

10G SFP+ BiDi 40km

10G Eth, SFP+, BiDi, 40km, LC, 1270/1330nm, SM

CB-10E-40-xyyy02

OVERVIEW

The CB-10E-40-xD2302 and CB-10E-40-xD3202 are single-fiber bidirectional SFP+ transceiver solutions designed for 10 Gigabit Ethernet (10GbE) and 10G Fiber Channel (10G FC) applications. These modules use complementary wavelength pairs one transmitting at 1270nm and receiving at 1330nm, and the other transmitting at 1330nm and receiving at 1270nm enabling full-duplex operation over a single strand of single-mode fiber.

Both variants support transmission distances up to 40km and data rates from 10.3Gbps to 10.7Gbps. They comply with the SFP+ Multi-Source Agreement (MSA) and the SFF-8472 Digital Diagnostics Monitoring (DDM) standard. The DDM interface provides real-time data on temperature, supply voltage, transmit power, receive power, and bias current.

Each module incorporates a DFB laser and PIN photodiode to deliver stable long-reach optical performance. Commercial (0°C to +70°C) and Industrial (-40°C to + 85°C) operating temperature options are available for deployment in a wide range of 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 40km 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	-1dBm to +5dBm ³⁾
Typical Reach	40km	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	1.0Gbps to 10.7Gbps	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/ -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	-16dBm
		LOS Hysteresis	0.5dB

¹⁾ CB-10E-40-xD2302 – Red-coloured latch

²⁾ CB-10E-40-xD3202 – White-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 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-40-CD2302	10G SFP+, BiDi, 40km, LC, 1270/1330nm, SM, 0 to 70C
CB-10E-40-ID2302	10G SFP+, BiDi, 40km, LC, 1270/1330nm, SM, -40 to 85C
CB-10E-40-CD3202	10G SFP+, BiDi, 40km, LC, 1330/1270nm, SM, 0 to 70C
CB-10E-40-ID3202	10G SFP+, BiDi, 40km, LC, 1330/1270nm, SM, -40 to 85C

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