

# SO-SFP-GE-FE-BX20D-35 & -53

SFP BiDi, 100Base FE, 1310/1550nm, SM, 17dB, 20km, SGMII

## OVERVIEW

The SO-SFP-GE-FE-BX20D is a bi-directional transceiver solution operating directly on a single-fiber without the need for a separate optical filter. This is achieved by having two transceivers that inject different wavelengths into the same single-fiber. The solution thus consists of two transceivers; SO-SFP-GE-FE-BX20D-35 and SO-SFP-GE-FE-BX20D-53, operating at 1310nm and 1550nm respectively. Using a single-fiber solution provides a cost-efficient solution for interconnect and it simplifies the patching since no separate transmit/receive direction has to be taken into account.

The transceiver pair supports Fast Ethernet (FE) services (100BASE-FX) with an optical performance providing a bridgeable distance of up to 20km. It has also an internal interface supporting SGMII.

SGMII is a connection bus for Ethernet MACs and PHYs defined by Cisco Systems. The transceiver supports More Link Status Monitor, such as CRC, Package counter and Far End Fault Indication (FEFI).

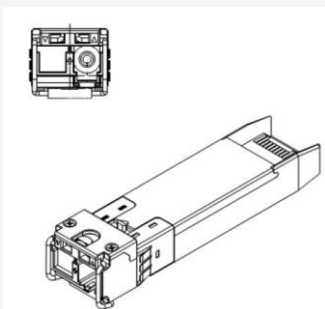
## TECHNICAL DATA

<b>Technology</b>	BiDi SFP
<b>Transmission media</b>	SM (1x LC)
<b>Typical reach</b>	20 km
<b>Nominal wavelength</b>	1310 nm <sup>1)</sup> & 1550 nm <sup>2)</sup>
<b>Bit rate range</b>	125 Mbps
<b>Protocols</b> Eth:	FE
<b>Power budget</b>	0.0 - 13.0 dB
<b>Temperature range</b>	0°C to +70°C
<b>Power consumption</b>	< 1.0W

<b>Transmitter data</b>	Output power:	Min: -15.0 dBm Max: -8.0 dBm
	Tx wavelength:	1260 - 1360 nm <sup>1)</sup> 1500 - 1600 nm <sup>2)</sup>
<b>Receiver data</b>	Minimum input power:	-32.0 dBm <sup>1)</sup> -32.0 dBm <sup>2)</sup>
	Overload (max power):	-8.0 dBm
	Wavelength range:	1480 - 1600 nm <sup>1)</sup> 1260 - 1360 nm <sup>2)</sup>
<b>MCU</b>		No
<b>MSA compliance</b>		SFP MSA

<sup>1)</sup> SO-SFP-GE-FE -BX20D-35

<sup>2)</sup> SO-SFP-GE-FE -BX20D-53



### Regulatory compliance

<b>EMC CE</b>	EN 55022:2010 EN 55024:2010
<b>UL/Safety</b>	UL 60950-1
<b>FCC</b>	47 CFR PART 15 OCT, 2013
<b>RoHS</b>	RoHS 6
<b>TUV</b>	EN 60950-1:2006+A11+A1+A12+A2 EN 60825-1:2014 EN 60825-2:2004+A1+A2

<b>Storage temp.</b>	-40°C to +85°C
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Note! See "Definitions" below.

## ORDERING INFORMATION

Part number	Description
SO-SFP-GE-FE-BX20D-35	SFP BiDi, 100Base FE, TX/RX=1310/1550nm, SM, 17dB, 20km, SGMII
SO-SFP-GE-FE-BX20D-53	SFP BiDi, 100Base FE, TX/RX=1550/1310nm, SM, 17dB, 20km, SGMII

## DEFINITIONS

Technology:	Grey; Transceiver type for non-WDM applications. Electrical or optical. CWDM; Transceiver type for CWDM applications using G.694.2 channel grid. DWDM; Transceiver type for DWDM applications using G.694.1 channel grid. BiDi; Transceiver pair using two different wavelength channels operating on a single-fiber.
Transmission Media:	DAC: Direct Attach Cable. Electrical or optical cable with attached connectors. Type of fiber, e.g. Multimode (MM) or Singlemode (SM). Number of and connector type within brackets (e.g. 2x LC, 1x MPO).
Typical reach:	Nominal distance performance based on dispersion and power budget properties, i.e. w/o dispersion compensation and optical amplification.
Bit rate range:	Supported bit rate range in Gigabit or Megabit per second (Gbps or Mbps).
Protocols:	Protocols within supported bit rate range.
Nominal wavelength:	Typical wavelength from transmitter.
Interface standards:	Referenced interface standards e.g. IEEE 802.3 standard for 10GbE services.
Power budget:	Min and max power budget between Transmitter and Receiver. Excluding any dispersion penalty.
Dispersion tolerance/penalty:	Maximum amount of tolerated dispersion and required reduction of power budget to maintain BER better than $1E^{-12}$ . Defined at a specific bit rate.
Temperature range:	Max operating case temperature range. Standard temperature range: Typically 0°C to +70°C (32°F to +158°F) Extended temperature range (E-temp): Typically -20°C to +75°C (-4°F to +167°F) Industrial temperature range (I-temp): -40°C to +85°C (-40°F to +185°F)
Power consumption:	Worst case power consumption.
Transmitter Output power:	Average output power. Provided in min and max values.
Receiver minimum input power:	Minimum average input power at specified BER, normally $1E^{-12}$ .
Receiver max input power:	Maximum average input power at specified BER, normally $1E^{-12}$ .
DDM:	Digital Diagnostic Monitoring functionality as defined in SFF-8472 MSA.