



Telecom



FTTx



DWDM



Data Center

QSFP28 100G/112G ER4 40km

CLOTU4QSFPER4

Product Features

- Compliant with QSFP28 Standard: SFF-8665 Revision 1.9, SFF-8636 Revision 2.6
- Compliant with 100G/112G 4WDM-40 MSA technical specification rev 1.0
- High speed I/O electrical interface (CAUI-4) compliant with IEEE 802.3bm
- Single 3.3V Supply Voltage
- Maximum power consumption 4.5W
- 0-70 °C Case Operating Temperature
- LAN WDM EML laser and APD Receiver
- 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
- Application
- √100G/112G 4WDM
- √ OTU4 411-9D1F
- √ 100G Ethernet

Functional Characteristics (Optical)

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

Transmitter Optical Specifications

Parameter	Symbol	Min.	Typical	Max.	Unit
Wavelength L0	λ_{C0}	1294.53	1295.56	1296.59	nm
Wavelength L1	λ_{C1}	1299.02	1300.05	1301.09	nm
Wavelength L2	λ_{C2}	1303.54	1304.58	1305.63	nm
Wavelength L3	λ_{C3}	1308.09	1309.14	1310.19	nm
Side-mode suppression ratio	SMSR	30			dB
Total Average Optical Launch Power	POUT	-	-	10	dBm
Average Launch Power Tx_Off (Each Lane)	POUT_OF F	-	-	-30	dBm
Average Optical Launch Power (Each Lane)	POUTL	-2	-	5	dBm
Extinction Ratio	ER	8	-	-	dB
Optical Modulation Amplitude (Each Lane)	OMA	0.1	-	4.5	dBm
Launch Power in OMA minus TDP (Each Lane)	OMA- TDP	-0.5	-	-	dB
Difference in launch power between any two lanes (Average and OMA)	DT_O MA	-	-	4	dB
Transmitter and	TDP			3	



Telecom



FTTx



DWDM



Data Center

Dispersion Penalty (Each Lane)					
Optical Return Loss Tolerance	ORLT	20	-	-	dB
Transmitter Eye Mask Definition	-	{0.25, 0.4, 0.45, 0.25, 0.28, 0.4}			
Transmitter Reflectance	TR	-	-	-26	dB

Receiver Optical Specifications

Parameter	Symbol	Min.	Typical	Max.	Unit
Wavelength L0	λ_{C0}	1294.53	1295.56	1296.59	nm
Wavelength L1	λ_{C1}	1299.02	1300.05	1301.09	nm
Wavelength L2	λ_{C2}	1303.54	1304.58	1305.63	nm
Wavelength L3	λ_{C3}	1308.09	1309.14	1310.19	nm
Receiver sensitivity (OMA), each lane at 5E -5 BER		-	-	-17	dBm
Stressed receiver sensitivity (OMA), each lane	-	-	-	-14.5	dBm
Vertical Eye Closure Penalty	-	-	2.5	-	dB
SRS eye mask definition { X1, X2, X3, Y1, Y2, Y3 }		{0.39, 0.5, 0.5, 0.39, 0.39, 0.4}			
Damage threshold, each lane	Pin, damage	-7	-	-	dBm
Average Receive Power (Each Lane)	-	-20.5	-	-7	dBm
Receive Power in OMA (Each Lane), Overload	OMA	-	-	-7	dBm
Receiver Reflectance	RXR	-	-	-26	dBm

Ordering Information

Part No.	Application	Temp.	Laser/ Receiver	Fiber Type
CLOTU4QSFPER4	100GE/OTU4 QSFP28 40km	0 °C ~70 °C	LAN WDM EML+ APD	SMF

*Warning: When use this product with short distance fiber (<=30km) , please confirm the Receiver Power <= -7dBm. Because the high sensitivity APD receiver chip is used inside the product receiver, customers MUST use right attenuator to control the Receiver Power in right range (-7dBm~-17dBm)! If this product receiver got high power incoming (> -7dBm), UNRECOVERABLE BURNING DAMAGE will be caused in 1second on this product receiver!

CONTACT:

Email: sales@c-light.com <http://www.c-light.com>