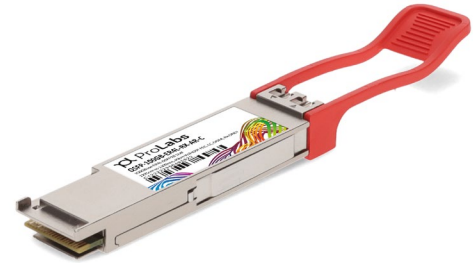


QSFP-100GB-ER4L-RX-AR-C

Arista Networks® Compatible TAA Compliant 100GBase-ER4L QSFP28 Monitor (SMF, 1310nm, 40km w/host FEC, LC, DOM, RX only)

Features:

- QSFP28 MSA Compliant
- Supports 103.125 Gbps Data Rate
- 4x 25.781Gbps Serial Electrical Interface (CEI-28G-VSR)
- 4x PIN + SOA LAN-WDM Receivers
- Power Dissipation < 3W (Power Class 4)
- Single +3.3V Power Supply
- Commercial Temperature 0 to 70 Celsius
- Duplex LC Connector
- Hot pluggable
- RoHS Compliant and Lead-free



Applications:

- 100 Gigabit Ethernet Monitoring

Product Description

This Arista Networks® compatible QSFP28 monitor provides 100GBase-ER4L receive only throughput up to 40km over single-mode fiber (SMF) using a wavelength of 1310nm via an LC connector. It is guaranteed to be 100% compatible with the equivalent Arista Networks® compatible monitor. This easy to install, hot swappable monitor 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 monitor 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."



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	-0.3	3.3	3.6	V
Storage Temperature	Tstg	-40		85	°C
Operating Case Temperature	Tc	0		70	°C
Relative Humidity (Non-Condensing)	RH	5		85	%
Data Rate Per Lane			25.78125		Gbps

Electrical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Supply Voltage	Vcc	3.135	3.3	3.465	V	
Power Supply Current	Icc			900	mA	
Power Dissipation	P _D			3	W	
Differential Termination Resistance Mismatch				10	%	At 1 MHz
Differential Data Output Swing	V _{OUT} , pp	100		400	mVp-p	1
	V _{OUT} , pp	300		600	mVp-p	1
	V _{OUT} , pp	400		800	mVp-p	1
	V _{OUT} , pp	600		1200	mVp-p	1
Common-Mode Noise (RMS)	V _{rms}			17.5	mV	
Transition Time	T _r /T _f	12			ps	20-80%
Eye Width	EW15	0.57			UI	
Eye Height	EH15	228			mV	

Notes:

1. Output voltage can be set in 4 discrete ranges via I²C. Default range is 400 – 800mV.

Receiver Optical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Receiver						
Operating Wavelengths	L0	1294.53	1295.56	1296.59	nm	
	L1	1299.02	1300.05	1301.09	nm	
	L2	1303.54	1304.58	1305.63	nm	
	L3	1308.09	1309.14	1310.19	nm	
Average Receiver Power Per Lane		-20.9		-3.5	dBm	
Receiver Power Per Lane (OMA)				-3.5	dBm	
Receiver Sensitivity Per Lane (OMA)	S			-21.4	dBm	1
Receiver Sensitivity Per Lane (OMA)	S			-18.4	dBm	2
Difference in Receive Power Between Any Two Lanes (OMA and Average)				4.5	dB	

Notes:

1. With FEC, 25.78Gbps, $BER \leq 5 \times 10^{-5}$, $ER > 8\text{dB}$, PRBS $2^{31}-1$.
2. Without FEC, 25.78Gbps, $BER \leq 10^{-12}$, $ER > 8\text{dB}$, PRBS $2^{31}-1$.

Pin Descriptions

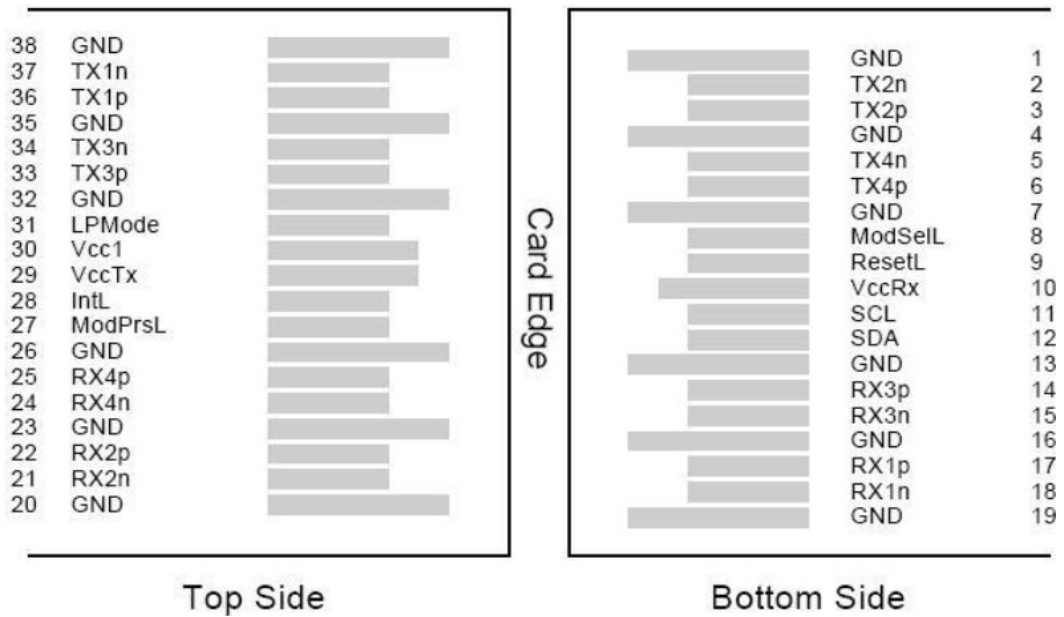
Pin	Symbol	Name/Descriptions	Ref.
1	GND	Transmitter Ground (Common with Receiver Ground).	1
2	Tx2-	Transmitter Inverted Data Input.	
3	Tx2+	Transmitter Non-Inverted Data output.	
4	GND	Transmitter Ground (Common with Receiver Ground).	1
5	Tx4-	Transmitter Inverted Data Input.	
6	Tx4+	Transmitter Non-Inverted 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

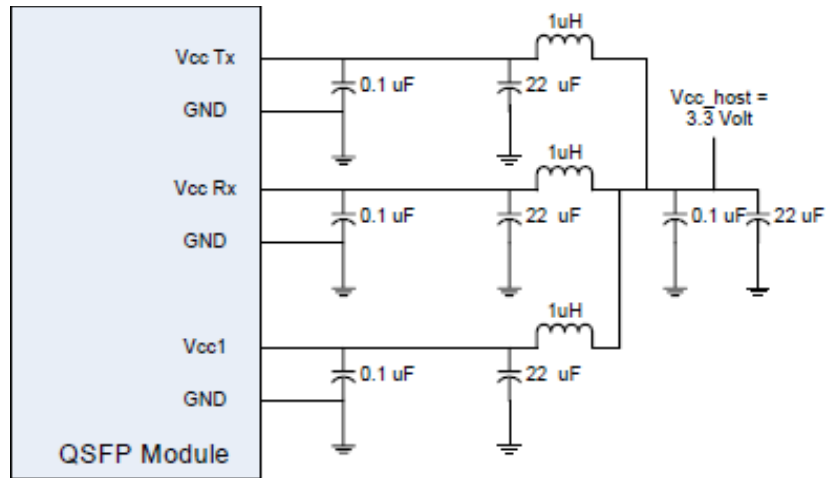
Notes:

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 4.7KΩ-10KΩ pull-up resistor to the Host_Vcc.

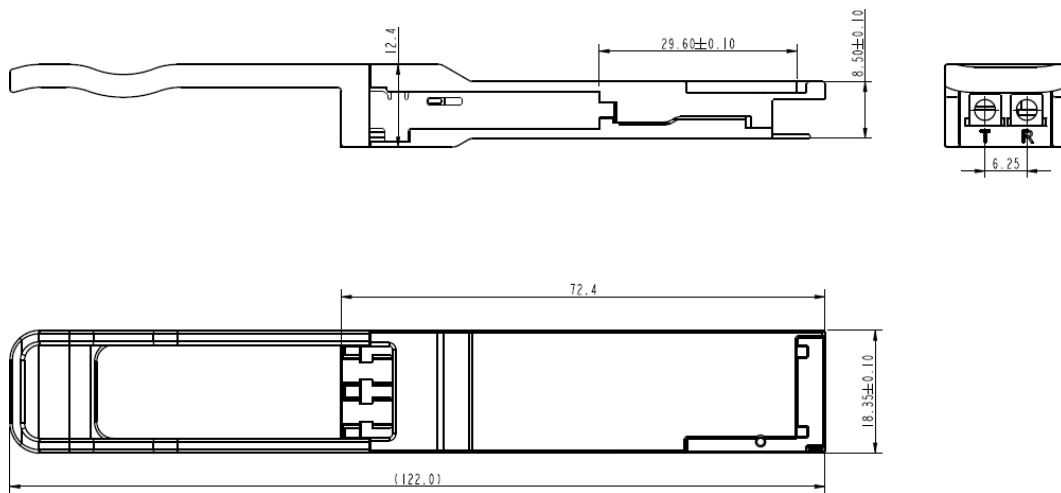
Electrical Pin-out Details



Recommended Host Board Power Supply Filter Network



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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