

10G SFP+ BiDi 10km

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

CB-10E-10-xyyy02

OVERVIEW

The CB-10E-10-xD2302 and CB-10E-10-xD3202 series is a set of single mode bidirectional SFP+ transceivers designed for 10 Gigabit Ethernet and 10G Fiber Channel applications. The modules operate using complementary wavelength pairs which allows full duplex communication over a single strand of fiber. One variant transmits at 1270nm and receives at 1330nm and the other transmits at 1330nm and receives at 1270nm. These devices support optical transmission distances up to 10km.

The transceivers support data rates from 1.0Gbps to 10.7Gbps and comply with the SFP+ Multi-Source Agreement and the SFF-8472 Digital Diagnostics Monitoring standard. The DDM interface provides real time monitoring of temperature, supply voltage, transmit power, receive power and laser bias current.

Each module integrates a DFB laser transmitter and a PIN photodiode receiver which ensures stable optical performance for short to medium reach single mode links. The product series is available in Commercial (0°C to +70°C) and Industrial (-40°C to + 85°C) operating temperature options.

KEY SPECIFICATIONS

- 10G BiDi SFP+ transceivers with single LC connector
- Two wavelength options:
 - Tx: 1270nm Rx:1330nm
 - Tx: 1330nm Rx:1270nm receive
- Supports 1.0Gbps to 10.7Gbps data rates
- Up to 10km transmission distance over single mode fiber
- Less than 1.2W power consumption
- Temp operating conditions: Commercial (0°C to +70°C) and Industrial (-40°C to + 85°C)

TECHNICAL DATA

Parameter	Value	Parameter	Value
Form Factor	BiDi SFP+	Transmitter Data:	
Transmission Media	SM (LC)	Tx Power	-5 to -1dBm ¹⁾
Typical Reach	10km	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 10.7Gbps	Receiver Data:	
Protocol Support	10GbE (IEEE 802.3by) 10GbE-LAN, 10GbE-WAN, CPRI	Rx Sensitivity	-14.4dBm ^{3) 4)}
Power Consumption	<1.2W	Rx Overload, max	0.5dBm ^{3) 4)}
Operating Temperature	0°C to 70°C/-40°C to 85°C	Rx Wavelength	1320 -1340nm ¹⁾ 1260 - 1280nm ²⁾
Storage Temperature	-40°C to 85°C	LOS Assert	-30dBm
DDM	Yes	LOS De-assert	-15.5dBm
		LOS Hysteresis	0.5dB

¹⁾ CB-10E-10-xx2302 – Black-coloured latch

²⁾ CB-10E-10-xx3202 – Blue-coloured latch

³⁾ Average Power

⁴⁾ @10.3Gbps. Measured with PRBS 2³¹-1 @ BER 1E-12

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 3.75V	Relative Humidity	85%
Storage Temp	-40°C to 85°C	Max Rx Optical Power	0.5dBm

ORDERING INFORMATION

Ordering Code	Description
CB-10E-10-CD2302	10G SFP+, BiDi, 10km, LC, 1270/1330nm, SM, 0 to 70C
CB-10E-10-ID2302	10G SFP+, BiDi, 10km, LC, 1270/1330nm, SM, -40 to 85C
CB-10E-10-CD3202	10G SFP+, BiDi, 10km, LC, 1330/1270nm, SM, 0 to 70C
CB-10E-10-ID3202	10G SFP+, BiDi, 10km, LC, 1330/1270nm, SM, -40 to 85C

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CONTACT INFORMATION

Email: sales@cloudphotonix.com
Phone: +91-1203116709, +91-1203116718
CloudPhotonix India Pvt. Ltd.
Block A-51, Sector 67
Noida – 201301, Uttar Pradesh, India