

QSFP28-LX4-100GD

Single-Rate 100GBASE, QSFP28, LX4, SMF/MMF TRANSCEIVER 1270-1330nm, 150m (MMF) / 2km (SMF) REACH, DUPLEX LC CONNECTOR

Product Features

- QSFP28 MSA compliant
- Supports 103.1 Gb/s aggregate bit rate
- 4x25Gb/s electrical interface
- Up to 2km on SMF, 100m on MMF(OM3), 150m on MMF (OM4)
- Hot-pluggable QSFP28 footprint
- LC duplex connector
- Maximum power consumption 3.5 Watts
- Single 3.3V power supply
- Support Digital Diagnostic Monitor interface
- Case operating temperature: 0°C to +70°C
- RoHS compliant
- Compliant with SFF-8636
- Case operating temperature:
 - Commercial: 0 ~ 70°C



Product Applications

- 100GBASE Ethernet
- Data Center

I. Maximum Ratings

Exceeding the limits below may damage the transceiver module permanently.

Parameter	Symbol	Min.	Typ.	Max.	Units
Storage Temperature	Ts	-40		+85	°C
Maximum Supply Voltage	Vcc	0		3.6	V
Relative Humidity	RH	5		85	%
Damage Threshold	THd	3.6			dBm

II. Operating Specifications

Parameter	Symbol	Min.	Typ.	Max.	Units	Notes
Case Operating Temperature	TC	0		+70	°C	Commercial
Supply Voltage	Vcc	3.135	3.3	3.465	V	
Data Rate (each lane)	DR		25.78125		Gb/s	
Power Dissipation	PD			3.5	W	
Link Distance (SMF)	D	100m(MMF) / 2km(SMF)				

Notes:

- Depending on actual fiber loss/km (link distance specified is for fiber insertion loss of 0.35dB/km)

III. Optical Characteristics

Parameter	Symbol	Min	Typical	Max	Unit	Notes
Transmitter						
Lane Wavelength (range)	L0	1264.5	1271	1277.5	nm	
	L1	1284.5	1291	1297.5	nm	
	L2	1304.5	1311	1317.5	nm	
	L3	1324.5	1331	1337.5	nm	
Signaling rate (each lane)	BR	25.78125 ± 100 ppm			Gb/s	
Side-Mode suppression ratio	SMSR	30			dB	
Total Average Launch power (SMF)	PT			8.5	dBm	
Total Average Launch power (MMF)				9.5	dBm	
Average Launch power (SMF), per lane	P _{OUT}	-6.5		2.5	dBm	
Average Launch power (MMF), per lane		-5		3.5	dBm	
Transmit OMA per Lane for SMF	TxOMA	-4		2.5	dBm	
Transmit OMA per Lane for MMF		-4		3.5	dBm	
Launch power OFF per lane	P _{off}			-30	dBm	
Transmitter and Dispersion Penalty	TDP			3	dB	
Extinction Ratio	ER	3.5			dB	
RIN20 OMA	RIN			-128	dB/Hz	
Mask Margin		15			%	1
Transmitter eye mask { X1, X2, X3, Y1, Y2, Y3 }		{ 0.25, 0.4, 0.45, 0.25, 0.28, 0.4 }				1

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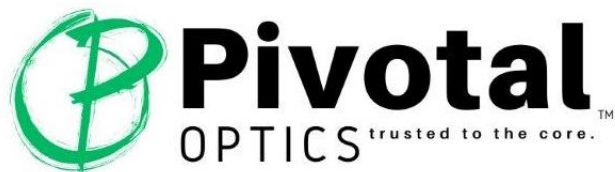
Parameter	Symbol	Min	Typical	Max	Unit	Notes
Receiver						
Signaling rate (each lane)	BR	25.78125 ± 100 ppm			Gb/s	
Lane Wavelength (range)	L0	1264.5	1271	1277.5	nm	
	L1	1284.5	1291	1297.5	nm	
	L2	1304.5	1311	1317.5	nm	
	L3	1324.5	1331	1337.5	nm	
Damage Threshold	Pmax			3.5	dBm	
Average Receive Power (SMF)		-11.5		2.5	dBm	
Average Receive Power (MMF)		-8.6		3.5	dBm	
RX Sensitivity [OMA] (SMF)	RxSEN			-8.6	dBm	
RX Sensitivity [OMA] (MMF)				-8.6	dBm	
Receiver reflectance	Rfl			-26	dB	
LOS Assert	LOS A	-30			dBm	
LOS Deassert	LOS D			-12.5	dBm	
LOS Hysteresis	LOS H	0.5		6	dB	

Notes:

1. Hit ratio 5×10^{-5} .

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IV. Electrical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Power Dissipation	PD			3.5	W	
Supply Current	Icc			1585	mA	
Transmitter						
Data Rate (each lane)	DR		25.78125		Gb/s	
Differential Voltage pk-pk	Vpp	300		850	mV	
Input differential impedance	Rin		100		Ohm	1
Differential Termination Resistance Mismatch				10	%	
Receiver						
Data Rate (each lane)	DR		25.78125		Gb/s	
Differential output voltage	Vout,pp	260		850	mV	2
Output differential impedance	Rout		100		Ohm	1
Differential Termination Resistance Mismatch				10	%	

Notes:

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

V. Ordering Information

Pivotal Part Number	Description
QSFP28-LX4-100GD	QSFP28, 4CWDM Channels 1270-1330nm, LX4 MMF/SMF 150m/2km, 100G DDM, C-Temp

Notes:

1. Please contact sales for specific OEM Platform part numbers to fit your network.

Warranty

<https://pivotaloptics.com/warranty/>

Disclaimer

External physical characteristics are subject to variation. This may include, but is not limited to, external case designs, pull tab colors and/or shapes, removal latch styles or colors, and label sizes and placement. These variations do not affect the function or characteristics of the transceivers.