

FN-TRAN-QSFP28-SR-PRO

Fortinet® FN-TRAN-QSFP28-SR Compatible TAA Compliant 100GBase-SR4 QSFP28 Transceiver (MMF, 850nm, 100m, DOM, 0 to 70C, MPO)

Features

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



Applications:

- 100GBase Ethernet
- Access and Enterprise

Product Description

This Fortinet® FN-TRAN-QSFP28-SR compatible QSFP28 transceiver provides 100GBase-SR4 throughput up to 100m over OM4 multi-mode fiber (MMF) using a wavelength of 850nm via an MPO connector. It is guaranteed to be 100% compatible with the equivalent Fortinet® 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.

Proline's 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.



Absolute Maximum Ratings

Parameter	Symbol	Min.	Тур.	Max.	Unit	Notes
Maximum Supply Voltage	Vcc	-0.5		4.0	V	
Storage Temperature	T _S	-40		+85	°C	
Relative Humidity	RH	5		95	%	
Operating Case Temperature	TC	0	25	70	°C	
Data Rate PER Channel	DR		25.78125		Gb/s	

Electrical Characteristics

Parameter	Symbol	Min.	Тур.	Max.	Unit	Notes
Supply Voltage	VCC	3.135	3.3	3.465	V	
Module Supply Current	Icc			750	mA	
Power Dissipation	P _D			2.5	W	
Transmitter						
Input Differential Impedance	ZIN		100		Ω	
Differential Data Input Swing	V _{IN, P-P}	180		900	mVp-p	
Receiver						
Output Differential Impedance	Zo		100		Ω	
Differential Data Output Swing	V _{OUT, P-P}	300		850	mVp-p	1
Transition Time (20% to 80%)	Tr,Tf	12			ps	

Notes:

- The optical power is launched into OM3 MMF.
 Measured with a PRBS 2³¹-1 test pattern @25.78125Gbps.

Optical Characteristics

Parameter	Symbol	Min.	Тур.	Max.	Unit.	Notes
Transmitter						
Launch Optical Power	Po	-8.4		+2.4	dBm	1
Center Wavelength Range	λς	840	850	860	nm	-
Extinction Ratio	EX	2			dB	2
Spectral width (RMS)	Δλ			0.6	nm	
Transmitter and Dispersion Penalty	TDP			4.3	dB	
Optical Return Loss Tolerance	ORLT			12	dB	
Eye Diagram		IEEE Std 802.3bm compatible				
Receiver						
Center Wavelength	λς	840	850	860	nm	
Average Receiver Sensitivity (Pavg)	S			-11	dBm	3
Average Receiver Sensitivity (Pavg)	S			-7.5	dBm	4
Receiver Overload (Pavg)	PoL	2.5			dBm	
Damage Threshold	PoL	3.4			dBm	
Optical Reflectance	ORL			-12	dB	
LOS Assert	LOSA	-30			dB	
LOS De-Assert	LOS _D			-11.5	dB	
LOS Hysteresis		0.5			dB	

Notes:

- 1. The optical power is launched into OM3 MMF.
- 2. Measured with a PRBS 2³¹-1 test pattern @25.78125Gbps.
- 3. Measured with a PRBS 2³¹-1 test pattern, 25.78125Gb/s, BER<5E⁻⁵.
- 4. Measured with PRBS 2³¹-1 test pattern, 25.78125Gb/s, BER<10⁻¹².

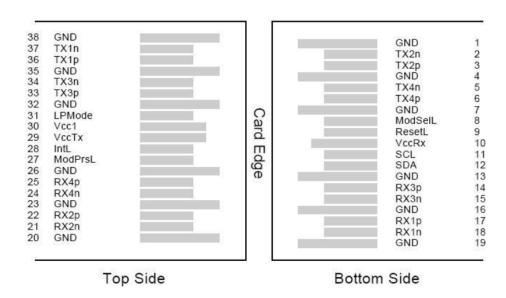
Pin Descriptions

Pin	Symbol	Function/Description	Notes
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	

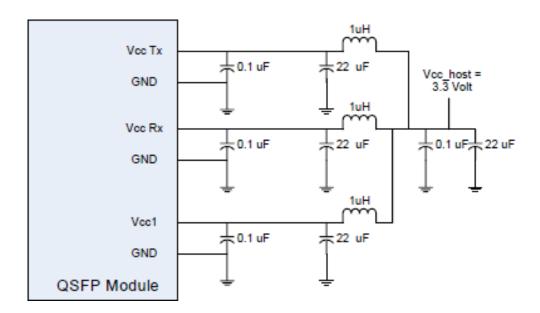
35	GND	Transmitter Ground (Common with Receiver Ground)	1
36	Tx1+	Transmitter Non-Inverted Data Input	
37	Tx1-	Transmitter Inverted Data Output	
38	GND	Transmitter Ground (Common with Receiver Ground)	1

Notes:

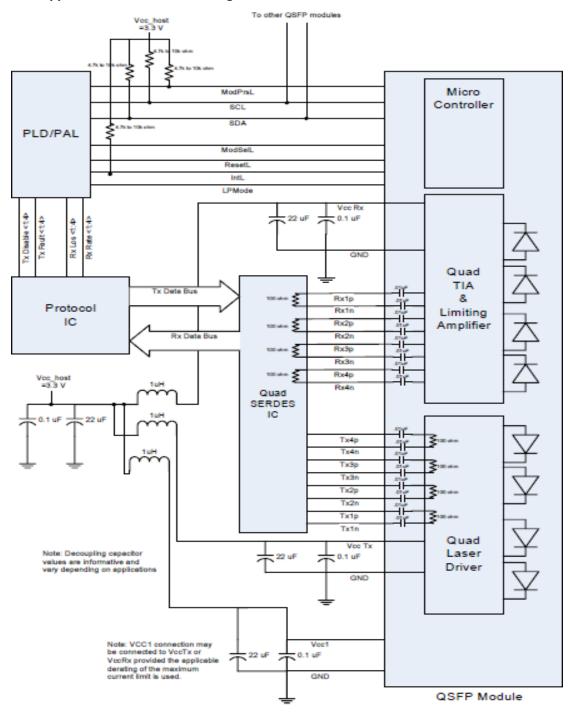
- 1. The module signal grounds are isolated from the module case.
- 2. This is an open collector/drain output that on the host board requires a $4.7K\Omega$ to $10K\Omega$ pull-up resistor to VccHost.



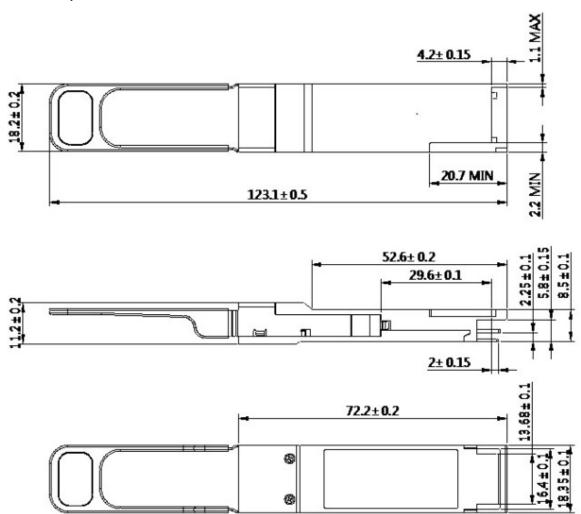
Recommended Host Board Power Supply Filter Network



Recommended Application Interface Block Diagram



Mechanical Specifications



About Us:

Proline Options is one of North America's leading providers of transceivers and high speed cabling. With a reputation for quality, tested products that cover the connectivity spectrum, Proline Options has a solution for you regardless of the specification.

At Proline Options, every product is tested in its intended application - never batch or spec tested only. We run bandwidth, distance and IOS network tests. We have documented an impressive 0.03% failure rate over the last 10 years. To continue this rate of success we invest millions annually in our own on-site testing lab.



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