100G QSFP28 BIDI 30km

100G Eth, QSFP28, BiDi, 30km, LC,1291nm/1311nm, SM

CB-CE-30-CDxx02

OVERVIEW

The CB-CE-30-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-30-CD2302, (Tx1291nm / Rx1311nm)
- CB-CE-30-CD3202, (Tx1311nm / Rx1291nm)

The transceiver supports 100G Ethernet applications with a reach of up to 30km. 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: 1291nm / Rx: 1311nm
  - Tx: 1311nm / Rx: 1291nm
- Up to 30km distance, 106.25Gbps optical line rate
- Support KP4 FEC inside the module
- Support for 100G Ethernet LR1 applications
- Less than 4.0 W power consumption
- Compliant with SFF-8636, SFF-8679 standards
- C-temp operating conditions (0°C to +70°C)

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TECHNICAL DATA

Parameter	Value	Parameter	Value
Form Factor	BiDi QSFP28	**Transmitter Data:**	
Transmission Media	SM (LC)	Tx Power	+1 to +6.6dBm[5)]
Typical Reach	30km	Tx Power, OMA	+2.8dBm to 5dBm
Nominal Wavelengths	Tx: 1291nm Rx: 1311nm[1)] Tx: 1311nm Rx: 1291nm[2)]	Tx Wavelength	1284.5-1297.5nm[1)] 1304.5-1317.5nm[2)]
Data Rate Support	106.25Gbps[3)] 53.125GBd[4)]	Extinction Ratio	≥9dB
Protocol Support	100GbE	**Receiver Data:**	
Power Consumption	<4.0W	Rx Power, min	-10dBm[5)]
Operating Temperature	0°C to 70°C	Rx Sensitivity, OMA	-7.6 dBm[6)]
Storage Temperature	-40°C to 85°C	Rx Overload, max	+6.6dBm[5)]
DDM	Yes	Rx Wavelength	1304.5-1317.5nm[1)] 1284.5-1297.5nm[2)]
		LOS Assert	-26dBm
		LOS De-assert	-10dBm
		LOS Hysteresis	0.5dB

[1)] CB-CE-30-CD2302 - Purple-coloured latch
[2)] CB-CE-30-CD3202 - Red-coloured latch
[3)] Aggregated line rate 100GbE with FEC
[4)] Line baud rate
[5)] Average Power, per lane
[6)] Specified at BER 2.4×10^{-4}

Safety/Regulatory Compliance

- Class 1 Laser safe
- RoHS compliance

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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	+7.6dBm

ORDERING INFORMATION

Ordering Code	Description
CB-CE-30-CD2302	100G QSFP28, BiDi, 30km, LC,1291nm/1311nm, SM, 0C to 70C
CB-CE-30-CD3202	100G QSFP28, BiDi, 30km, LC,1311nm/1291nm, SM, 0C to 70C

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