QSFP28 100G/OTU4 ZR4 80km
CLOTU4QSFPZR4

Product Features:

- Compliant with QSFP28 Standard:
  - SFF-8661 Rev 2.5, SFF-8636 Rev 2.10a
- High speed I/O electrical interface (CAUI-4) compliant with IEEE 802.3bm-2015
- 100/112GBASE-ZR4 point-to-point Ethernet links
- Rx sensitivity of -28dBm with enabled KR4 FEC in host for up to 80km SMF
- Single 3.3V Supply Voltage
- Maximum power consumption 5.5W
- 0-70 ºC Case Operating Temperature
- LAN WDM EML laser and SOA+PIN Receiver
- Universal QSFP28 MSA package with duplex LC connector
- Two Wire Serial Interface with Digital Diagnostic Monitoring
- Complies with EU Directive 2011/65/EU (RoHS compliant)
- Class 1 Laser

Functional Characteristics (Optical)

The following tables list the performance specifications for the various functional blocks of the integrated optical transceiver module.

Table 1 – Transmitter Optical Specifications

Parameter	Symbol	Min.	Typical	Max.	Unit	Notes
Wavelength L0	λC0	1294.53	1295.56	1296.59	nm	
Wavelength L1	λC1	1299.02	1300.05	1301.09	nm	
Wavelength L2	λC2	1303.54	1304.58	1305.63	nm	
Wavelength L3	λC3	1308.09	1309.14	1310.19	nm	
Side-mode suppression ratio	SMSR	30			dB	
Total Average Optical Launch Power	POUT	-	-	12.5	dBm	
Average Launch Power Tx_Off (Each Lane)	POUT_OFF	-	-	-30	dBm	
Average Optical Launch Power (Each Lane)	POUTL	2	-	6.5	dBm	
Extinction Ratio @28.05Gbps	ER	8	-	-	dB	
Spectral Width	Δλ	-	-	1	nm	
Optical Modulation Amplitude (Each Lane)	OMA	2.5	-	7	dBm	
Transmitter and Dispersion Penalty (Each Lane)	TDP	-	-	2.2	dB	
Launch Power in OMA minus TDP (Each Lane)	OMA-TDP	1.5	-	-	dBm	
Difference in launch power between any two lanes (OMA)	DT_OMA	-	-	4	dB	

Optical Return Loss Tolerance	ORLT	-	-	20	dB	
RIN20OMA	RIN	-	-	-130	dB/Hz	
Transmitter Reflectance	TR	-	-	-26	dB	
Transmitter Eye Mask Definition	-	IEEE 802.3bs-2010 {0.25, 0.4, 0.45, 0.25, 0.28, 0.4}				

Table 2 – Receiver Optical Specifications

Parameter	Symbol	Min.	Typical	Max.	Unit	Notes
Wavelength L0	λC0	1294.53	1295.56	1296.59	nm	
Wavelength L1	λC1	1299.02	1300.05	1301.09	nm	
Wavelength L2	λC2	1303.54	1304.58	1305.63	nm	
Wavelength L3	λC3	1308.09	1309.14	1310.19	nm	
Receiver Sensitivity (OMA) per Lane (25.78G)				-27.5	dBm	Note
Receiver Sensitivity (OMA) per Lane (27.95G)				-25	dBm	Note
Stressed Receiver Sensitivity Test Conditions:						
Stressed Eye J2 Jitter (Each Lane)	-	-	0.33	-	UI	
Stressed Eye J9 Jitter (Each Lane)	-	-	0.48	-	UI	
Vertical Eye Closure Penalty	-	-	2	-	dB	
Damage Threshold for Receiver	Pin, damage	-2.5	-	-	dBm	
Average Receive Power (Each Lane)	-	-28	-	-5	dBm	Note
Receive Power in OMA (Each Lane), Overload	OMA	-	-	-4.5	dBm	
Receiver Reflectance	RXR	-	-	-26	dB	
LOS Assert	LOSA	-40	-	-	dBm	
LOS De-assert	LOSD	-	-	-30	dBm	
LOS hysteresis	LOSH	0.5	-	-	dB	

Note: Measured with conformance test signal at TP3 for the BER = 5x10-5

Ordering Information

Table 3 - Ordering Information

Part No.	Application	Data Rate	Laser Source	Fiber Type
CLOTU4QSFPZR4	100GE/OTU4	100G/ 112G	LAN WDM EML	Single Mode Fiber

CONTACT:

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