JNP-QSFP-100G-2DW29-OPC

Juniper Networks® JNP-QSFP-100G-2DW29 Compatible TAA 100GBase-DWDM PAM4 QSFP28 Transceiver C-Band (SMF, 1554.13nm, 80km w/EDFA/DCM, LC, DOM)

Features

- SFF-8665 Compliance
- Duplex LC Connector
- 100GHz DWDM ITU Grid
- Single-mode Fiber
- Commercial Temperature 20 to 70 Celsius
- Hot Pluggable
- Metal with Lower EMI
- Excellent ESD Protection
- RoHS Compliant and Lead Free

Applications:

- 100GBase Ethernet
- Access, Metro and Enterprise

Product Description

This Juniper Networks® JNP-QSFP-100G-2DW29 compatible QSFP28 transceiver provides 100GBase-DWDM throughput up to 80km over single-mode fiber (SMF) PAM4 using a wavelength of 1554.13nm via an LC connector. It can operate at temperatures between 0 and 70C. Our transceiver is built to meet or exceed OEM specifications and is guaranteed to be 100% compatible with Juniper Networks®. It has been programmed, uniquely serialized, and tested for data-traffic and application to ensure that it will initialize and perform identically. All of our transceivers comply with Multi-Source Agreement (MSA) standards to provide seamless network integration. Additional product features include Digital Optical Monitoring (DOM) support which allows 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.

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

Regulatory Compliance

- ESD to the Electrical PINs: compatible with MIL-STD-883E Method 3015.4
- ESD to the LC Receptacle: compatible with IEC 61000-4-3
- EMI/EMC compatible with FCC Part 15 Subpart B Rules, EN55022:2010
- Laser Eye Safety compatible with FDA 21CFR, EN60950-1& EN (IEC) 60825-1,2
- RoHS compliant with EU RoHS 2.0 directive 2015/863/EU

Wavelength Guide (100GHz ITU-T Channel)

Channel #	Frequency (GHz)	Wavelength (nm)	Frequency (GHz)	Wavelength (nm)
	L0		L1	
16	191600	1564.68	191650	1564.27
17	191700	1563.86	191750	1563.45
18	191800	1563.05	191850	1562.64
19	191900	1562.23	191950	1561.83
20	192000	1561.42	192050	1561.01
21	192100	1560.61	192150	1560.2
22	192200	1559.79	192250	1559.39
23	192300	1558.98	192350	1558.58
24	192400	1558.17	192450	1557.77
25	192500	1557.36	192550	1556.96
26	192600	1556.56	192650	1556.15
27	192700	1555.75	192750	1555.34
28	192800	1554.94	192850	1554.54
29	192900	1554.13	192950	1553.73
30	193000	1553.33	193050	1552.93
31	193100	1552.52	193150	1552.12
32	193200	1551.72	193250	1551.32
33	193300	1550.92	193350	1550.52
34	193400	1550.12	193450	1549.72
35	193500	1549.32	193550	1548.91
36	193600	1548.52	193650	1548.11
37	193700	1547.72	193750	1547.32
38	193800	1546.92	193850	1546.52
39	193900	1546.12	193950	1545.72
40	194000	1545.32	194050	1544.92
41	194100	1544.53	194150	1544.13
42	194200	1543.73	194250	1543.33
43	194300	1542.94	194350	1542.54
44	194400	1542.14	194450	1541.75
45	194500	1541.35	194550	1540.95
46	194600	1540.56	194650	1540.16
47	194700	1539.77	194750	1539.37
48	194800	1538.98	194850	1538.58

49	194900	1538.19	194950	1537.79
50	195000	1537.4	195050	1537
51	195100	1536.61	195150	1536.22
52	195200	1535.82	195250	1535.43
53	195300	1535.04	195350	1534.64
54	195400	1534.25	195450	1533.86
55	195500	1533.47	195550	1533.07
56	195600	1532.68	195650	1532.29
57	195700	1531.9	195750	1531.51
58	195800	1531.12	195850	1530.72
59	195900	1530.33	195950	1529.94
60	196000	1529.55	196050	1529.16
61	196100	1528.77	196150	1528.38

Absolute Maximum Ratings

Parameter	Symbol	Min.	Typical	Max.	Unit
Signal Input Voltage	Vin	-0.5		Vcc+0.5	V
Power Supply Voltage	Vcc	-0.5		3.6	°C
Storage Temperature	TS	5		85	°C
Operating Temperature	Tcase	20		70	°C

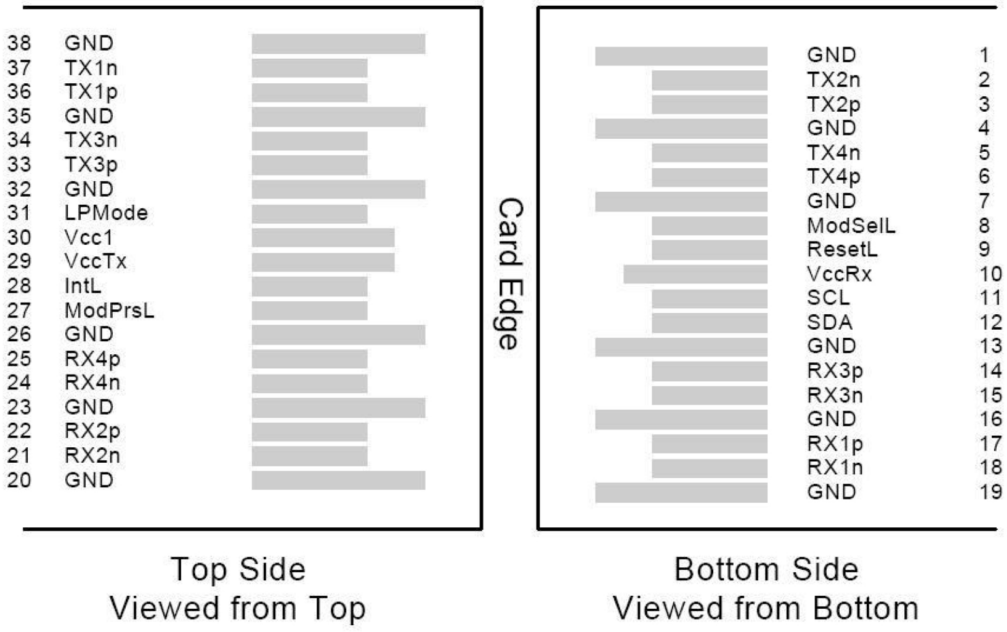
Electrical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Power Supply Voltage	Vcc	3.135	3.3	3.465	V	
Power Dissipation	P_D		4	5	W	

Optical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Transmitter						
Optical Wavelength	λC	1480	λ	1580	nm	
Channel Spacing	Δf		100		GHz	
Optical Extinction Ratio	ER		6		dB	
Side-Mode Suppression Ratio	SMSR	30			dB	
Spectral Width	Δλ		+/-25	1	GHz	
Optical Transmit Power	Pout/lane	-11	-10	-8	dBm	
Receiver						
Optical Wavelength	λC	1480		1580	nm	
Receiver Max. Sensitivity	Pmin	-3	-2.5	-2	dBm	
Damage Threshold	Pmax	10			dBm	
Optical Return Loss	ORL			20	dBm	
LOS Hysteresis	LOSH		1.0		dB	
LOS Assert	LOSA	-10			dBm	
LOS De-Assert	LOSD			-3	dBm	

Electrical Pin-out Details



Pin Descriptions

Pin	Logic	Symbol	Name/Descriptions	Plug Sequence	Ref.
1		GND	Ground	1	1
2	CML-I	Tx2n	Transmitter Inverted Data Input	3	
3	CML-I	Tx2p	Transmitter Non-Inverted Data output	3	
4		GND	Ground	1	1
5	CML-I	Tx4n	Transmitter Inverted Data Input	3	
6	CML-I	Tx4p	Transmitter Non-Inverted Data output	3	
7		GND	Ground	1	1
8	LVTTL-I	ModSelL	Module Select	3	
9	LVTTL-I	ResetL	Module Reset	3	
10		VccRx	+3.3V Power Supply Receiver	2	2
11	LVCMOS- I/O	SCL	2-Wire Serial Interface Clock	3	
12	LVCMOS- I/O	SDA	2-Wire Serial Interface Data	3	
13		GND	Ground	1	1
14	CML-O	Rx3p	Receiver Non-Inverted Data output	3	
15	CML-O	Rx3n	Receiver Inverted Data output	3	
16		GND	Ground	1	1
17	CML-O	Rx1p	Receiver Non-Inverted Data output	3	
18	CML-O	Rx1n	Receiver Inverted Data output	3	
19		GND	Ground	1	1
20		GND	Ground	1	1
21	CML-O	Rx2n	Receiver Inverted Data output	3	
22	CML-O	Rx2p	Receiver Non-Inverted Data output	3	
23		GND	Ground	1	1
24	CML-O	Rx4n	Receiver Inverted Data output	3	
25	CML-O	Rx4p	Receiver Non-Inverted Data output	3	
26		GND	Ground	1	1
27	LVTTL-O	ModPrsL	Module Present	3	
28	LVTTL-O	IntL	Interrupt	3	
29		VccTx	+3.3V Power Supply Transmitter	2	2
30		Vccl	+3.3V Power Supply	2	2
31	LVTTL-I	LPMode	Low Power Mode	3	
32		GND	Ground	1	1
33	CML-I	Tx3p	Transmitter Non-Inverted Data input	3	
34	CML-I	Tx3n	Transmitter Inverted Data Input	3	
35		GND	Ground	1	1
36	CML-I	Tx1p	Transmitter Non-Inverted Data input	3	
37	CML-I	Tx1n	Transmitter Inverted Data Input	3	
38		GND	Ground	1	1

Notes:

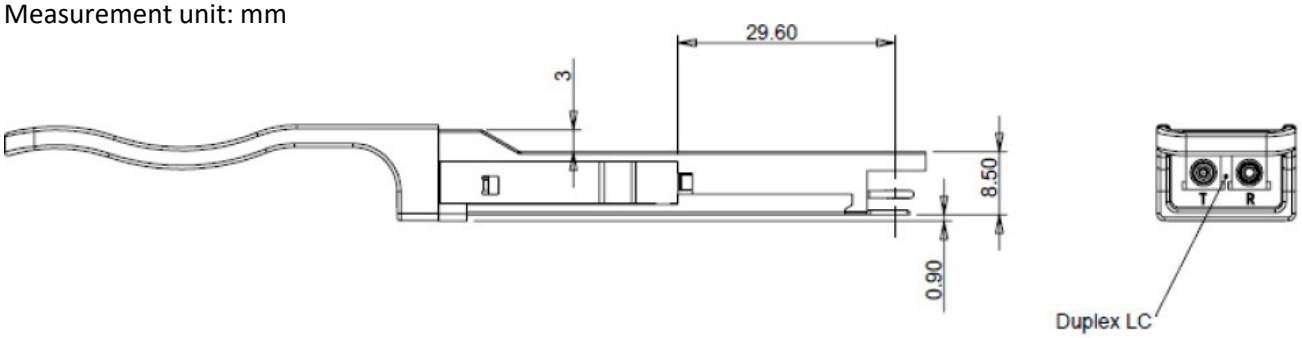
1. GND is the symbol for signal and supply (power) common for the QSFP28 module. All are common within the QSFP28 module and all module voltages are referenced to this potential unless otherwise noted. Connect these directly to the host board signal-common ground plane.
2. VccRx, Vcc1 and VccTx are the receiver and transmitter power supplies and shall be applied concurrently. Requirements defined for the host side of the Host Edge Card Connector are listed in Table 6. Recommended host board power supply filtering is shown in Figures 3 and 4. Vcc Rx Vcc1 and Vcc Tx may be internally connected within the QSFP28 Module in any combination. The connector pins are each rated for a maximum current of 500Ma.

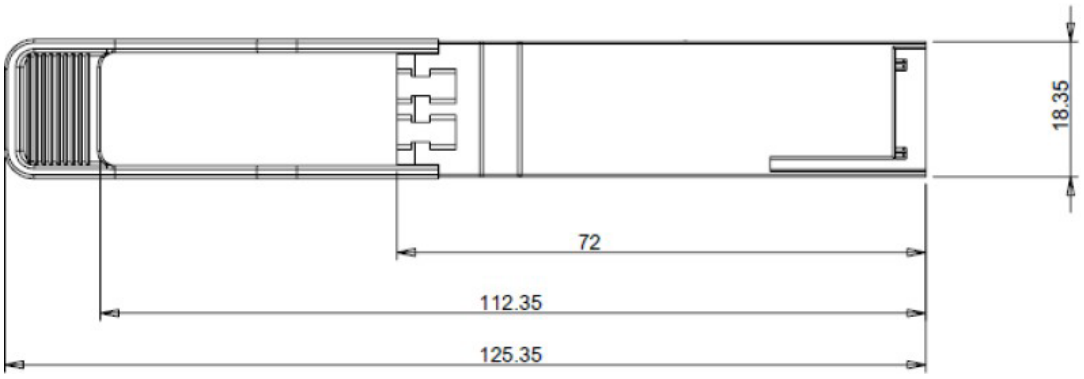
DOM Specifications

Parameter	Min.	Typ.	Max.	Unit
Receive Power Monitor Accuracy	-2		2	dB
Transmit Power Monitor	-2		2	dB
Laser Bias Current Monito Accuracy	-10		10	%
Transceiver Temperature Monitor Accuracy	-5		5	˚C
Internally Measured Transceiver Supply Voltage			3	%

Mechanical Specifications

Measurement unit: mm





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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