

100G QSFP28 Single Lambda BiDi 40km CL100QGBDER1-40-B

Product Features:

- Supports 100GBASE-ER1-40 BIDI
- Lane signaling rate 106.25Gb/s with PAM4
- Up to 40km transmission on SMF
- EML laser and APD receiver
- 4x25.78Gb/s with NRZ electrical interface (CAUI-4)
- High speed I/O electrical interface
- I2C interface with integrated Digital Diagnostic monitoring
- QSFP28 MSA package with simplex LC connector
- Single +3.3V power supply
- Maximum power consumption 4.5 W
- Operating case temperature: 0 to +70 °C
- Compliant to IEEE 802.3bm, 100G Lambda MSA
- Compliant to SFF-8636 & SFF-8679 standard
- Complies with EU Directive 2015/863/EU



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
Center Wavelength		1308.09	1309.14	1310.19	nm	
Average Launch Power	P _{TX}	1.7	-	7.1	dBm	1
Outer Optical Modulation Amplitude	OMA	4.7	-	7.9	dBm	TDECQ < 1.4
		3.3+TDECQ	-			TDECQ > 1.4
Transmitter and dispersion eye closure for PAM4 (TDECQ) (max)	TDECQ	-	-	3.9	dBm	
[TDECQ-TECQ]		-	-	2.7	dB	
Average Output Power (Laser Turn off)	P _{OUT-OFF}	-	-	-15	dBm	
Side Mode Suppression Ratio	SMSR	30	-	-	dB	
Extinction Ratio	ER	5	-	-	dB	

Table 2 – Receiver Optical Specifications



Parameter	Symbol	Min.	Typical	Max.	Unit	Notes
Center Wavelength	CW	1303.54	1304.58	1305.63	nm	
Damage threshold	P _{damage}	-2.4	-	-	dBm	2
Average Rx Power	P _{RX}	-16	-	-3.4	dBm	3
Receive power_OMA	P _{OMA}	-	-	-2.6	dBm	
Receiver sensitivity_OMA _{outer}	SEN_OMA	-	-	-13.8	dBm	TECQ≤1.4 4
		-	-	-15.2+TECQ	dBm	1.4≤TECQ≤3.9
Los Assert	LosA	-26	-	-	dBm	
Los De-Assert	LosDA	-	-	-17	dBm	
Los Hysteresis	LosH	0.5	-	-	dB	

Note 1: The optical power is launched into SMF.

Note 2: The receiver shall be able to tolerate, without damage, continuous exposure to an optical input signal having this average power level. The receiver does not have to operate correctly at this input power.

Note 3: Average receive power, each lane (min) is informative and not the principal indicator of signal strength.

Note 4: Measured with conformance test signal at TP3 using the test pattern PRBS31Q or scrambled idle for stressed receiver sensitivity for the BER= 2.4x10⁻⁴.

Ordering Information

Table 3 - Ordering Information

Part No.	Data Rate	Laser	Fiber Type	Distance	Optical Interface	Temp	DDMI
CL100GQBDER1-40-B	106.25Gbps	Tx1309/Rx1304	SMF	40km	LC	0~70℃	Yes

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