

QSFP-LR4-P-40GD

40GBASE, QSFP+ PLR4, TRANSCEIVER 1310nm, 10km REACH, MTP/MPO CONNECTOR

Product Features

- 4 Parallel lanes design
- Compliant with QSFP+MSA, SFF-8436
- 4 channels PIN photo detector
- Maximum link length of 10km over SMF
- Single +3.3V power supply
- Class 1 laser safety certified.
- RoHS compliant
- MTP/MPO Connector
- Maximum power consumptions: 3.5 W
- Case operating temperature:
 - Commercial: 0 ~ 70°C



Product Applications

- 40GBASE-LR4 Ethernet
- 4x10G Ethernet Links
- InfiniBand: QDR, DDR, SDR

I. Maximum Ratings

Exceeding the limits below may damage the transceiver module permanently.

Parameter	Symbol	Min.	Typ.	Max	Units	Notes
Storage Temperature	Ts	-40		85	°C	
Relative Humidity	RH	5		95	%	
Power Supply Voltage	VCC	-0.5		4	V	

II. Operating Specifications

Parameter	Symbol	Min.	Typ.	Max.	Units	Notes
Operating Case Temperature	Top	0		70	°C	Commercial
Power Supply Voltage	VCC	3.13	3.3	3.47	V	
Power Supply Current	ICC			1100	mA	
Data Rate	BR		10.3125	11.2	Gbps	each channel
Transmission Distance	TD			10	km	

III. Optical Characteristics

Parameter	Symbol	Min	Typical	Max	Unit	Notes
Transmitter						
Center Wavelength	λ_C	1260	1310	1355	nm	
Launch Optical Power per lane	P	-6		+1.5	dBm	1
Side Mode Suppression Ratio	SMSR	30			dB	
Extinction Ratio	ER	3.5			dB	2
Optical Return Loss Tolerance	ORLT			12	dB	
Pout @TX-Disable Asserted	Poff			-30	dBm	1
Eye Diagram		IEEE Std 802.3ba compatible				
Receiver						
Center Wavelength	λ_C	1260		1355		
Receiver Sensitivity (OMA)	sen			12.6		
Damage Threshold	THd	2.3				
LOS Assert	LOS A			-15		
LOS De-Assert	LOS D	-30				
LOS Hysteresis	LOS H	0.5				

Notes:

1. The optical power is launched into SMF.
2. Measured with a PRBS 2³¹-1 test pattern, @10.325Gb/s, BER<10⁻¹²

IV. Electrical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Supply Voltage	Vcc	3.135	3.3	3.465	V	
Supply Current	Icc			1000	mA	
Transmitter						
Input differential impedance	Zin		100		Ω	
Differential data input swing	Vin,pp	180		900	mV	
(TX_FAULT) Transmitter Fault	VOH	2.0		VccHOST	V	
(TX_FAULT) Normal Operation	VOL	0		0.8	V	
(TX_DIS) Transmitter Fault	VIH	2.0		VccHOST	V	
(TX_DIS) Normal Operation	VIL	0		0.8	V	
Receiver						
Output Differential Impedance			100		Ω	
Differential Data Output Swing	Vout,pp	300		850	mVp-p	1
Data Output Rise Time, Fall Time	Tr,Tf	28			ps	2
(RX_LOS) Loss of signal (LOS)	VOH	2.0		VccHOST	V	3

Notes:

1. Internally AC coupled, but requires an external 100 Ω differential load termination..
2. 20 – 80 %.
3. LOS is an open collector output. Should be pulled up with 4.7k Ω on the host board.

V. Ordering Information

Pivotal Part Number	Description
QSFP-LR4-P-40GD	QSFP+, 1310nm, PSM LR4 SMF 10km, 40G 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.