

100Gbps QSFP28 BIDI ZR4 80km Transceiver

Commercial Level 0°C~70°C

CL100GQBD80-B

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
- 100GBASE-ZR4 103.125G 80km point-to-point Ethernet links
- Rx sensitivity of -28dBm 5E-5 with enabled KR4 FEC in host for up to 80km SMF
- Single 3.3V Supply Voltage
- Power Dissipation 4.5W at 55°C ,6.5W at 70°C Case Operating Temperature
- 0 °C is environment temp; 70 °C is Case Operating Temperature
- LAN WDM EML cooled laser and SOA+PIN cooled Receiver
- Universal QSFP28 MSA package with Simplex LC connector
- Two Wire Serial Interface with Digital Diagnostic Monitoring
- Complies with EU Directive 2011/65/EU (RoHS compliant)
- LPMODE, ModPrsL, ModSeIL and ResetL are supported
- Telecom networking
- 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	λ_{C0}	1294.80	1295	1296.49	nm	
Wavelength L1	λ_{C1}	1299.29	1300	1300.09	nm	
Wavelength L2	λ_{C2}	1303.81	1304	1305.53	nm	
Wavelength L3	λ_{C3}	1308.36	1309	1310.09	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	ER	8	-	-	dB	
Spectral Width	$\Delta\lambda$	-	-	1	nm	
Optical Modulation Amplitude(Each Lane)	OMA	0	-	6.5	dBm	
Launch Power in OMA minus TDP (Each Lane)	OMA-TDP	0	-	-	dBm	
Difference in launch power between any two lanes (OMA)	DT_OMA	-	-	2.5	dB	
Optical Return Loss Tolerance	ORLT	-	-	20	dB	
RIN20OMA	RIN	-	-	-130	dB/Hz	



Transmitter Reflectance	TR	-	-	-12	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	$\lambda C0$	1272.51	1273	1274.58	nm	
Wavelength L1	$\lambda C1$	1276.86	1277	1278.93	nm	
Wavelength L2	$\lambda C2$	1281.21	1282	1283.31	nm	
Wavelength L3	$\lambda C3$	1285.61	1286	1287.71	nm	
Receiver Sensitivity (OMA) per Lane				-28	dBm	1
Stressed Receiver Sensitivity in OMA	-	-	-	-27	dBm	1
Saturation Power, each lane	SP	-4.5			dBm	
Damage Threshold for Receiver	Pin, damage	0	-	-	dBm	
Average Receive Power (Each Lane)	-	-32	-	-4.5	dBm	
Receive Power in OMA (Each Lane), Overload	OMA	-	-	-4.5	dBm	
LOS Assert	LOSA	-40	-	-	dBm	
LOS De-assert	LOSD	-	-	-30	dBm	
LOS hysteresis	LOSH	0.5	-	-	dB	

Note 1: Sensitivity is measured @ BER5E-5

Ordering Information

Table 3 - Ordering Information

Part No.	Data Rate	DDM	Wave	Fiber Type	Dist.	Temp.	Optical Interface
CL100GQBD80-B	100Gbps	Yes	LAN-WDM-B	SMF	80km	0~70°C	BIDI LC

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