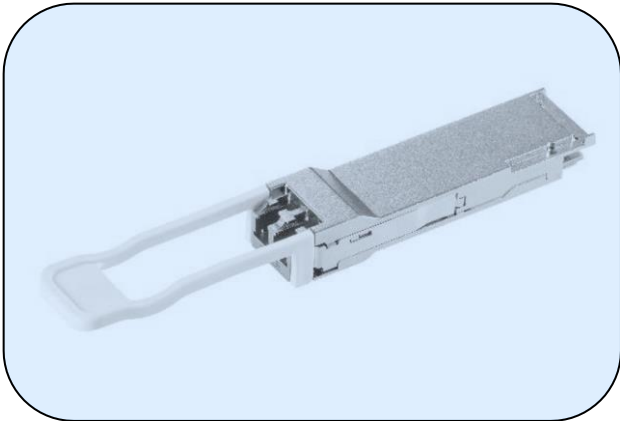




XQS319-80LY

100GBASE-ZR4 QSFP28 80 km Optical Transceiver Module

XQS319-80LY 100GBASE-ZR4 QSFP28 80 km



Features

- QSFP MSA28 compliant
- Hot pluggable 38 pin electrical interface
- 4 LAN-WDM lanes MUX/DEMUX design
- 4x25G electrical interface
- Supports 103.125 Gb/s aggregate bit rate
- Up to 80 km transmission on SMF
- Maximum power consumption 6.5 W
- Single 3.3 V power supply
- Operating case temperature 0°C to +70°C
- Duplex LC receptacle

Applications

- 100GBASE-ZR4 100G Ethernet
- Telecom networks

Description

XenOpt's XQS319-80LY is designed for 80 km optical communication applications. This module contains 4-lane optical transmitter, 4-lane optical receiver and module management block including 2 wire serial inter-face. The optical signals are multiplexed to a single-mode fiber through an industry standard LC connector.

Absolute Maximum Ratings

Parameter	Symbol	Min	Typ	Max	Unit	Notes
Maximum Supply Voltage	VCC	0		3.6	V	
Storage Temperature	Ts	-40		85	°C	
Relative Humidity	RH	15		85	%	1
Damage Threshold, each lane	THd	6.5			dBm	

Notes

1. Non-condensing

Recommended Operating Conditions

Electrical and optical characteristics below are defined under this operating environment, unless otherwise specified.

Parameter	Symbol	Min	Typ	Max	Unit
Supply Voltage	Vcc	3.135	3.3	3.465	V
Case Temperature	Top	0		70	°C
Link Distance with G.652				80	km

Electrical Characteristics

Parameter	Symbol	Min	Typ	Max	Unit	Note
Power dissipation				6.5	W	
Supply Current	Icc			1.8759	A	Steady state
Transmitter						
Data Rate, each lane			25.78125		Gbps	
Differential Voltage pk-pk	Vpp			900	mV	At 1 MHz
Common Mode Voltage	Vcm	-350		2850	mV	
Transition time	Trise/Tfall	10			ps	20%~80%
Differential Termination Resistance Mismatch				10	%	
Eye width	EW15	0.46			UI	
Eye height	EH15	95			mV	
Receiver						
Data Rate, each lane			25.78125		Gbps	
Differential Termination Resistance Mismatch				10	%	At 1 MHz
Differential output voltage swing	Vout, pp			900	mV	
Common Mode Noise, RMS	Vrms			17.5	mV	
Transition time	Trise/Tfall	12			ps	20%~80%
Eye width	EW15	0.57			UI	
Eye height	EH15	228			mV	

Optical Characteristics

100GBASE-ZR4 Operation (EOL, TOP = 0 to +70 °C , VCC = 3.135 to 3.465 Volts).

Parameters	Unit	Min	Typ	Max	Note
Transmitter					
Signaling Speed per Lane	Gb/s	25.78125 ± 100 ppm			
Transmit wavelengths	nm	1294.53		1296.59	
		1299.02		1301.09	
		1303.54		1305.63	
		1308.09		1310.19	
Side-Mode Suppression Ratio (SMSR)	dB	30			
Total Average Launch Power	dBm	8.0		12.5	
Average launch power, each lane	dBm	2.0		6.5	
Difference in launch power between any two lanes (Average and OMA)	dBm			3	
Average launch power of OFF transmitter, each lane	dBm			-30	
Extinction Ratio (ER)	dB	6			
RIN OMA	dB/Hz			-130	
Optical return loss tolerance	dB			20	
Transmitter reflectance	dB			-12	
Transmitter eye mask definition {X1, X2, X3, Y1, Y2, Y3}		{0.25, 0.4, 0.45, 0.25, 0.28, 0.4}			1
Mask margin	%	5			
Receiver					
Signaling Speed per Lane	Gb/s	25.78125 ± 100 ppm			
Receive wavelengths	nm	1294.53		1296.59	
		1299.02		1301.09	
		1303.54		1305.63	
		1308.09		1310.19	
Average receiver power, each lane	dBm	-28		-3.5	
Receiver power, each lane (OMA)	dBm			-3.5	
Receiver reflectance	dB			-26	
Receiver sensitivity Average, each lane	dBm			-28	1
Receiver 3 dB electrical upper cutoff frequency, each lane	GHz			31	
Damage threshold, each lane	dBm	6.5			
LOS Assert	dBm	-40			
LOS Deassert	dBm			-29	
LOS Hysteresis	dB	0.5			

Notes

1. Sensitivity is specified at BER@5E-5 with FEC

Ordering information

Part number	Product Description
XQS319-80LY	100GBASE-ZR4 80 km QSFP28, LC, DDMI, 0°C ~ 70°C

Notes

¹ For accurate order specification please contact XenOpt reseller before placing an order. The content of this document is subject to change without notice.

These modules are available in multiple customized compatible versions. **Please specify any compatibility requirements at time of ordering.** Standard MSA compatible pluggable components may not work or some function of these components may not be available in devices that require customized compatible devices. Pluggable components compatible with one type of communications equipment may not work in other type of communications equipment.

Important Notice

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