

DATASHEET 5.0

SO-XFP-10GE-BX40D-2733/-3327

XFP, BiDi, 10G Multirate, 1270/1330nm, DDM, 16dB, 40km

OVERVIEW

The SO-XFP-10GE-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-XFP-10GE-BX40D-2733 and SO-XFP-10GE-BX40D-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 distance performance of the transceiver pair is in accordance with the IEEE 802.3ae standard, providing a bridgeable distance of up to 40km for 10GbE-LAN (10GBASE-ER) and 10GbE-WAN (10GBASE-EW) services.

This transceiver provides digital diagnostic functions via a 2-wire serial interface as defined by the SFF-8472 specification.

TECHNICAL DATA

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|---------------------|---|
| Technology | BiDi XFP |
| Transmission media | SM (1x LC) |
| Typical reach | 40 km |
| Nominal wavelength | 1270nm ¹⁾ & 1330nm ²⁾ |
| Interface standards | 10GBASE-LR 10GBASE-LW 1200-SM-LL-L 10G FC |
| Bit rate range | 9.95 - 11.1 Gbps |
| Protocols Eth: | 10GbE-LAN 10GbE-WAN |
| OTN: | OTU2 OTU2e |
| SDH/SONET: | STM-64/OC-192 |
| FC: | 10G FC |
| CPRI: | Opt 8 (10.1376 Gbps) |
| Power budget | 4.5 - 16.0 dB |
| Temperature range | 0°C to +70°C |
| Power consumption | < 2W |

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|-------------------------|-----------------------|--|
| Transmitter data | Output power: | Min: +1.0 dBm Max: +5.0 dBm |
| | Tx wavelength: | 1260 - 1280 nm ¹⁾ 1320 - 1340 nm ¹⁾ |
| Receiver data | Minimum input power: | -15.0 dBm ³⁾ |
| | Overload (max power): | +0.5 dBm |
| | Wavelength range: | 1320 - 1340 nm ¹⁾ 1260 - 1280 nm ¹⁾ |
| DDM | | Yes |
| MSA compliance | | SFF-8431 SFF-8472 |

¹⁾ SO-XFP-10GE-BX10D-2733

³⁾ @ 10.3Gbps

²⁾ SO-XFP-10GE-BX10D-3327

Regulator compliance

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|--------------------------|---|
| 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

Note: IEEE 802.3ae 10GBASE-ER/EW is defined only at 1550 nm. The standard is referred to from bridgeable distance perspective.

DEFINITIONS

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|-------------------------------|---|
| 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. |