

# SO-SFP28-BX20D-2733/3327-I

SFP28, BiDi, 25G, CPRI, 1270/1330nm, SM, DDM, 14.5dB, 20km, I-temp

## OVERVIEW

The SO-SFP28-BX20D-2733/3327-I 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-SFP28-BX20D-2733 and SO-SFP28-BX20D-3327, operating at 1270nm and 1330nm 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 25GbE and CPRI option 10 services, having an optical performance that provides a bridgeable distance of up to 20km.

As stipulated by the 25G Ethernet standards, Forward Error Correction (FEC) is required to be implemented by the host equipment in order to ensure reliable system operation. The optical parameters below will provide a bit error ratio (BER) of  $5 \times 10^{-5}$  for 25G Ethernet. FEC will provide the required quality for secure service.

The transceiver solution is available in 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

<b>Technology</b>	BiDi SFP28
<b>Transmission media</b>	SM (1x LC)
<b>Typical reach</b>	20 km
<b>Nominal wavelength</b>	1270 nm <sup>1)</sup> & 1330 nm <sup>2)</sup>
<b>Bit rate range</b>	25.78/ 24.33 Gbps
<b>Protocols</b>	Eth: 25GbE CPRI: Opt 10
<b>Power budget</b>	1.5 - 14.5 dB <sup>3)</sup>
<b>Temperature range</b>	-40°C to +85°C
<b>Power consumption</b>	< 1.5W

<b>Transmitter data</b>	<b>Output power:</b>	Min: 0.0 dBm Max: +4.0 dBm
	<b>Tx wavelength:</b>	1264.5 – 1277.5 nm <sup>1)</sup> 1324.5 – 1337.5 nm <sup>2)</sup>
<b>Receiver data</b>	<b>Minimum input power:</b>	-14.5 dBm <sup>3)</sup>
	<b>Overload (max power):</b>	+2.5 dBm
	<b>Wavelength range:</b>	1324.5 – 1337.5 nm <sup>1)</sup> 1264.5 – 1277.5 nm <sup>2)</sup>
<b>DDM</b>		Yes
<b>MSA compliance</b>		SFP 8402 SFF 8472

<sup>1)</sup> SO-SFP28-BX20D-2733

<sup>2)</sup> SO-SFP28-BX20D-3327

<sup>3)</sup> 25GbE (25.78 Gbps) and BER 5E-5

### 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

<b>Storage temp.</b>	-40°C to +85°C
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**Note!** See “Definitions” below.

## ORDERING INFORMATION

Part number	Description
SO-SFP28-BX20D-2733-I	SFP28, BiDi, 25G, CPRI, Tx/Rx=1270/1330nm, SM, DDM, 14.5dB, 20km, I-temp
SO-SFP28-BX20D-3327-I	SFP28, BiDi, 25G, CPRI, Tx/Rx=1330/1270nm, SM, DDM, 14.5dB, 20km, 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.