

100G QSFP28 BiDi 10km

100G Eth, QSFP28, BiDi, 10km, LC, 1271nm/1331nm, SM

CB-CE-10-CDxx02

OVERVIEW

The CB-CE-10-CDxx02 is a bi-directional (BiDi) transceiver designed to operate over a single fiber. It uses two different wavelengths to transmit and receive simultaneously over the same fiber.

The solution comprises two units:

- CB-CE-10-CD2302, (Tx1271nm / Rx1331nm)
- CB-CE-10-CD3202, (Tx1331nm / Rx1271nm)

The transceiver supports 100G Ethernet applications with a reach of up to 10km. 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: 1271nm / Rx: 1331nm
 - Tx: 1331nm / Rx: 1271nm
- Up to 10km distance, 106.25Gbps optical line rate
- Support KP4 FEC inside the module
- Compliant with 100G-LR, 100G Lambda MSA
- Less than 3.5W 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	-1.4 to +4.5dBm ⁵⁾
Typical Reach	10km	Tx Power, OMA	+0.7 to +4.7dBm
Nominal Wavelengths	Tx: 1271nm Rx: 1331nm ¹⁾ Tx: 1331nm Rx: 1271nm ²⁾	Tx Wavelength	1264.5-1277.5nm ¹⁾ 1324.5-1337.5nm ²⁾
Data Rate Support	106.25Gbps ³⁾ 53.125GBd ⁴⁾	Extinction Ratio	≥3.5dB
Protocol Support	100GbE	Receiver Data:	
Power Consumption	<3.5W	Rx Power, min	-7.7dBm ^{5) 6)}
Operating Temperature	0°C to 70°C	Rx Sensitivity, OMA	-6.1dBm ⁶⁾
Storage Temperature	-40°C to 85°C	Rx Overload, max	+4.5dBm ⁶⁾
DDM	Yes	Rx Wavelength	1324.5-1337.5nm ¹⁾ 1264.5-1277.5nm ²⁾
		LOS Assert	-26dBm
		LOS De-assert	-10dBm
		LOS Hysteresis	0.5dB

¹⁾ CB-CE-10-CD2302 – purple-coloured latch

²⁾ CB-CE-10-CD3202 – red-coloured latch

³⁾ Aggregated line rate 100GbE with FEC

⁴⁾ Line baud rate

⁵⁾ Average Power, per lane

⁶⁾ Specified at BER 2.4x10⁻⁴, PRBS 2³¹-1

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 4.0V	Relative Humidity	85%
Storage Temp	-40°C to 85°C	Max Rx Optical Power	5.5dBm

ORDERING INFORMATION

Ordering Code	Description
CB-CE-10-CD2302	100G QSFP28, BiDi, 10km, LC, 1271nm/1331nm, SM, 0C to 70C
CB-CE-10-CD3202	100G QSFP28, BiDi, 10km, LC, 1331nm/1271nm, SM, 0C to 70C

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