impedance.

Optical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit.	Notes
Transmitter						
Signaling rate, each lane			25.78125		GBd	
Center Wavelength	λ	840		860	nm	
Spectral Width – RMS	Δλ			0.6	nm	
Transmitter and dispersion eye closure (TDEC), each lane (max)				4.3	dB	
Output Optical Power: Average each lane	PO AVE	-8.4		2.4	dBm	
Output Optical Modulation Amplitude, each lane		-6.4		3	dBm	1
Extinction Ratio	ER	2			dB	
Output Optical Power: Disabled	PO_OFF			-30	dBm	
Eye Mask		Compliant with IEEE 802.3bm				
Receiver						
Signaling rate, each lane			25.78125		GBd	
Center wavelength, each lane	Λ	840		860	nm	
Damage Threshold		3.4			dBm	
Receiver Power (OMA), each lane				3	dBm	
Maximum Average power at receiver input, each lane		-10.3		2.4	dBm	
Receiver Reflectance				-12	dB	
Stressed receiver sensitivity (OMA)				-5.2	dBm	2
LOS Assert		-19			dB	
LOS De-Assert				-11	dB	
LOS Hysteresis		0.5			dB	

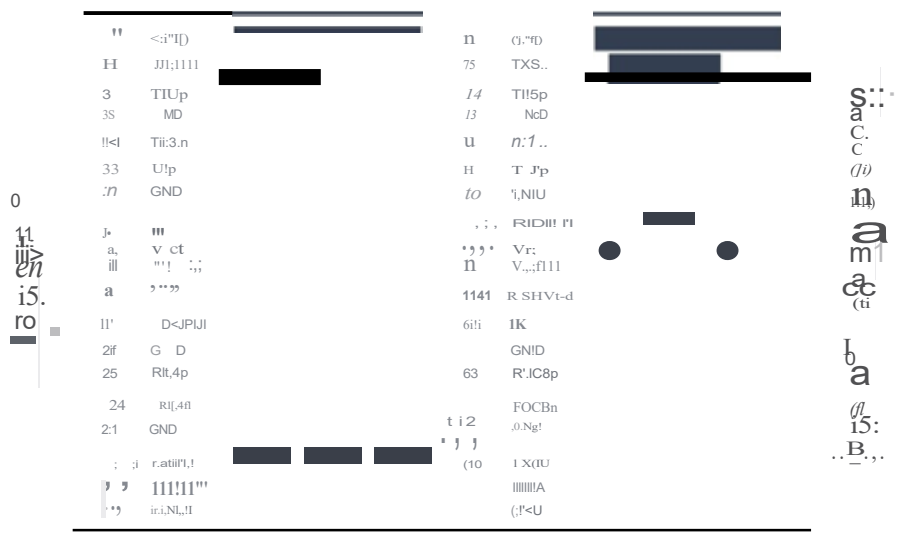
Notes:

1. Even if the TDP<0.9dB, the OMA (min) must exceed this value
2. Measured with 25.78125-Gbps of PRBS-31 at 5x10-5 BER.

PIN Descriptions

PIN	Logic	Symbol	Description	Plug Sequence
1		GND	Ground	1B
2	CML-I	Tx2n	Transmitter Inverted Data Input	3B
3	CML-I	Tx2p	Transmitter Non-Inverted Data Input	3B
4		GND	Ground	1B
5	CML-I	Tx4n	Transmitter Inverted Data Input	3B
6	CML-I	Tx4p	Transmitter Non-Inverted Data Input	3B
7		GND	Ground	1B
8	LVTTL-I	ModSelL	Module Select	3B
9	LVTTL-I	ResetL	Module Reset	3B
10		VccRx	+3.3V Power Supply Receiver	2B
11	LVCMOS-I/O	SCL	2-wire serial interface clock	3B
12	LVCMOS-I/O	SDA	2-wire serial interface data	3B
13		GND	Ground	1B
14	CML-O	Rx3p	Receiver Non-Inverted Data Output	3B
15	CML-O	Rx3n	Receiver Inverted Data Output	3B
16		GND	Ground	1B
17	CML-O	Rx1p	Receiver Non-Inverted Data Output	3B
18	CML-O	Rx1n	Receiver Inverted Data Output	3B
19		GND	Ground	1B
20		GND	Ground	1B
21	CML-O	Rx2n	Receiver Inverted Data Output	3B
22	CML-O	Rx2p	Receiver Non-Inverted Data Output	3B
23		GND	Ground	1B
24	CML-O	Rx4n	Receiver Inverted Data Output	3B
25	CML-O	Rx4p	Receiver Non-Inverted Data Output	3B
26		GND	Ground	1B
27	LVTTL-O	ModPrsL	Module Present	3B
28	LVTTL-O	IntL	Interrupt	3B
29		VccTx	+3.3V Power supply transmitter	2B
30		Vcc1	+3.3V Power supply	2B
31	LVTTL-I	InitMode	Initialization mode; In legacy QSFP applications, the InitMode pad is called LPMODE	3B
32		GND	Ground	1B
33	CML-I	Tx3p	Transmitter Non-Inverted Data Input	3B
34	CML-I	Tx3n	Transmitter Inverted Data Input	3B
35		GND	Ground	1B
36	CML-I	Tx1p	Transmitter Non-Inverted Data Input	3B
37	CML-I	Tx1n	Transmitter Inverted Data Input	3B

38		GND	Ground	1B
39		GND	Ground	1A
40	CML-I	Tx6n	Transmitter Inverted Data Input	3A
41	CML-I	Tx6p	Transmitter Non-Inverted Data Input	3A
42		GND	Ground	1A
43	CML-I	Tx8n	Transmitter Inverted Data Input	3A
44	CML-I	Tx8p	Transmitter Non-Inverted Data Input	3A
45		GND	Ground	1A
46		Reserved	For future use	3A
47		VS1	Module Vendor Specific 1	3A
48		VccRx1	3.3V Power Supply	2A
49		VS2	Module Vendor Specific 2	3A
50		VS3	Module Vendor Specific 3	3A
51		GND	Ground	1A
52	CML-O	Rx7p	Receiver Non-Inverted Data Output	3A
53	CML-O	Rx7n	Receiver Inverted Data Output	3A
54		GND	Ground	1A
55	CML-O	Rx5p	Receiver Non-Inverted Data Output	3A
56	CML-O	Rx5n	Receiver Inverted Data Output	3A
57		GND	Ground	1A
58		GND	Ground	1A
59	CML-O	Rx6n	Receiver Inverted Data Output	3A
60	CML-O	Rx6p	Receiver Non-Inverted Data Output	3A
61		GND	Ground	1A
62	CML-O	Rx8n	Receiver Inverted Data Output	3A
63	CML-O	Rx8p	Receiver Non-Inverted Data Output	3A
64		GND	Ground	1A
65		NC	No Connect	3A
66		Reserved	For future use	3A
67		VccTx1	3.3V Power Supply	2A
68		Vcc2	3.3V Power Supply	2A
69		Reserved	For Future Use	3A
70		GND	Ground	1A
71	CML-I	Tx7p	Transmitter Non-Inverted Data Input	3A
72	CML-I	Tx7n	Transmitter Inverted Data Input	3A
73		GND	Ground	1A
74	CML-I	Tx5p	Transmitter Non-Inverted Data Input	3A
75	CML-I	Tx5n	Transmitter Inverted Data Input	3A
76		GND	Ground	1A



Top side viewe,d from Top

Legacy QSFP28 Pads

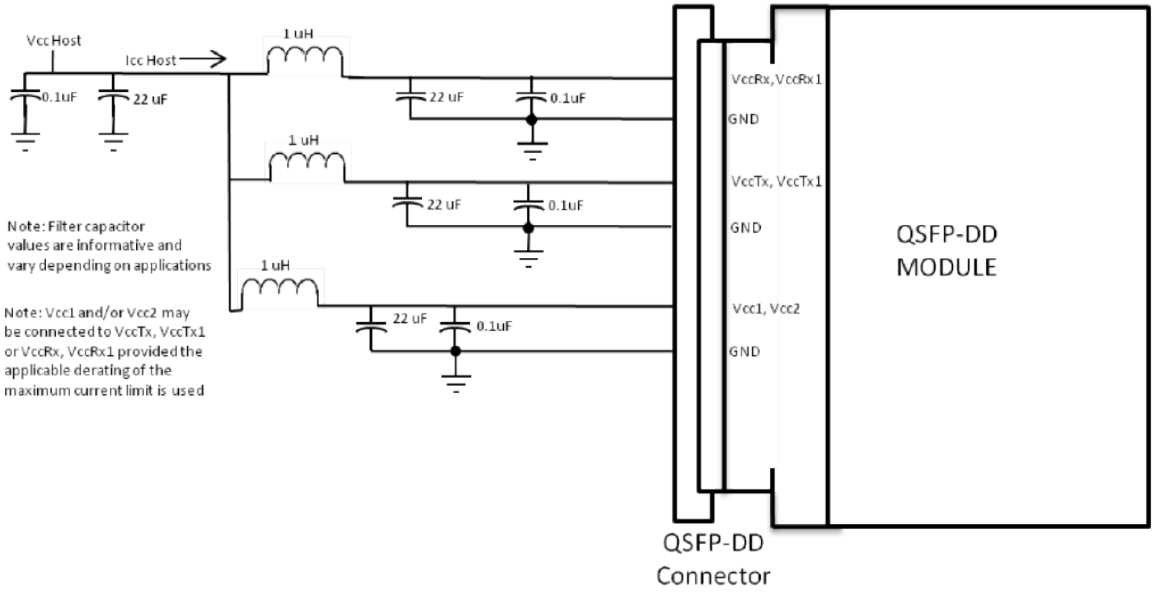
Additional QSIFP-DD Pads

Bottom side viewed from1Bottom

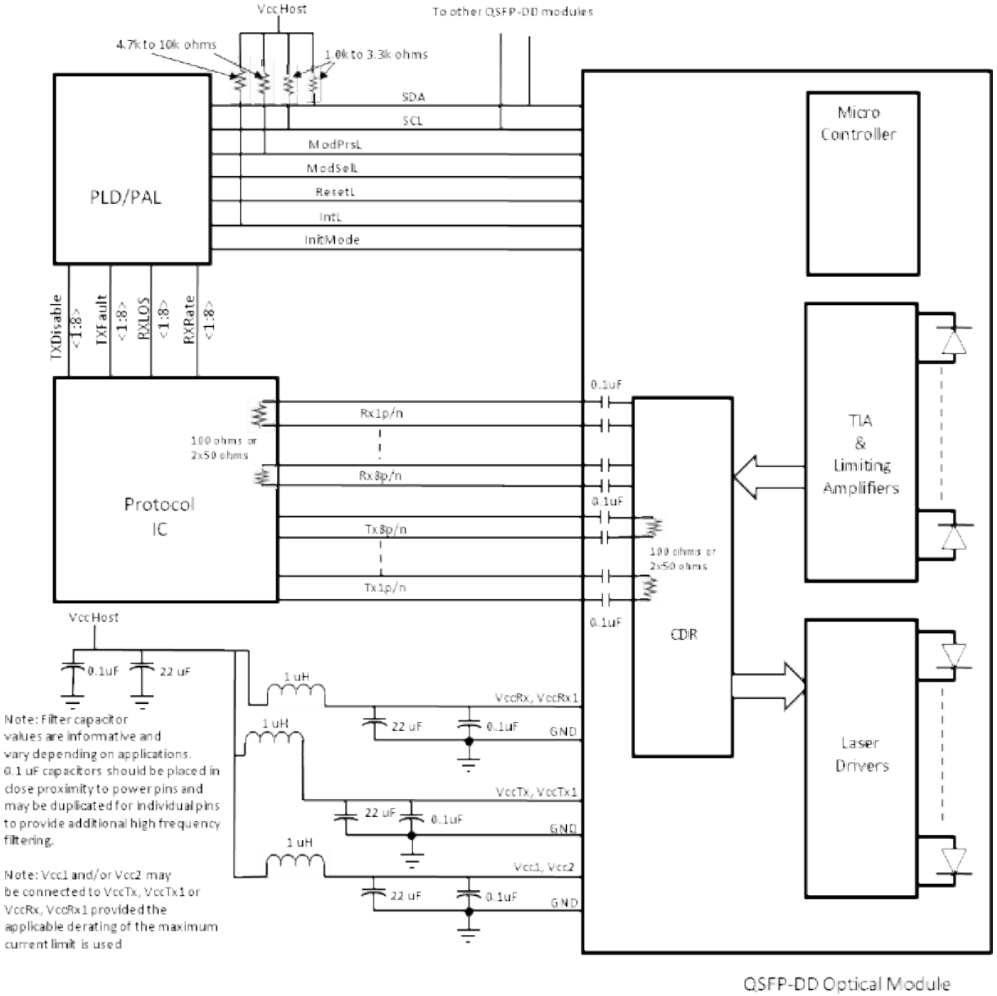
Addi11ional QSFP-0D Pads

Legacy QSFIP28 Pads

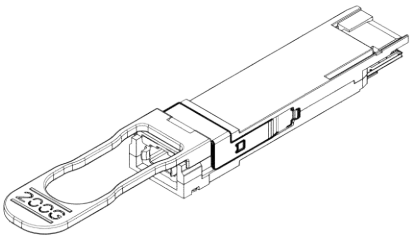
Recommended Host Board Power Supply Filtering

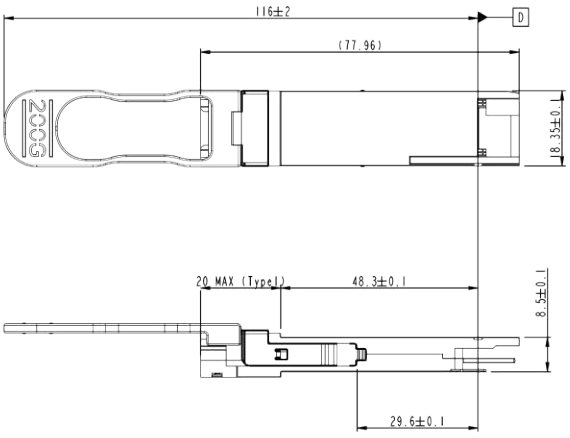


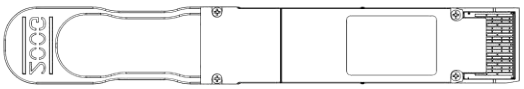
Recommended Interface Circuit



Mechanical Specifications







About ProLabs

Our experience comes as standard; for over 15 years ProLabs has delivered optical connectivity solutions that give our customers freedom and choice through our ability to provide seamless interoperability. At the heart of our company is the ability to provide state-of-the-art optical transport and connectivity solutions that are compatible with over 90 optical switching and transport platforms.

Complete Portfolio of Network Solutions

ProLabs is focused on innovations in optical transport and connectivity. The combination of our knowledge of optics and networking equipment enables ProLabs to be your single source for optical transport and connectivity solutions from 100Mb to 400G while providing innovative solutions that increase network efficiency. We provide the optical connectivity expertise that is compatible with and enhances your switching and transport equipment.

Trusted Partner

Customer service is our number one value. ProLabs has invested in people, labs and manufacturing capacity to ensure that you get immediate answers to your questions and compatible product when needed. With Engineering and Manufacturing offices in the U.K. and U.S. augmented by field offices throughout the U.S., U.K. and Asia, ProLabs is able to be our customers best advocate 24 hours a day.

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