

100G QSFP28 BiDi 40km

100G Eth, QSFP28, BiDi, 40km, LC, 1305/1309nm, SM

CB-CE-40-CDxx02

OVERVIEW

The CB-CE-40-CDxx02 is a bidirectional QSFP28 transceiver designed for 100 Gigabit Ethernet applications. It uses two different wavelengths to transmit and receive simultaneously over the same fiber.

The solution comprises two units:

- CB-CE-40-CD5902 (Tx1305nm / Rx1309nm)
- CB-CE-40-CD9502 (Tx1309nm / Rx1305nm)

The transceiver supports 100G Ethernet applications with a reach of up to 40km. It uses high speed DSP technology to transmit and receive at single wavelength at 100Gb/s PAM4. It does not need host FEC since FEC is built in the DSP in the module.

The module is available in a commercial temperature range from 0°C to +70°C and includes digital diagnostics monitoring accessible through a standard two wire interface.

KEY SPECIFICATIONS

- BiDi QSFP28 transceiver with a LC connector
- Two wavelength solutions with in-build optical filters:
 - Tx: 1305nm / Rx: 1309nm
 - Tx: 1309nm / Rx: 1305nm
- Up to 40km distance, 106.25Gbps optical line rate
- Support KP4 FEC inside the module
- Compliant with 100G-ER, 100G Lambda MSA
- Less than 4W power consumption
- C-temp operating conditions (0°C to +70°C)

TECHNICAL DATA

Parameter	Value	Parameter	Value
Form Factor	BiDi QSFP28	Transmitter Data:	
Transmission Media	SM (LC)	Tx Power	1.7 to 7.1dBm ⁵⁾
Typical Reach	40km	Tx Power, OMA	4.7 to 7.9dBm
Nominal Wavelengths	Tx: 1304.58nm Rx: 1309.14nm ¹⁾ Tx: 1309.14nm Rx: 1304.58nm ²⁾	Tx Wavelength	1303.54 - 1305.63nm ¹⁾ 1308.09 - 1310.19nm ²⁾
Data Rate Support	106.25Gbps ³⁾ 52.125Gbd ⁴⁾	Extinction Ratio	≥5dB
Protocol Support	100GbE-LAN, 100GbE-WAN	Receiver Data:	
Power Consumption	<4W	Rx Power, min	-16dBm ^{5) 6)}
Operating Temperature	0°C to 70°C	Rx Sensitivity, OMA	-13.8dBm ⁶⁾
Storage Temperature	-40°C to 85°C	Rx Overload, max	-3.4dBm ^{5) 6)}
DDM	Yes	Rx Wavelength	1308.09 - 1310.19nm ¹⁾ 1303.54 - 1305.63nm ²⁾
¹⁾ CB-CE-40-CD5902 - Green-coloured latch		LOS Assert	-26dBm
²⁾ CB-CE-40-CD9502 - Blue-coloured latch		LOS De-assert	-15dBm
³⁾ Aggregated line rate 100GbE with FEC		LOS Hysteresis	0.5dB
⁴⁾ Line baud rate			
⁵⁾ Average Power, per lane			
⁶⁾ Specified at BER 2.4x10 ⁻⁴			

Safety/Regulatory Compliance

- Class 1 Laser safe
- RoHS compliance

ABSOLUTE MAX RATING

Exceeding these limits can cause permanent damage to the transceiver

Parameter	Value	Parameter	Value
Supply Voltage	-0.5V to 3.6V	Relative Humidity	85%
Storage Temp	-40°C to 85°C	Max Rx Optical Power	-2.4dBm

ORDERING INFORMATION

Ordering Code	Description
CB-CE-40-CD5902	100G QSFP28, BiDi, 40km, LC, 1305/1309nm, SM, 0C to 70C
CB-CE-40-CD9502	100G QSFP28, BiDi, 40km, LC, 1309/1305nm, SM, 0C to 70C

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