

# SO-SFP-1000BASE-BX120D-5157 & -5751

SFP BiDi, 1.25 Gbps GbE, 1510/1570nm, SM, DDM, 33dB, 120km

## OVERVIEW

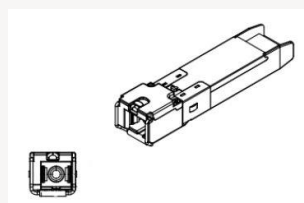
The SO-SFP-1000BASE-BX120D is a bi-directional transceiver solution operating directly on a single-fiber without the need for a separate optical filter. This is achieved by having two transceivers that inject different wavelengths into the same single-fiber. The solution thus consists of two transceivers; SO-SFP-1000BASE-BX120D-5157 and SO-SFP-1000BASE-BX120D-5751, operating at 1510nm and 1570nm 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 the bit rate range from 100Mbps to 1.25Gbps, i.e. Fast Ethernet (FE), Gigabit Ethernet (GbE) and 1 Gbps Fiberchannel (1G FC) services. The optical performance of the transceiver pair provides a bridgeable distance of up to 160km.

The transceiver solution is available in two temperature range options, one being an extended temperature range of -20°C to +85°C (-4°F to +185°F). The transceivers provide digital diagnostic functions via a 2-wire serial interface as defined by the SFF-8472 specification.

## TECHNICAL DATA

<b>Technology</b>	BiDi SFP
<b>Transmission media</b>	SM (1x LC)
<b>Typical reach</b>	120 km
<b>Nominal wavelength</b>	1510 nm <sup>1)</sup> & 1570 nm <sup>2)</sup>
<b>Bit rate range</b>	100 Mbps – 1.25 Gbps
<b>Protocols</b>	Eth:
	FC:
	FE
	GbE
	1G FC
<b>Power budget</b>	13.0 - 33.0 dB <sup>3)</sup>
<b>Dispersion tolerance:</b>	3400 ps/nm
<b>Dispersion penalty:</b>	1dB <sup>3)</sup>
<b>Temperature range</b>	0°C to +70°C -20°C to +85°C (-E)
<b>Power consumption</b>	< 1.0W



<b>Transmitter data</b>	Output power:	Min: 0.0 dBm Max: +5.0 dBm
	Tx wavelength:	1504 - 1517 nm <sup>1)</sup> 1564 - 1577 nm <sup>2)</sup>
<b>Receiver data</b>	Minimum input power:	-33.0 dBm <sup>3)</sup>
	Overload (max power):	-8.0 dBm
	Wavelength range:	1550 - 1590 nm <sup>1)</sup> 1490 - 1530 nm <sup>2)</sup>
<b>DDM</b>		Yes
<b>MSA compliance</b>		SFP MSA SFF 8472

<sup>1)</sup> SO-SFP-1000BASE-BX120D-5157

<sup>2)</sup> SO-SFP-1000BASE-BX120D-5751

<sup>3)</sup> GbE

### 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

**Storage temp.** -40°C to +85°C

**Note!** See “Definitions” below.

## ORDERING INFORMATION

Part number	Description
SO-SFP-1000Base-BX120D-5157	SFP BiDi, 1.25Gbps GbE, TX/RX=1510/1570nm, SM, DDM, 33dB, 120km
SO-SFP-1000Base-BX120D-5751	SFP BiDi, 1.25Gbps GbE, TX/RX=1570/1510nm, SM, DDM, 33dB, 120km
SO-SFP-1000Base-BX120D-5157-E	SFP BiDi, 1.25Gbps GbE, TX/RX=1510/1570nm, SM, DDM, 33dB, 120km, E-temp
SO-SFP-1000Base-BX120D-5751-E	SFP BiDi, 1.25Gbps GbE, TX/RX=1570/1510nm, SM, DDM, 33dB, 120km, E-temp

## 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. DAC: Direct Attach Cable. Electrical or optical cable with attached connectors.
Transmission Media:	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.