

1G SFP BiDi 40km

1G Eth, SFP, BiDi, 40km, LC, 1310/1550nm, SM

CB-GB-40-xyyy02

OVERVIEW

The CB-GB-40-xD3502 and CB-GB-40-xD5302 are single-fiber bidirectional transceiver solutions designed for Gigabit Ethernet (GbE) and 1G Fiber Channel (1G FC) services. They operate over single-mode fiber using complementary wavelength pairs one variant transmitting at 1310nm and receiving at 1550nm, and the other transmitting at 1550nm and receiving at 1310nm. This enables full-duplex communication over a single optical fiber for long-reach access and transport applications.

Both modules support optical transmission distances of up to 40km and adhere to the SFP Multi-Source Agreement (MSA) and the SFF-8472 Digital Diagnostics standard. Digital Diagnostics Monitoring (DDM) provides real-time data on key operating parameters such as optical power, temperature, supply voltage, and bias current.

The transceivers incorporate DFB laser transmitters and PIN photodiode receivers, ensuring stable long-distance optical performance. They are available in Commercial (0°C to +70°C) temperature ranges to support a wide variety of deployment scenarios.

KEY SPECIFICATIONS

- 1G BiDi SFP transceivers with single LC connector
- Two wavelength options:
 - 1310nm TX / 1550nm RX
 - 1550nm TX / 1310nm RX
- Supports 1.25Gbps Ethernet and 1.063Gbps Fiber Channel applications
- Up to 40km transmission distance over single-mode fiber
- Less than 1.0W power consumption
- Temp operating conditions: C-temp (0°C to +70°C)

TECHNICAL DATA

Parameter	Value	Parameter	Value
Form Factor	BiDi SFP	Transmitter Data:	
Transmission Media	SM (LC)	Tx Power	-5 to 0dBm ³⁾
Typical Reach	40km	Tx Wavelength	1260 -1360nm ¹⁾ 1530 -1570nm ²⁾
Nominal Wavelength	Tx:1310nm Rx:1550nm ¹⁾ Tx:1550nm Rx:1310nm ²⁾	Extinction Ratio	≥ 9dB
Data Rate Support	10Mbps to 1.25Gbps	Receiver Data:	
Protocol Support	Gigabit Ethernet 1.063Gbps Fiber Channel	Rx Sensitivity	-24dBm ³⁾⁴⁾
Power Consumption	<1.0W	Rx Overload, max	-1dBm ⁴⁾
Operating Temperature	0°C to 70°C	Rx Wavelength	1530 -1570nm ¹⁾ 1260 - 1360nm ²⁾
Storage Temperature	-40°C to 85°C	LOS Assert	-38dBm
DDM	Yes	LOS De-assert	-25dBm
		LOS Hysteresis	0.5dB

¹⁾ CB-GB-40-xD3502 – Blue-coloured latch

²⁾ CB-GB-40-xD5302 – Yellow-coloured latch

³⁾ Average Power

⁴⁾ @1250 Mbps, BER ≤1x10⁻¹², PRBS 2⁷-1

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	-1dBm

ORDERING INFORMATION

Ordering Code	Description
CB-GB-40-CD3502	1G SFP, BiDi, 40km, LC, 1310/1550nm, SM, 0 to 70C
CB-GB-40-CD5302	1G SFP, BiDi, 40km, LC, 1550/1310nm, SM, 0 to 70C

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