

DATASHEET 5.0

SO-SFP-MR25-BX20D-34 & -43

SFP BiDi, 100Mbps-2.7Gbps, 1310/1490nm, SM, DDM, 13dB, 20km

OVERVIEW

The SO-SFP-MR25-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-MR25-BX20D-34 and SO-SFP-MR25-BX20D-43, operating at 1310nm and 1490nm 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 20km.

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	20 km
Nominal wavelength	1310 nm ¹⁾ & 1490 nm ²⁾
Bit rate range	100 Mbps – 2.670 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)

Power budget	3.0 - 13.0 dB
Dispersion penalty	1 dB
Temperature range	0°C to +70°C
Power consumption	< 1 W
Transmitter data	Output power: Min: -5.0 dBm Max: 0.0 dBm
	Tx wavelength: 1270 - 1350 nm ¹⁾ 1470 - 1510 nm ²⁾
Receiver data	Minimum input power: -18.0 dBm ³⁾
	Overload (max power): -3.0 dBm
	Wavelength range: 1460 - 1520 nm ¹⁾ 1260 - 1360 nm ²⁾
DDM	Yes
MSA compliance	SFP MSA SFF-8472

¹⁾ SO-SFP-MR25-BX20D-34 (in 1310nm direction)

²⁾ SO-SFP-MR25-BX20D-34 (in 1490nm direction)

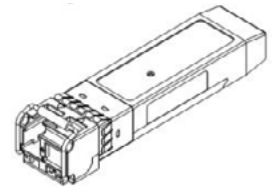
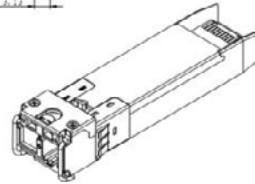
³⁾ at 2.670 Gbps (STM-16/OC-48)

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

Note! See "Definitions" below



ORDERING INFORMATION

Part number	Description
SO-SFP-MR15D	SFP, 100Mbps-2.7Gbps, Multirate, 1310nm, SM, DDM, 13dB, 15km
SO-SFP-MR25-BX20D-43	SFP BiDi, 100Mbps-2.7Gbps, TX/RX=1490/1310nm, SM, DDM, 13dB, 20km

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.