



QSFP28-100GB-PSM4-NF-MX-OPC

Mellanox® Compatible TAA 100GBase-PSM4 QSFP28 Transceiver (SMF, 1310nm, 2km, MPO, DOM, No FEC)

Features

- Compliant to IEEE 802.3bm
- 4 Parallel Lanes Design
- Compliant with MSA 100G PSM4 Specifications
- Up to 25.78125Gbps Per Channel Data Links
- Single 3.3V Power Supply
- 4-Channel PIN Photo Detector
- Up to 2km on SMF with No FEC
- Class 1 Laser Safety Certified
- Commercial Temperature: 0 to 70 Celsius
- RoHS Compliant and Lead-Free



Applications:

- 100GBase Ethernet

Product Description

This Mellanox® compatible QSFP28 transceiver provides 100GBase-PSM4 throughput up to 2km over single-mode fiber (SMF) using a wavelength of 1310nm via an MPO connector with no FEC. It is guaranteed to be 100% compatible with the equivalent Mellanox® 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.

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

Absolute Maximum Ratings

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Power Supply Voltage	V _{CC}	-0.5		4	V	
Storage Temperature	T _{stg}	-40		85	°C	
Case Operating Temperature	T _c	0	25	70	°C	
Relative Humidity	RH	5		95	%	
Data Rate	BR		25.78125		Gbps	

Electrical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Power Supply Voltage	V _{CC}	3.135	3.3	3.465	V	
Power Supply Current	I _{CC}			1060	mA	
Power Dissipation	P _{DISS}			3500	W	
Transmitter						
Input Differential Impedance	Z _{IN}	90	100	110	Ω	
Differential Data Input Swing	V _{IN,pp}	190		700	mVp-p	
AC Common-Mode Input Voltage Tolerance		15			mV	
Receiver						
Output Differential Impedance	Z _{OUT}	90	100	110	Ω	
Differential Data Output Swing	V _{OUT,pp}	300		850	mVp-p	1
AC Common-Mode Output Voltage		12		7.5	ps	
Single-Ended Output Voltage		-0.3		4		

Notes:

1. Internally AC coupled but requires an external 100Ω differential load termination.

Optical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Transmitter						
Launch Optical Power Per Lane	Po	-4.5		4	dBm	1
Side-Mode Suppression Ratio	SMSR	30			dB	
Center Wavelength	λ	1295	1310	1325	nm	
Extinction Ratio	ER	3.5			dB	2
Optical Return Loss Tolerance	ORLT			20	dB	
POUT @Tx_Disable Asserted	Poff			-30	dBm	1
Transmitter Eye Mask Definition	{X1, X2, X3, Y1, Y2, Y3} {0.31, 0.4, 0.45, 0.34, 0.38, 0.4}					
Receiver						
Center Wavelength	λC	1295		1325	nm	
Average Receive Power Per Lane	P1	-7.5		2.0	dBm	
Receiver Sensitivity Per Lane	S			-7.5	dBm	3
Receiver Overload Per Channel	POL	2.0			dBm	3
Damage Threshold	Pdamage	3.0			dBm	
LOS De-Assert	LOSD			-12.5	dBm	
LOS Assert	LOSA	-24			dBm	
LOS Hysteresis		0.5			dB	

Notes:

1. The optical power is launched into the SMF.
2. Measured with a PRBS $2^{31}-1$ test pattern @25.78125Gbps.
3. Measured with PRBS $2^{31}-1$ test pattern, @25.78125Gbps per lane, and BER= 1×10^{-12} .

Pin Descriptions

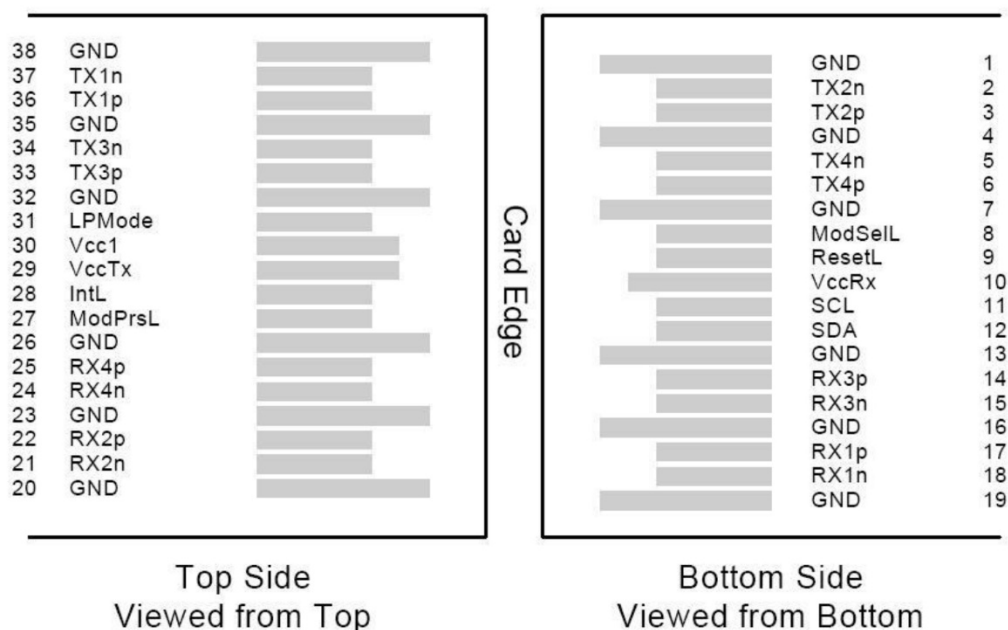
Pin	Symbol	Name/Description	Notes
1	GND	Transmitter Ground (Common with Receiver Ground).	1
2	Tx2-	Transmitter Inverted Data Input.	
3	Tx2+	Transmitter Non-Inverted Data Input.	
4	GND	Transmitter Ground (Common with Receiver Ground).	1
5	Tx4-	Transmitter Inverted Data Input.	
6	Tx4+	Transmitter Non-Inverted Data Input.	
7	GND	Transmitter Ground (Common with Receiver Ground).	1
8	ModSelL	Module Select.	2
9	ResetL	Module Reset.	2
10	VccRx	+3.3V Receiver Power Supply.	
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 Transmitter Power Supply.	
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 Input.	
38	GND	Transmitter Ground (Common with Receiver Ground).	1

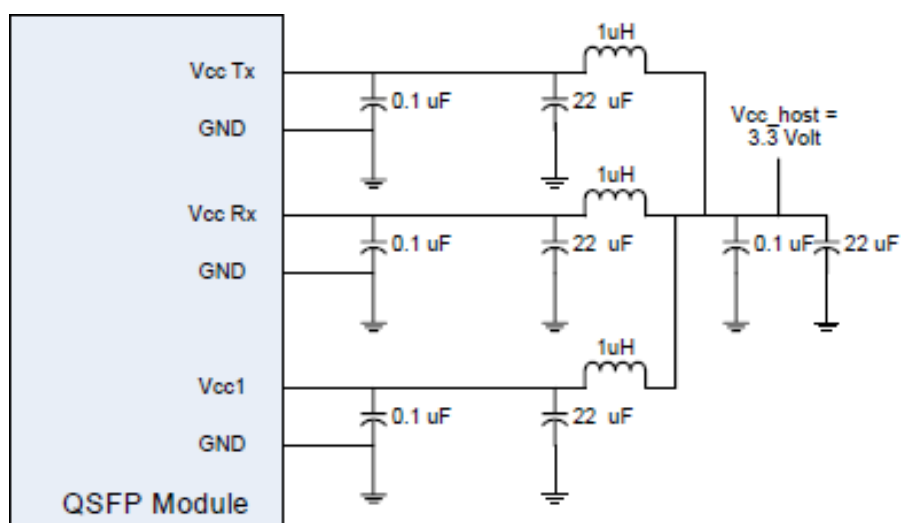
Notes:

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

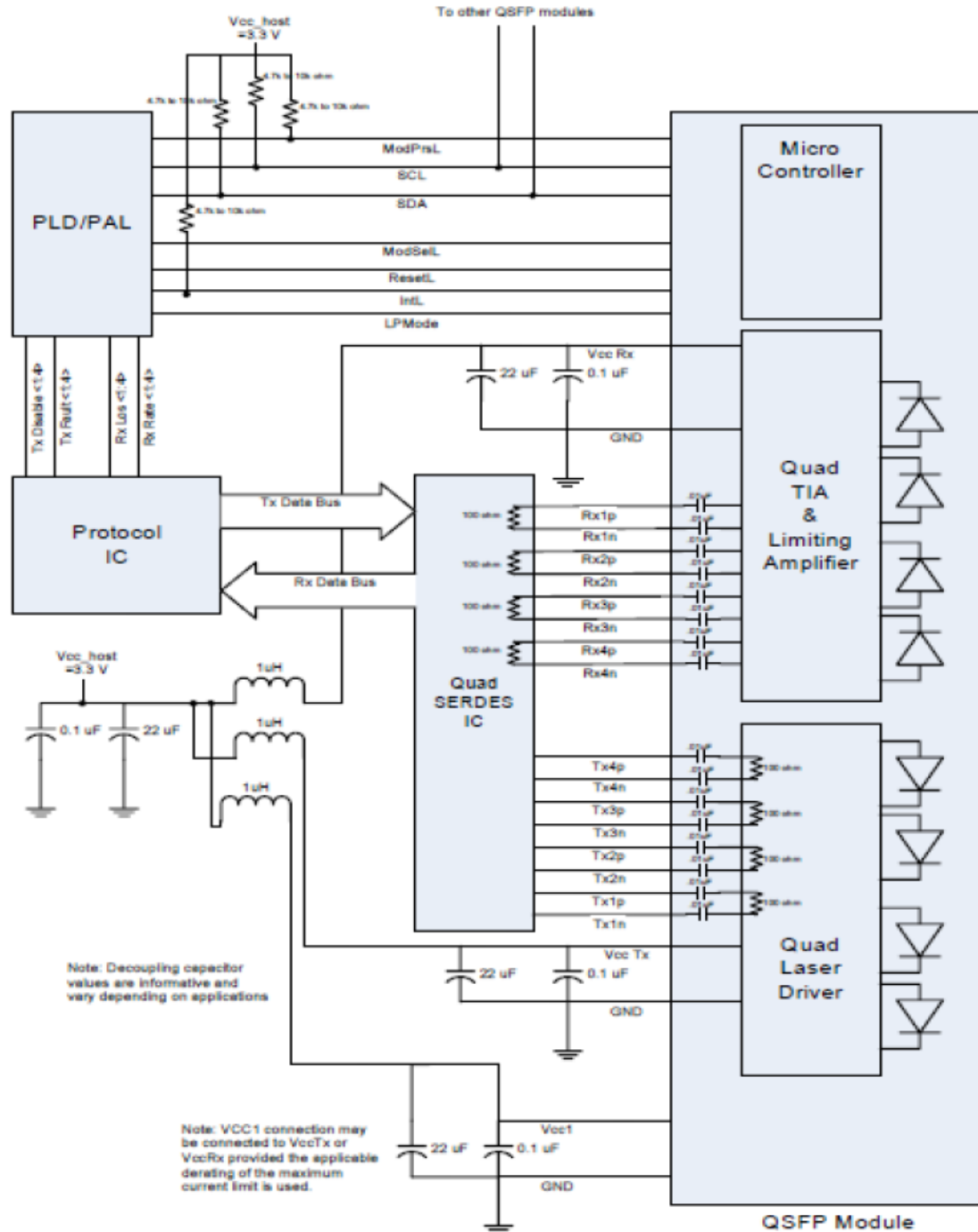
Electrical Pin-Out Details



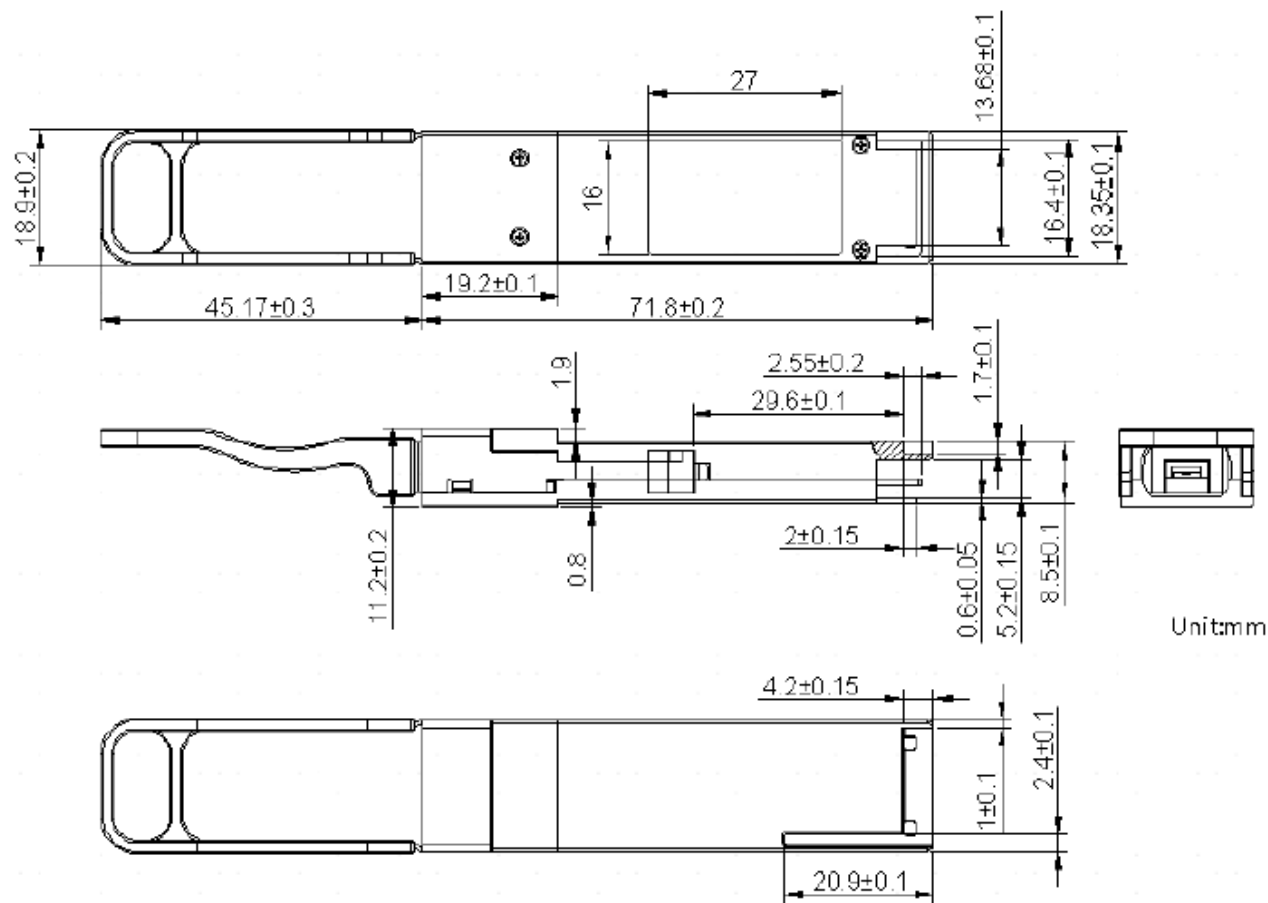
Recommended Host Board Power Supply Filter Network



Transceiver Interface Block Diagram



Mechanical Specifications



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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