10G SFP+ BiDi 20km

10G Eth, SFP+, BiDi, 20km, LC, 1270/1330nm, SM

CB-10E-20-xxyy02

OVERVIEW

The CB-10E-20-CD2302 and CB-10E-20-CD3202 are single-fiber bidirectional SFP+ transceiver solutions designed for 10 Gigabit Ethernet (10GbE) and 10G Fiber Channel applications. They operate over single-mode fiber using complementary wavelength pairs one variant transmitting at 1270nm and receiving at 1330nm, and the other transmitting at 1330nm and receiving at 1270nm enabling full-duplex data transmission on a single optical fiber.

Both modules support data rates up to 10.7Gbps and transmission distances up to 20km. They comply with the SFP+ Multi-Source Agreement (MSA) and the SFF-8472 Digital Diagnostics Monitoring (DDM) standard. DDM provides real-time monitoring of operating parameters such as temperature, voltage, transmit optical power, receive optical power, and laser bias current.

Each module integrates a DFB laser and PIN photodiode to ensure stable long-reach optical performance. The transceivers are available in Commercial (0°C to +70°C) temperature ranges, supporting reliable operation in diverse network environments.

KEY SPECIFICATIONS

- 10G BiDi SFP+ transceivers with single LC connector
- Two wavelength options:
  - 1270nm TX / 1330nm RX
  - 1330nm TX / 1270nm RX
- Supports 10.3Gbps to 10.7Gbps data rates
- Up to 20km transmission distance over single-mode fiber
- Less than 1.2W typical power consumption
- Temp operating conditions: Commercial (0°C to +70°C)

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TECHNICAL DATA

Parameter	Value	Parameter	Value
Form Factor	BiDi SFP+	**Transmitter Data:**	
Transmission Media	SM (LC)	Tx Power	-3 to +2dBm [3]
Typical Reach	20km	Tx Wavelength	1260 - 1280nm [1] 1320 - 1340nm [2]
Nominal Wavelength	Tx:1270nm Rx:1330nm [1] Tx:1330nm Rx:1270nm [2]	Extinction Ratio	≥ 3.5dB
Data Rate Support	1Gbps to 10.78Gbps	**Receiver Data:**	
Protocol Support	10GbE, 10G FC	Rx Sensitivity	-15dBm [3] [4]
Power Consumption	<1.2W	Rx Overload, max	+0.5dBm [4]
Operating Temperature	0°C to 70°C	Rx Wavelength	1320 - 1340nm [1] 1260 - 1280nm [2]
Storage Temperature	-40°C to 85°C	LOS Assert	-30dBm
DDM	Yes	LOS De-assert	-16dBm
		LOS Hysteresis	0.5dB

[1] CB-10E-20-CD2302 – Black-coloured latch
[2] CB-10E-20-CD3202 – Blue-coloured latch
[3] Average power
[4] @10.31Gbps, BER ≤$1x10^{-12}$, PRBS 2^{31}-1

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 4.5V	Relative Humidity	85%
Storage Temp	-40°C to 85°C	Max Rx Optical Power	0.5dBm

ORDERING INFORMATION

Ordering Code	Description
CB-10E-20-CD2302	10G SFP+, BiDi, 20km, LC, 1270/1330nm, SM, 0 to 70C
CB-10E-20-CD3202	10G SFP+, BiDi, 20km, LC, 1330/1270nm, SM, 0 to 70C

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