

Quad Small Form Factor Pluggable Optical Tranceiver Module

KEY FEATURES

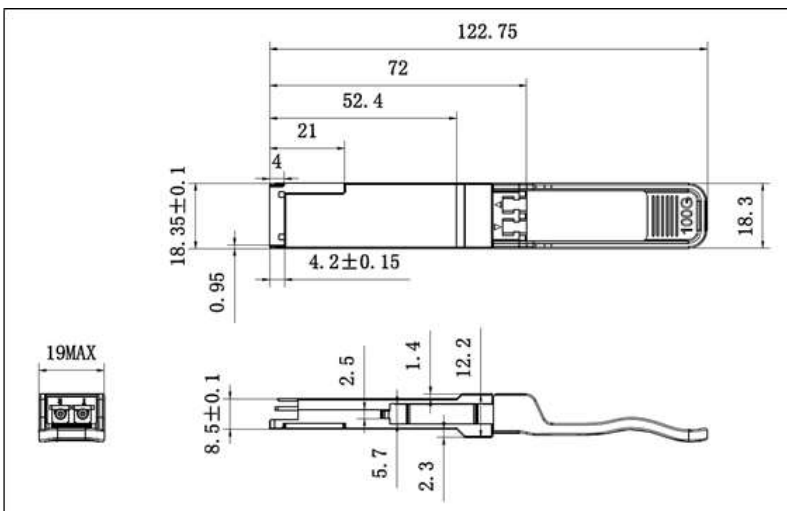
- Supports **103.1Gbps** aggregate bit rate
- 4x25Gbps electrical interface
- 4X25Gbps DFB LAN-WDM transmitter and PIN/TIA receiver
- Maximum link length of **10km** on Single Mode Fiber
- Hot pluggable **QSFP28** footprint
- Duplex **LC** receptacles
- Single 3.3V power supply
- Maximum power dissipation **<4W**
- RoHS-6 compliant and lead-free
- **I2C** management interface
- **0°C to +70°C** case operating temperature



PRODUCT OVERVIEW

Xentino SFP100G-CT is a Ultra-Speed 100Gigabit Quad Small Form Factor Pluggable optical Tranceiver Module supports 103.1Gbps aggregate bit rate. It supports maximum link length of 10Km on Single Mode Fiber.

MECHANICAL DIMENSIONS



APPLICATIONS

100GBASE-LR4 100G Ethernet.

COMPLIANCE

- QSFP28 MSA SFF-8665
- IEEE802.3ba 100GBASE-LR4
- ROHS

ORDERING INFORMATION

Model	Voltage	Category	Device Type	Temperature	Interface	Distance	Latch color
SFP100G-CT	3.3V	With DDMI	LWDM DFB	0°C to +70°C	CML/CML	10km	Blue

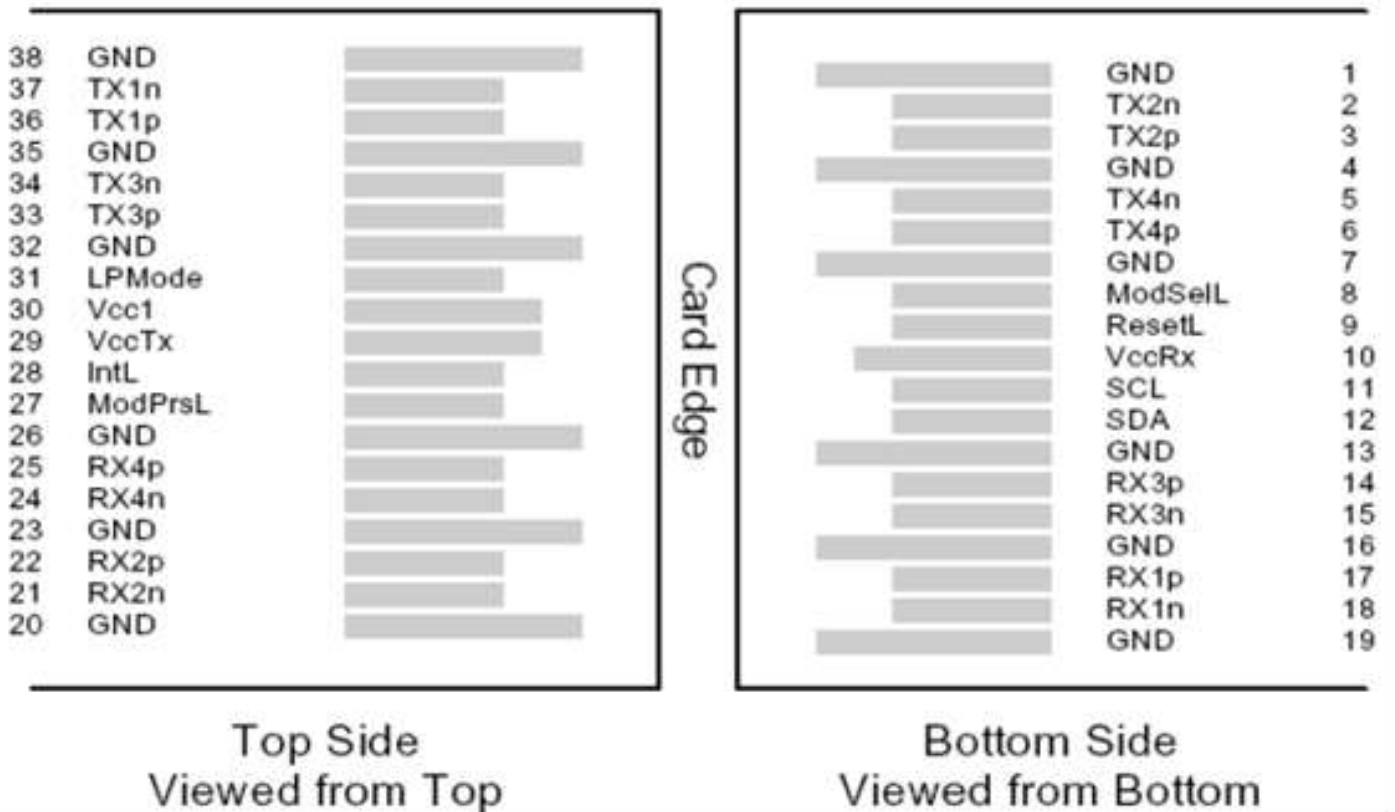
ESD

Normal ESD precautions are required during the handling of this module. This transceiver is shipped in ESD protective packaging. It should be removed from the packaging and handled only in an ESD protected environment.

LASER SAFETY

This is a Class 1 Laser Product according to IEC / EN 60825-1: 2014 (Third Edition). This product complies with 21 CFR 1040.10 and 1040.11 except for deviations pursuant to Laser Notice No. 50, dated (June 24, 2007).

PIN Assignment and PIN Description



- The above performance data is for reference only, the actual data rate may vary depending on the quality of the fiber wire and environmental factors.

PIN DEFINITIONS

Pin	Symbol	Name/Description	Note
1	GND	Ground	1
2	Tx2n	Transmitter Inverted Data Input	
3	Tx2p	Transmitter Non-Inverted Data Input	
4	GND	Ground	1
5	Tx4n	Transmitter Inverted Data Input	
6	Tx4p	Transmitter Non-Inverted Data Input	
7	GND	Ground	1
8	ModSe1L	Module Select	
9	ResetL	Module Reset	
10	Vcc Rx	+3.3V Power supply receiver	
11	SCL	2-wire serial interface clock	
12	SDA	2-wire serial interface data	
13	GND	Ground	1
14	Rx3p	Receiver Non-Inverted Data Output	
15	Rx3n	Receiver Inverted Data Output	
16	GND	Ground	1
17	Rx1p	Receiver Non-Inverted Data Output	
18	Rx1n	Receiver Inverted Data Output	
19	GND	Ground	1
20	GND	Ground	1
21	Rx2n	Receiver Inverted Data Output	
22	Rx2p	Receiver Non-Inverted Data Output	
23	GND	Ground	1
24	Rx4n	Receiver Inverted Data Output	
25	Rx4p	Receiver Non-Inverted Data Output	
26	GND	Ground	1
27	ModPrSL	Module Present	
28	IntL	Interrupt	
29	Vcc Tx	+3.3V Power supply transmitter	
30	Vcc1	+3.3V Power Supply	
31	LPMode	Low Power Mode	
32	GND	Ground	1
33	Tx3p	Transmitter Non-Inverted Data Input	
34	Tx3n	Transmitter Inverted Data Input	
35	GND	Ground	1
36	Tx1p	Transmitter Non-Inverted Data Input	
37	Tx1n	Transmitter Inverted Data Input	
38	GND	Ground	1

Absolute Maximum Ratings

Parameter	Symbol	Min.	Typ.	Max.	Unit
Storage Temperature	T S	-40		85	°C
Storage Ambient Humidity	HA	5		95	%
Case Operation Temperature	°C	0		70	°C
Maximum Supply Voltage	VCC	-0.5		4.0	V
Signal Input Voltage		-0.3		Vcc+0.3	V
Receiver Damage Threshold		+5.5			dBm

Optical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Remark
Transmitter						
Total Average Output Power	POUT			10.5	dBm	
Average Output Power, each lane		-4.3		4.5	dBm	
Optical Modulation Amplitude (OMA), each lane		-1.3		4.5	dBm	
Extinction Ratio	ER	4			dB	
Center Wavelength	λ_c		1294.53 ~ 1296.59 1299.02 ~ 1301.09 1303.54 ~ 1305.63 1308.09 ~ 1310.19		nm	
Spectral Width				1	nm	
Transmitter OFF Output Power	POff			-30	dBm	
Transmitter eye mask definition {X1,X2,X3,Y1,Y2,Y3}			{0.25,0.4,0.45,0.25,0.28,0.4}			Hit ratio 5x10 ⁻⁵
Receiver						
Input Optical Wavelength	λ_{IN}		1294.53 ~ 1296.59 1299.02 ~ 1301.09 1303.54 ~ 1305.63 1308.09 ~ 1310.19		nm	
Average receive power, each lane		-10.6		4.5		BER = 10 ⁻¹²
Receive power, each lane (OMA)		-8.6		4.5	dBm	BER = 10 ⁻¹²
Receiver Reflectance	Rfl			-26	dBm	
Loss of Signal Assert	PA	-24		-13.6	dBm	
Loss of Signal De-assert	PD			-11.6	dBm	
LOS Hysteresis	PD - PA	0.5		6	dB	

Electrical Interface Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Remark
Supply Voltage	VCC	3.135		3.465	V	
Supply Current	ICC			1.15	A	
Module total power	P			4	W	
Transmitter						
Signaling rate per lane			25.78125±100ppm		Gbps	
Differential pk-pk input voltage	Vin,pp,diff	350			mV	
Differential input Resistance	Rtin		100		Ohm	
Receiver						
Signaling rate per lane			25.78125±100ppm		Gbps	
Differential data output swing	Vout,pp		400		mVpp	
Eye width		0.57			UI	
Differential output Resistance			100		ohm	