

SO-CSFP-1000BASE-BX10D-53-O2 & -I

CSFP BiDi, 100Mbps/1.25Gbps, TX/RX=1550/1310nm, SM, DDM, 11dB, 10km

OVERVIEW

The SO-CSFP-1000BASE-BX10D-53-O2 is a CSFP (Compact SFP) transceiver where both ports are bi-directional, i.e. providing double capacity as compared to normal BiDi transceivers where one port is not used. This requires that the host equipment support CSFP transceivers.

Each port operates directly on a single-fiber without the need for a separate optical filter. Each transceiver function uses a 1550nm transmitter and a receiver operating at 1310nm. The solution requires that the far end host equipment uses bi-directional SFP's that transmit on a 1310nm wavelength and a receiver that accepts a 1550nm wavelength.

The transceiver supports a bit rate range between 100 Mbps and 1.25 Gbps, e.g. 1G Fiberchannel (1G FC) 100M Ethernet (FE) and 1G Ethernet (GbE) services, having an optical performance that provides a bridgeable distance of up to 10km.

The transceiver solution is available in two temperature range options, one being the Industrial temperature range (I-temp) of -40°C to +85°C (-40°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

Technology	BiDi CSFP
Transmission media	SM (2x LC)
Typical reach	10 km
Nominal wavelength	1550 nm & 1310 nm
Bit rate range	100 Mbps - 1.25 Gbps
Protocols	Eth: GbE
	FC: 100M (FE)
	SDH/SONET: 1G FC
Power budget	0.0 - 10.5 dB ³⁾
Dispersion penalty	1 dB
Temperature range	0°C to +70°C -40°C to +85°C (-I)
Power consumption	< 1.0W per ch

Transmitter data	Output power:	Min: -9.0 dBm Max: -3.0 dBm
	Tx wavelength:	1540 - 1560
Receiver data	Minimum input power:	-19.5 dBm ¹⁾
	Overload (max power):	-3.0 dBm
	Wavelength range:	1260 - 1360 nm
DDM		Yes
MSA compliance		CSFP MSA opt 2 SFF 8472

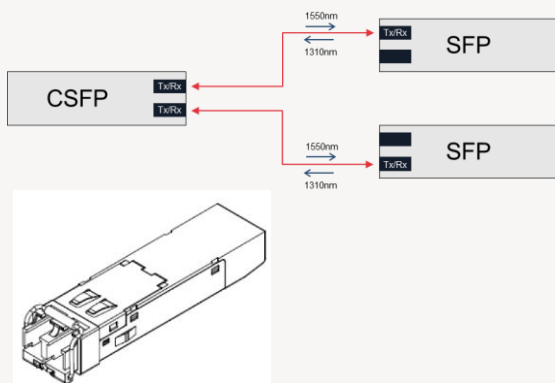
¹⁾ @ 1.25 Gbps

Regulatory compliance

EMC CE	EN 55022:2010 EN 55024:2010
UL/Safety	UL 60950-1
FCC	47 CFR PART 15 OCT, 2013
RoHS	RoHS 6, 2011/65/EU
TUV	EN 60950-1:2006+A11+A1+A12 EN 60825-1:2007 EN 60825-2:2004+A1+A2

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



ORDERING INFORMATION

Part number	Description
SO-CSFP-1000Base-BX10D-53-O2	CSFP BiDi, 100Mbps/1.25Gbps, TX/RX=1550/1310nm, SM, DDM, 11dB, 10km
SO-CSFP-1000Base-BX10D-53-O2-I	CSFP BiDi, 100Mbps/1.25Gbps, TX/RX=1550/1310nm, SM, DDM, 11dB, 10km, I-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 (DAC). 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 giving a BER, normally $1E^{-12}$.
DDM:	Digital Diagnostic Monitoring functionality as defined in SFF-8472 MSA.