

1G SFP BiDi 80km

1G Eth, SFP, BiDi, 80km, LC, 1490/1550nm, SM

CB-GB-80-CDyy02

OVERVIEW

The CB-GB-80-CD4502 and CB-GB-80-CD5402 are single-fiber bidirectional transceiver solutions designed for long-reach Gigabit Ethernet (GbE) and 1G Fiber Channel (1G FC) applications. These modules operate over single-mode fiber with complementary wavelength pairs one version transmitting at 1490nm and receiving at 1550nm, and the other transmitting at 1550nm and receiving at 1490nm enabling full-duplex data transmission over a single optical fiber.

Both variants support transmission distances up to 80km and comply with the SFP Multi-Source Agreement (MSA) and the SFF-8472 Digital Diagnostics Monitoring (DDM) standard. The integrated diagnostics interface provides real-time monitoring of operating conditions, including temperature, voltage, optical output power, received optical power, and laser bias current.

Each module uses a high-power DFB laser and a PIN photodiode, ensuring stable performance suitable for extended-reach optical links. The transceivers are offered in Commercial (0°C to +70°C) temperature ranges, enabling reliable operation in diverse outdoor and carrier-grade environments.

KEY SPECIFICATIONS

- 1G BiDi SFP transceivers with single LC connector
- Two wavelength options:
 - 1490nm TX / 1550nm RX
 - 1550nm TX / 1490nm RX
- Supports 1.25Gbps Ethernet and 1.063Gbps Fiber Channel applications
- Up to 80km 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	0 to +5dBm ³⁾
Typical Reach	80km	Tx Wavelength	1470 -1510nm ¹⁾ 1530 -1570nm ²⁾
Nominal Wavelength	Tx:1490nm Rx:1550nm ¹⁾ Tx:1550nm Rx:1490nm ²⁾	Extinction Ratio	≥ 9dB
Data Rate Support	10Mbps to 1.25Gbps	Receiver Data:	
Protocol Support	GbE, 1G FC	Rx Sensitivity	-26dBm ^{3) 4)}
Power Consumption	<1.0W	Rx Overload, max	-1dBm ⁴⁾
Operating Temperature	0°C to 70°C	Rx Wavelength	1530 -1570nm ¹⁾ 1470 - 1510nm ²⁾
Storage Temperature	-40°C to 85°C	LOS Assert	-38dBm
DDM	Yes	LOS De-assert	-27dBm
		LOS Hysteresis	0.5dB

¹⁾ CB-GB-80-xD4502 – Purple-coloured latch

²⁾ CB-GB-80-xD5402 – Yellow-coloured latch

³⁾ Average Power

⁴⁾ @1250 Mbps, BER ≤ 1x10⁻¹², PRBS 2²³-1

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-80-CD4502	1G SFP, BiDi, 80km, LC, 1490/1550nm, SM, 0 to 70C
CB-GB-80-CD5402	1G SFP, BiDi, 80km, LC, 1550/1490nm, SM, 0 to 70C

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