

DATASHEET 5.0

SO-SFP-MR25-BX40D-35 & -53 / -35-I & -53-I

SFP BiDi, 100Mbps-2.7Gbps, TX/RX=1310/1550nm, SM, DDM, 13dB, 40km

OVERVIEW

The SO-SFP-MR25-BX40D 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-MR25-BX40D-35 and SO-SFP-MR25-BX40D-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 the bit rate range from 100Mbps to 2.7Gbps covering a wide range of Ethernet, SAN, SDH/SONET and OTN services. The optical performance of the transceiver pair 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 SFP
Transmission media	SM (1x LC)
Typical reach	40 km
Nominal wavelength	1310 nm ¹⁾ & 1550 nm ²⁾
Bit rate range	100 Mbps – 2.67 Gbps
Protocols Eth:	Fe GbE
FC:	2G FC 1G FC
SDH/SONET:	STM-1/OC-3 STM-4/OC-12 STM-16/OC-48
OTN:	OTU1
CPRI:	Opt 1 (0.6144 Gbps) Opt 2 (1.2288 Gbps) Opt 3 (2.4576 Gbps)
OBSAI:	1x (0.768 Gbps) 2x (1.536 Gbps)

Dispersion Penalty	1dB ¹⁾⁺²⁾
Power budget	8.0 - 19.0 dB ³⁾ 3.0 - 13.0 dB ³⁾
Temperature range	0°C to +70°C -40°C to +85°C (-I)
Power consumption	< 1.0 W

Transmitter data	Output power:	Min: +1.0 dBm ¹⁾ Max: +5.0 dBm ¹⁾
		Min: -5.0 dBm ²⁾ Max: 0.0 dBm ²⁾
	Tx wavelength:	1260 - 1360 nm ¹⁾ 1530 - 1570 nm ²⁾
Receiver data	Minimum input power:	-18.0 dBm ¹⁾⁺²⁾⁺³⁾
	Overload (max power):	-3.0 dBm
	Wavelength range:	1260 - 1360 nm ¹⁾ 1530 - 1570 nm ²⁾
DDM		Yes
MSA compliance		SFP MSA SFF 8472

¹⁾ SO-SFP-1000Base-BX10D-34 (in 1310nm direction)

²⁾ SO-SFP-1000Base-BX10D-43 (in 1550nm direction)

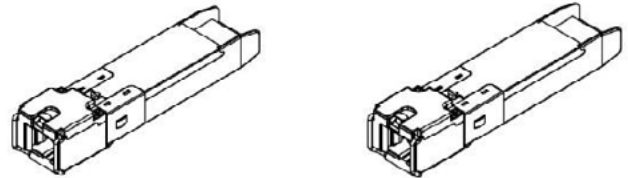
³⁾ GbE

Regulator compliance

EMC CE	EN 55022:2010 EN 55024:2010
UL/Safety FCC	UL 60950-1 47 CFR PART 15 OCT, 2013
RoHS	RoHS 6
TUV	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
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Note! See "Definitions" below



ORDERING INFORMATION

Part number	Description
SO-SFP-MR25-BX40D-35	SFP BiDi, 100Mbps-2.7Gbps, TX/RX=1310/1550nm, SM, DDM, 19dB, 40km
SO-SFP-MR25-BX40D-53	SFP BiDi, 100Mbps-2.7Gbps, TX/RX=1550/1310nm, SM, DDM, 13dB, 40km
SO-SFP-MR25-BX40D-35-I	SFP BiDi, 100Mbps-2.7Gbps, TX/RX=1310/1550nm, SM, DDM, 19dB, 40km, I-temp
SO-SFP-MR25-BX40D-53-I	SFP BiDi, 100Mbps-2.7Gbps, TX/RX=1550/1310nm, SM, DDM, 13dB, 40km, 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. 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.