

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-35, 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.

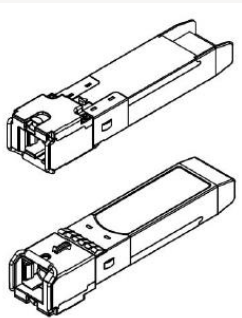
The transceiver pair supports the bit rate range from 100Mbps to 2.7Gbps covering a wide range of Ethernet, SAN, SDH/SONET and OTN services. The optical performance of the transceiver pair provides a bridgeable distance of up to 10km.

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	< 1.0W

Note that the power budget differs in 1310nm vs 1550nm direction. This has to be taken into account for links with high attenuation.



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

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

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

³⁾ GbE

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
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.