QSFP-100G-CWDM4-DE-OPC

Dell® QSFP-100G-CWDM4 Compatible TAA 100GBase-CWDM4 QSFP28 Transceiver (SMF, 1270nm to 1330nm, 2km, LC, DOM)

Features

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

Applications:

- Ethernet over CWDM
- Access, Metro and Enterprise

Product Description

This Dell® QSFP-100G-CWDM4 compatible QSFP28 transceiver provides 100GBase-CWDM4 throughput up to 2km over single-mode fiber (SMF) using wavelengths between 1270nm to 1330nm 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 Dell®. 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

Absolute Maximum Ratings

Parameter	Symbol	Min.	Typ	Max.	Unit
Maximum Supply Voltage	Vcc	-0.5		4.0	V
Storage Temperature	TS	-40		+85	℃
Operating Case Temperature	Tc	0	25	70	℃
Relative Humidity	RH	5		95	%
Data Rate PER Channel			25.78125		Gb/s

Electrical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Power Supply Voltage	Vcc	3.135	3.3	3.465	V	
Power Dissipation	PD			3500	mW	
Module Supply Current	Icc			1100	mA	
Transmitter						
Single-ended Input Voltage Tolerance	ZIN	-0.3		4.0	V	
Input Differential Impedance	VIN, P-P		100		Ω	
Differential Data Input Swing		190		700	mV_{P-P}	
AC Common Mode Input Voltage Tolerance		15			mV	
Differential Input Voltage Swing Threshold		50			mVpp	
Receiver						
Single-ended Output Voltage		-0.3		4.0	V	
Output Differential Impedance	Zo	90	100	110	Ω	
Differential Data Output Swing	VOUT, P-P	300		850	mVP-P	
AC Common Mode Output Voltage				7.5	mV	

Optical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Transmitter						
Launch Optical Power per lane	Po	-6.5		2.5	dBm	1
Total Launch Optical Power	Po			+8.5	dBm	1
Center Wavelength Range	L1	1264.5	1271	1277.5	nm	
	L2	1284.5	1291	1297.5	nm	
	L3	1304.5	1311	1317.5	nm	
	L4	1324.5	1331	1337.5	nm	
Extinction Ratio	EX	4			dB	2
Spectral width (-20dB)	Δλ			1	nm	
Side-mode suppression ratio	SMSR	30			dB	
Optical Return Loss Tolerance	ORLT			20	dB	
Pout @TX-Disable Asserted				-30		1
Eye Mask {X1, X2, X3, Y1, Y2, Y3}		{0.31, 0.4, 0.45, 0.34, 0.38, 0.4}				
Receiver						
Center Wavelength	L1	1264.5	1271	1277.5	nm	
	L2	1284.5	1291	1297.5	nm	
	L3	1304.5	1311	1317.5	nm	
	L4	1324.5	1331	1337.5	nm	
Sensitivity per Channel	S			-11.5	dBm	3
Overload (each channel)	POL	2.5			dBm	3
Damage Threshold (each channel)	Pdamage	3.5			dBm	
Optical Return Loss	ORL	26			dB	
LOS Assert	LOSA	-24			dBm	
LOS De-Assert	LOSD			-12.0	dBm	
LOS Hysteresis		0.5			dB	

Notes:

1. The optical power is launched into SMF.
2. Measured with a PRBS 2^{31}-1 test pattern @25.78125Gbps.
3. Measured with PRBS 2^{31}-1 test pattern, 25.78125Gb/s, BER 5.0E-5

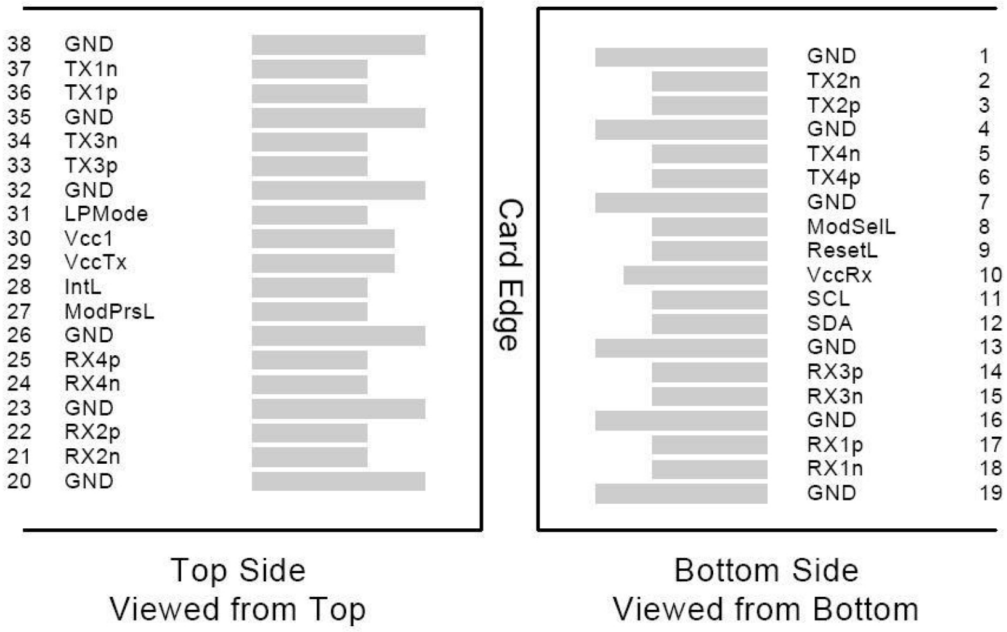
Pin Descriptions

Pin	Symbol	Name/Descriptions	Ref.
1	GND	Transmitter Ground (Common with Receiver Ground)	1
2	Tx2-	Transmitter Inverted Data Input	
3	Tx2+	Transmitter Non-Inverted Data output	
4	GND	Transmitter Ground (Common with Receiver Ground)	1
5	Tx4-	Transmitter Inverted Data Input	
6	Tx4+	Transmitter Non-Inverted Data output	
7	GND	Transmitter Ground (Common with Receiver Ground)	1
8	ModSelL	Module Select	2
9	ResetL	Module Reset	2
10	VccRx	3.3V Power Supply Receiver	
11	SCL	2-Wire serial Interface Clock	2
12	SDA	2-Wire serial Interface Data	2
13	GND	Transmitter Ground (Common with Receiver Ground)	1
14	Rx3+	Receiver Non-Inverted Data Output	
15	Rx3-	Receiver Inverted Data Output	
16	GND	Transmitter Ground (Common with Receiver Ground)	1
17	Rx1+	Receiver Non-Inverted Data Output	
18	Rx1-	Receiver Inverted Data Output	
19	GND	Transmitter Ground (Common with Receiver Ground)	1
20	GND	Transmitter Ground (Common with Receiver Ground)	1
21	Rx2-	Receiver Inverted Data Output	
22	Rx2+	Receiver Non-Inverted Data Output	
23	GND	Transmitter Ground (Common with Receiver Ground)	1
24	Rx4-	Receiver Inverted Data Output	1
25	Rx4+	Receiver Non-Inverted Data Output	
26	GND	Transmitter Ground (Common with Receiver Ground)	1
27	ModPrsl	Module Present	
28	IntL	Interrupt	2
29	VccTx	3.3V power supply transmitter	
30	Vcc1	3.3V power supply	
31	LPMode	Low Power Mode	2
32	GND	Transmitter Ground (Common with Receiver Ground)	1
33	Tx3+	Transmitter Non-Inverted Data Input	
34	Tx3-	Transmitter Inverted Data Output	
35	GND	Transmitter Ground (Common with Receiver Ground)	1
36	Tx1+	Transmitter Non-Inverted Data Input	
37	Tx1-	Transmitter Inverted Data Output	
38	GND	Transmitter Ground (Common with Receiver Ground)	1

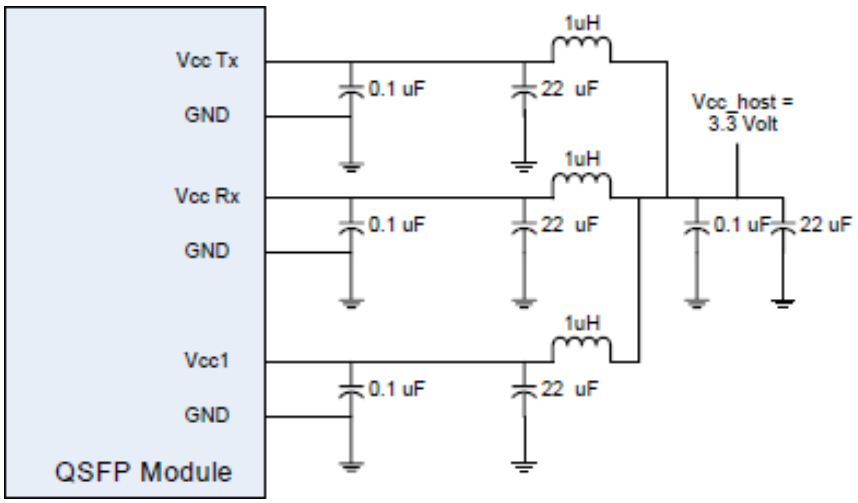
Notes:

1. The module signal grounds are isolated from the module case.
2. This is an open collector/drain output that on the host board requires a a 4.7KΩ to 10KΩ pull-up resistor to VccHost.

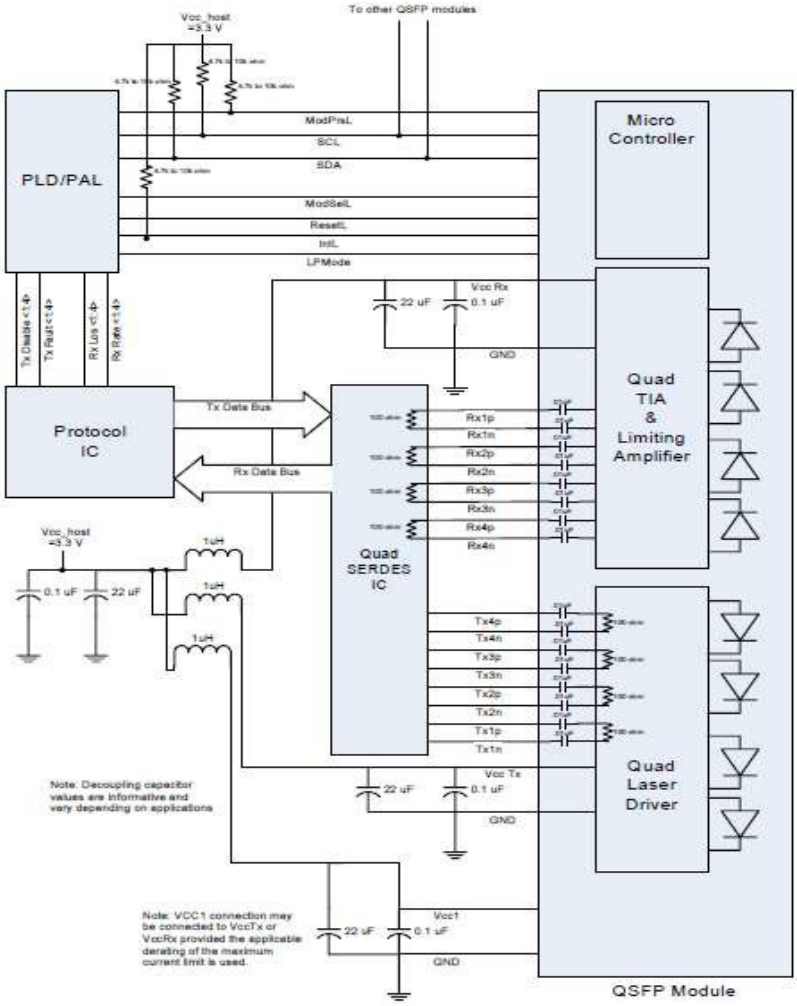
Electrical Pin-out Details



Recommended Host Board Power Supply Filter Network

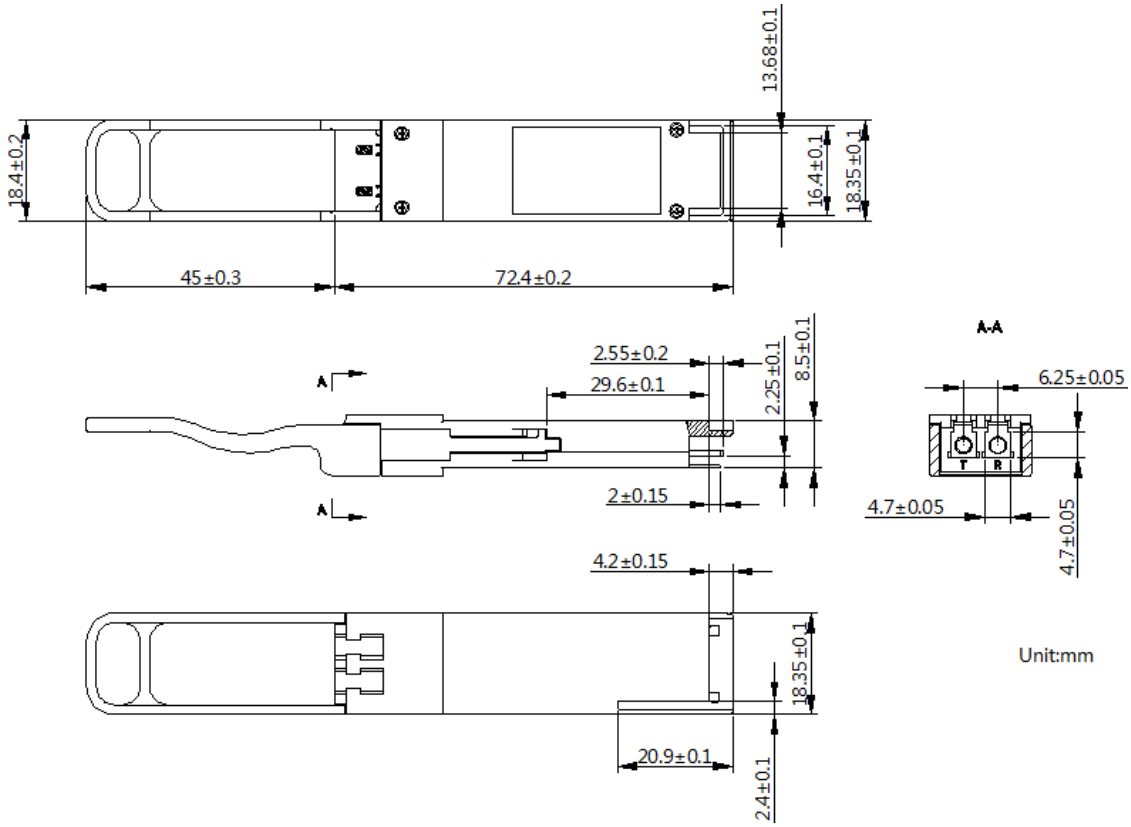


Recommended Application Interface Block Diagram



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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