



QSFP28-100GB-SR4-LP-AR-SKY

Arista Networks® Compatible 100GBase-SR4 QSFP28 Transceiver Low Power (MMF, 850nm, 100m, MPO, DOM)

Product Description

This Arista Networks® 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 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 Arista 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. We stand behind the quality of our products and proudly offer a limited lifetime warranty.

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

Features:

- Up to 28.05 Gbps data rate per channel
- High Reliability 850nm VCSEL technology
- Compliant with QSFP28 MSA
- Compliant to IEEE 802.3bm
- Standard 12-lane with MPO connector
- Digital diagnostic SFF-8636 compliant
- Commercial Temperature 0 to 70 Celsius
- Power Dissipation:
- RoHS Compliant and lead-free
- Hot Pluggable



Applications:

- 100GBase Ethernet
- Access and Enterprise

For your product safety, please read the following information carefully before any manipulation of the transceiver:



ESD

This transceiver is specified as ESD threshold 1kV for SFI pins and 2kV for all others electrical input pins, tested per MIL-STD-883G, Method 3015.4 / JESD22-A114-A (HBM). However, normal ESD precautions are still required during the handling of this module.



LASER SAFETY

This is a Class1 Laser Product according to IEC 60825-1:2007. This product complies with 21 CFR 1040.10 and 1040.11 except for deviations pursuant to Laser Notice No. 50, dated (June 24, 2007).

The optical ports of the module need to be terminated with an optical connector or with a dust plug in order to avoid contamination.

Absolute Maximum Ratings

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Power Supply Voltage	V _{cc}	-0.3		4	V	
Storage Temperature	T _{stg}	-40		85	°C	
Case Operating Temperature	T _c	0		70	°C	Without Air Flow
Relative Humidity	RH	5		95	%	
Signal Input Voltage		V _{cc} -0.3		V _{cc} +0.3	V	
Data Rate	BR		25.78125	28.05	Gbps	Each Channel
Transmission Distance	TD			100	m	1

Notes:

1. OM4, or 70m on OM3.
2. 100GBase-SR4 and ITU-T OTU4 have different register settings not auto-negotiation.

Electrical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Power Supply Voltage	V _{cc}	3.14	3.3	3.46	V	
Power Supply Current	I _{cc}			600	mA	
Transmitter						
Input Differential Impedance	R _{IN}		100		Ω	1
Differential Data Input Swing	V _{IN,pp}	180		1000	mV	
Single-Ended Input Voltage Tolerance	V _{IN}	-0.3		4.0	V	
Receiver						
Differential Data Output Swing	V _{OUT,pp}	300		850	mV	2
Single-Ended Output Voltage		-0.3		4.0	V	

Notes:

1. Connected directly to Tx data input pins. AC coupled thereafter.
2. Into 100Ω differential termination.

Optical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Transmitter						
Center Wavelength	λ_C	840		860	nm	
Average Launch Power Per Lane		-8.4		2.4	dBm	
Spectral Width (RMS)	σ			0.6	nm	
Optical Extinction Ratio	ER	2			dB	
Optical Return Loss Tolerance	ORLT			12	dB	
Output Eye Mask	Compliant with IEEE 802.3bm					1
Receiver						
Receiver Wavelength	λ	840		860	nm	
Rx Sensitivity Per Lane	RSENS			-10.3	dBm	2
LOS De-Assert	LOSD	-30			dBm	
LOS Assert	LOSA			-12	dBm	
Input Saturation Power (Overload)	Psat	2.4			dBm	
Receiver Reflectance				-12	dB	

Notes:

1. Hit ratio 1.5×10^{-5} hits per sample.
2. Measured with a PRBS $2^{31}-1$ test pattern, @25.78Gbps, and $BER < 5.0 \times 10^{-5}$.

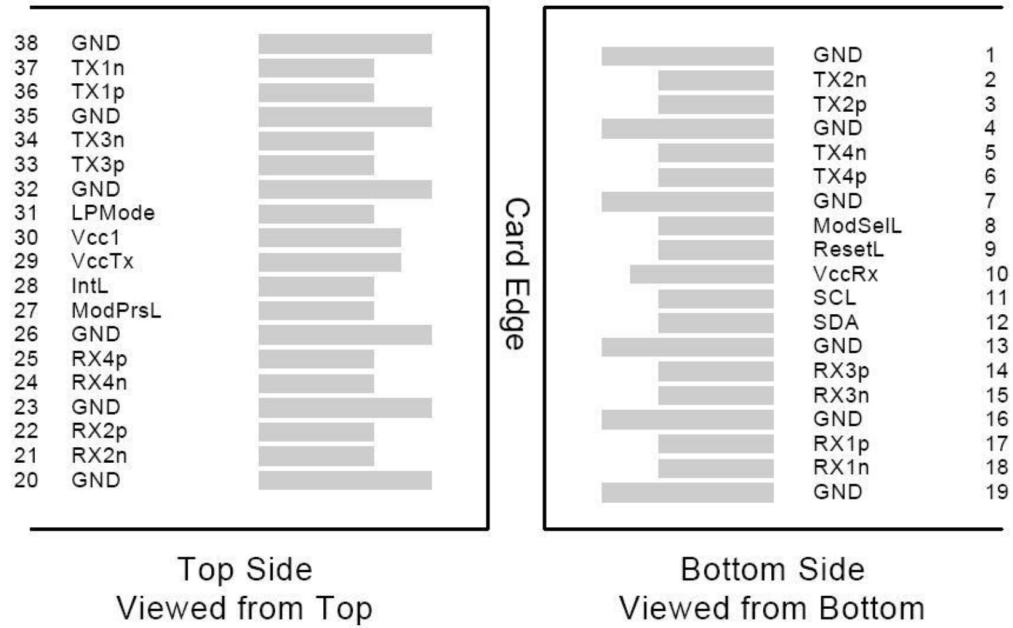
Pin Descriptions

Pin	Logic	Symbol	Name/Descriptions	Ref.
1		GND	Module Ground.	1
2	CML-I	Tx2-	Transmitter Inverted Data Input.	
3	CML-I	Tx2+	Transmitter Non-Inverted Data Input.	
4		GND	Module Ground.	1
5	CML-I	Tx4-	Transmitter Inverted Data Input.	
6	CML-I	Tx4+	Transmitter Non-Inverted Data Input.	
7		GND	Module Ground.	1
8	LVTTL-I	MODSEL	Module Select.	2
9	LVTTL-I	ResetL	Module Reset.	2
10		VccRx	+3.3V Receiver Power Supply.	
11	LVC MOS-I	SCL	2-Wire Serial Interface Clock.	2
12	LVC MOS-I/O	SDA	2-Wire Serial Interface Data.	2
13		GND	Module Ground.	1
14	CML-O	Rx3+	Receiver Non-Inverted Data Output.	
15	CML-O	Rx3-	Receiver Inverted Data Output.	
16		GND	Module Ground.	1
17	CML-O	Rx1+	Receiver Non-Inverted Data Output	
18	CML-O	Rx1-	Receiver Inverted Data Output.	
19		GND	Module Ground.	1
20		GND	Module Ground.	1
21	CML-O	Rx2-	Receiver Inverted Data Output.	
22	CML-O	Rx2+	Receiver Non-Inverted Data Output.	
23		GND	Module Ground.	1
24	CML-O	Rx4-	Receiver Inverted Data Output.	
25	CML-O	Rx4+	Receiver Non-Inverted Data Output.	
26		GND	Module Ground.	1
27	LVTTL-O	ModPrsL	Module Present. Internally pulled down to GND.	
28	LVTTL-O	IntL	Interrupt output should be pulled up on the host board.	2
29		VccTx	+3.3V Transmitter Power Supply.	
30		Vcc1	+3.3V Power Supply.	
31	LVTTL-I	LPMODE	Low-Power Mode.	2
32		GND	Module Ground.	1
33	CML-I	Tx3+	Transmitter Non-Inverted Data Input.	
34	CML-I	Tx3-	Transmitter Inverted Data Input.	
35		GND	Module Ground.	1
36	CML-I	Tx1+	Transmitter Non-Inverted Data Input.	
37	CML-I	Tx1-	Transmitter Inverted Data Input.	
38		GND	Module Ground.	1

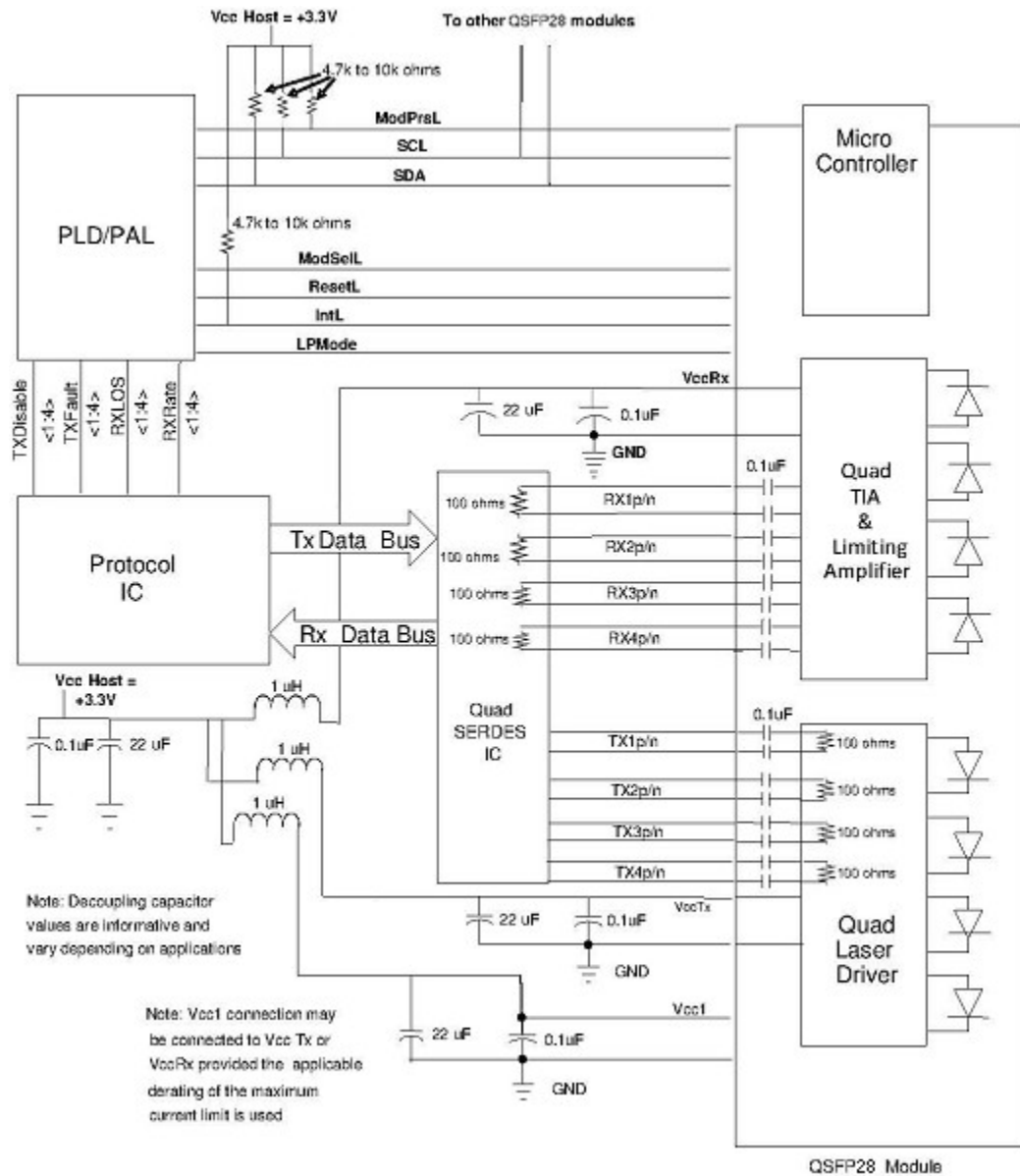
Notes:

- 1. Module circuit ground is isolated from module chassis ground within the module.
- 2. Open collector. Should be pulled up with 4.7kΩ-10kΩ on the host board to a voltage between 3.15V and 3.6V.

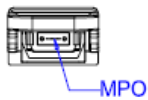
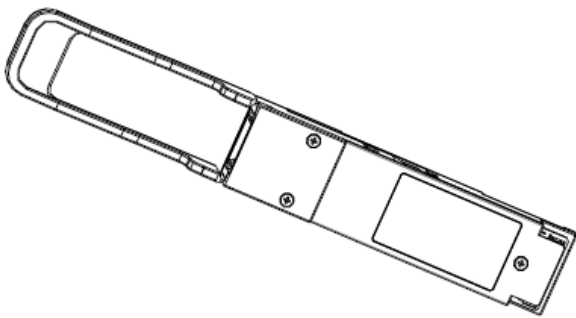
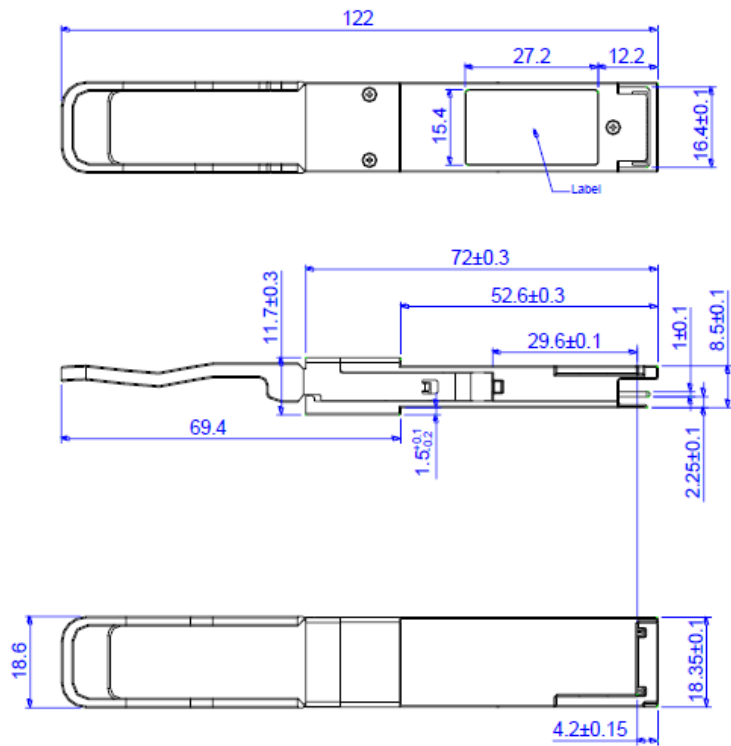
Electrical Pin-Out Details



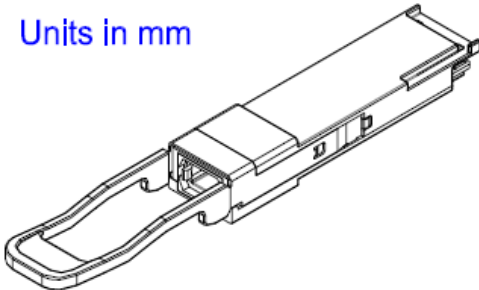
Transceiver Interface Block Diagram



Mechanical Specifications



Units in mm



About Skylane Optics

Skylane is a leading provider of transceivers for optical communication.

We offer an extensive portfolio for the enterprise, access, datacenter and metropolitan fiber optical market as well as for smart home applications and home networks.

We cover the European, South American and North American market with a strong partner network and have offices in Belgium, Brazil, Sweden and USA.

Our offerings are characterized by high quality and performance. In combination with our strong technical support, we enable our customers to build cost optimized network solutions.

We offer an extensive range of high-quality products including transceivers (Optical and copper), Active Optical Cable (AOC), Direct Attach Cable (DAC), Mux/Demux, Coding Box.

