100G QSFP28 BiDi 80km

100G Eth, QSFP28, BiDi, LWDM4, 80km, LC, 1270/1310nm, SM

CB-CE-80-CDxx02

OVERVIEW

The CB-CE-80-CDxx02 is a bidirectional QSFP28 transceiver designed for 100 Gigabit Ethernet applications. It integrates four LAN-WDM optical lanes in both the transmitter and receiver paths. The series comprises of two units:

- CB-CE-80-CD2302 (Tx1270nm / Rx1310nm)
- CB-CE-80-CD3202 (Tx1310nm / Rx1270nm)

Each lane supports 25.78125Gbps and uses an EML laser on the transmit side and a PIN receiver with SOA on the receive side. The module multiplexes all four wavelengths into a single fiber and demultiplexes them on the receiving end, enabling full duplex transmission over a single LC connector.

The transceiver supports up to 80km transmission on G.652 single mode fiber when operated with FEC. It complies with the QSFP28 Multi-Source Agreement and includes Digital Diagnostics Monitoring accessible through a 2-wire serial interface. The module operates from a single 3.3V supply and has a maximum power consumption of 5.5W.

It is offered in a commercial operating temperature range of 0°C to +70°C and is suitable for 100GBASE-ZR4 links, metro transport, telecom backbone networks and long reach point to point connectivity.

KEY SPECIFICATIONS

- 100G BiDi QSFP28 transceiver with a LC connector
- Four lane LAN-WDM EML transmitters and SOA plus PIN receivers
- Supports 25.78125Gbps per lane for an aggregate 100Gbps data rate
- Up to 10km distance, 106.25Gbps optical line rate
- Up to 80km transmission distance on SMF with host enabled FEC
- Compliant with 100G-ZR, 100G Lambda MSA
- Less than 5.5W 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	+2 to +6dBm[5]
Nominal Wavelengths	Tx: 1274/1278/1282/1287nm, Rx: 1296/1300/1305/1309nm[1] Tx: 1296/1300/1305/1309nm, Rx: 1274/1278/1282/1287nm[2]	Tx Wavelength	1272.55-1274.54nm 1276.89-1278.89nm 1281.25-1283.27nm 1285.65-1287.68nm[1] 1294.53-1296.59nm 1299.02-1301.09nm 1303.54-1305.63nm 1308.09-1310.09nm[2]
Typical Reach	80km	Extinction Ratio	≥6dB
Data Rate Support	106.25 Gbps[3] 25.78Gbps[4]	**Receiver Data:**	
Protocol Support	100GbE	Rx Sensitivity	-26dBm[5] [6]
Power Consumption	<5.5W	Rx Overload, max	-7dBm[5] [6]
Operating Temperature	0°C to 70°C	Rx Wavelength	1294.53-1296.59nm 1299.02-1301.09nm 1303.54-1305.63nm 1308.09-1310.09nm[1] 1272.55-1274.54nm 1276.89-1278.89nm 1281.25-1283.27nm 1285.65-1287.68nm[2]
Storage Temperature	-40°C to 85°C	LOS Assert	-40dBm
DDM	Yes	LOS De-assert	-27dBm
		LOS Hysteresis	0.5dB

[1] CB-CE-80-CD2302 - Cyan-coloured latch
[2] CB-CE-80-CD3202 - Green-coloured latch
[3] Aggregated line rate 100GbE
[4] Line rate per 25.78Gbps lane
[5] Average Power, per lane
[6] Per 25.78Gbps lane. Measured with PRBS31 (2^{31}-1) @ BER 5E-5

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	-0.3V to 4.0V	Relative Humidity	85%
Storage Temp	-40°C to 85°C	Max Rx Optical Power	-7dBm

ORDERING INFORMATION

Ordering Code	Description
CB-CE-80-CD2302	100G QSFP28, BiDi, LWDM4, 80km, LC, 1270/1310nm, SM, 0C to 70C
CB-CE-80-CD3202	100G QSFP28, BiDi, LWDM4, 80km, LC, 1310/1270nm, SM, 0C to 70C

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