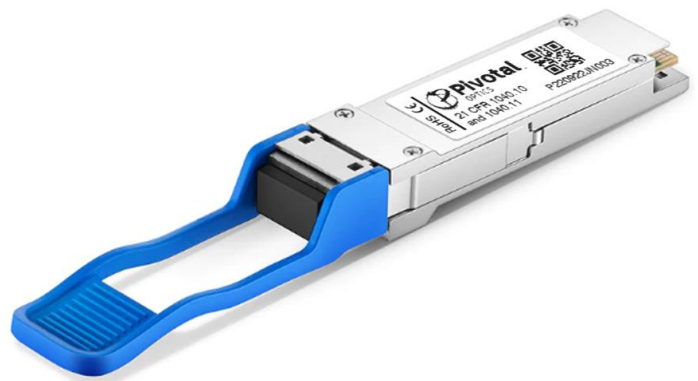


QSFP28-LR4

Dual Rate 100GBase QSFP28 LR4 1295-1310nm 10km SMF Transceiver

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	°C
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 2³¹ -1 at 1E-12 BER.

IV. Electrical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Transmitter						
Input Differential Impedance	R _{in}	90	100	110	Ω	1
Differential Data Input Swing	V _{in,pp}	95		900	mV	
TX Disable (High)		V _{cc} -0.8		V _{cc}	V	
TX Disable (Low)		V _{ee}		V _{ee} +0.8	V	
TX Fault (High)		V _{cc} -0.8		V _{cc}	V	
TX Fault (Low)		V _{ee}		V _{ee} +0.8	V	
Receiver						
Output Differential Impedance	R _{in}	90	100	110	Ω	1
Differential Data Output Swing	V _{out,pp}			900	mV	2
LOS (High)		V _{cc} -0.8		V _{cc}	V	
LOS (Low)		V _{ee}		V _{ee} +0.8	V	

Notes:

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

Warranty

All transceivers feature a limited lifetime 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.