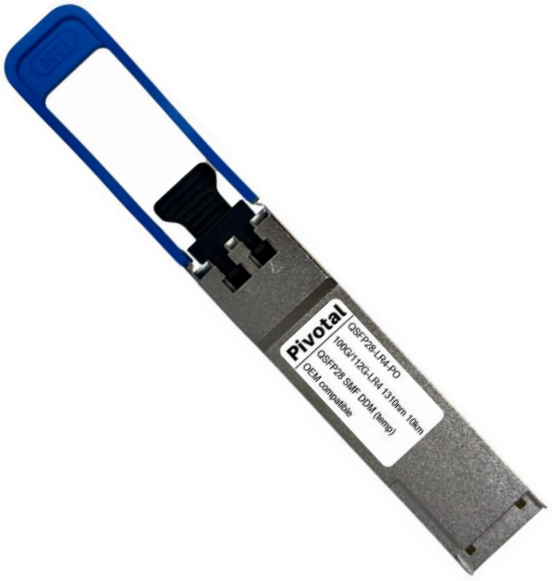
QSFP28-LR4

Dual Rate 100G/112G, QSFP28, LR4, SMF TRANSCEIVER

1295-1310nm, 10km REACH, DUPLEX LC CONNECTOR

Product Features

- Support line rates from 103.125 Gb/s to 112.2 Gb/s OTU4
- Single 3.3V Power Supply and Power dissipation < 4W
- Up to 10km over SMF
- RoHS-6 compliant
- Four 25Gbps/28Gbps DML LAN-WDM channels on transmitter side
- PIN and TIA array on the receiver side
- 4x25G/28G electrical interface
- Duplex LC receptacles
- I2C interface with integrated Digital Diagnostic Monitoring
- Safety Certification: TUV/UL/FDA*1
- Case operating temperature:
  - Commercial: 0 ~ 70°C
  - Industrial: -40 ~ +85°C



Product Applications

- 100GBASE-LR 100G Ethernet
- OTU4

I. Maximum Ratings

Exceeding the limits below may damage the transceiver module permanently.

Parameter	Symbol	Min.	Typ.	Max.	Units
Storage Temperature	Ts	-40		+85	℃
Maximum Supply Voltage	Vcc	-0.5		4	V
Operating Humidity	RH	0		85	%

II. Operating Specifications

Parameter	Symbol	Min.	Typ.	Max.	Units	Notes
Case Operating Temperature	TC	0		+70	°C	Commercial
		-40		+85		Industrial
Power Supply Voltage	Vcc	3.135	3.3	3.465	V	
Power Supply Current	Icc			1.36	A	
Bit Rate (each lane)	DR		25.78125		Gb/s	
Transmission Distance				10	km	

III. Optical Characteristics

Parameter	Symbol	Min	Typical	Max	Unit	Notes
Transmitter						
Lane Wavelength (range)	L0	1294.53	1295.56	1296.59	nm	
	L1	1299.02	1300.05	1301.09	nm	
	L2	1303.54	1304.58	1305.63	nm	
	L3	1308.09	1309.14	1310.19	nm	
Total Average Launch Power	PT			10.5	dBm	
Average Launch Power (each lane)		-4.3		4.5	dBm	
Optical Modulation Amplitude (each lane)	OMA	-1.3		4.5	dBm	
Side-mode Suppression Ratio	SMSR	30			dB	
Extinction Ratio	ER	4			dB	
Receiver						
RX Sensitivity (OMA)	SENS			-8.6	dBm	1
Receiver Overload		4.5			dBm	
LOS Assert	LOS A			-12	dBm	
LOS DeAssert	LOS D	-25			dBm	
LOS Hysteresis	LOS H	0.5			dB	

Notes:

1. Measured with PRBS 2^{31} -1 at 1E-12 BER.

IV. Electrical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Transmitter						
Input Differential Impedance	Rin	90	100	110	Ω	1
Differential Data Input Swing	Vin,pp	95		900	mV	
TX Disable (High)		Vcc-0.8		Vcc	V	
TX Disable (Low)		Vee		Vee+0.8	V	
TX Fault (High)		Vcc-0.8		Vcc	V	
TX Fault (Low)		Vee		Vee+0.8	V	
Receiver						
Output Differential Impedance	Rin	90	100	110	Ω	1
Differential Data Output Swing	Vout,pp			900	mV	2
LOS (High)		Vcc-0.8		Vcc	V	
LOS (Low)		Vee		Vee+0.8	V	

Notes:

1. AC coupled.
2. Into 100 ohm differential termination.

V. Ordering Information

Pivotal Part Number	Description
QSFP28-LR4	QSFP28, 1310nm, LR4 EML Dual Rates SMF 10km, 100G/112G DDM, C-Temp
QSFP28-LR4-I	QSFP28, 1310nm, LR4 EML Dual Rates SMF 10km, 100G/112G DDM, I-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.