OVERVIEW

The SO-XFP-10GE-BX10D 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-BX10D-2733 and SO-XFP-10GE-BX10D-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 LR/LW-standard, providing a bridgeable distance of up to 10km for 10GbE-LAN (10GBASE-LR) and 10GbE-WAN (10GBASE-LW) services.

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

TECHNICAL DATA

<table>
<thead>
<tr>
<th>Technology</th>
<th>BiDir XFP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transmission media</td>
<td>SM (Tx LC)</td>
</tr>
<tr>
<td>Typical reach</td>
<td>10 km</td>
</tr>
<tr>
<td>Nominal wavelength</td>
<td>1270 nm &amp; 1330 nm</td>
</tr>
<tr>
<td>Interface standards</td>
<td>10GBASE-LR, 10GBASE-LW, 1200-SM-LL-L 10G FC</td>
</tr>
<tr>
<td>Bit rate range</td>
<td>9.95 - 11.1 Gbps</td>
</tr>
<tr>
<td>Protocols</td>
<td>Eth: 10GbE-LAN, 10GbE-WAN, OTU2, OTU2e, STM-64/OC-192, 10G FC, Opt 8 (10.1376 Gbps)</td>
</tr>
<tr>
<td>Power budget</td>
<td>0.0 - 9.0 dB</td>
</tr>
<tr>
<td>Temperature range</td>
<td>0°C to +70°C</td>
</tr>
<tr>
<td>Power consumption</td>
<td>&lt; 2W</td>
</tr>
</tbody>
</table>

Transmitter data
- Output power: Min: -5.0 dBm, Max: 0.0 dBm
  - Tx wavelength: 1260 - 1280 nm (1)
  - Wavelength range: 1320 - 1340 nm (2)

Receiver data
- Minimum input power: -14.0 dBm (3)
  - Overload (max power): +0.5 dBm
- Wavelength range: 1260 - 1280 nm (4)

DDM
- MSA compliance: Yes

MSA compliance
- SFF-8431
- SFF-8472

Protocols
- Eth: 10GbE-LAN, 10GbE-WAN, OTU2, OTU2e, STM-64/OC-192, 10G FC, Opt 8 (10.1376 Gbps)

Regulatory compliance
- EMCE: EN 55022:2010, EN 55024:2010
- UL/Safety: UL 60950-1
- RoHS: RoHS 6

Note: See “Definitions” below.

Note: IEEE 802.3ae 10GBASE-LR/LW is defined only at 1310 nm. The standard is referred to from bridgeable distance perspective.
ORDERING INFORMATION

<table>
<thead>
<tr>
<th>Part number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SO-XFP-10GE-BX10D-2733</td>
<td>XFP, BiDi, 10G Multirate, TX/RX=1270/1330nm, DDM, 9dB, 10km</td>
</tr>
<tr>
<td>SO-XFP-10GE-BX10D-3327</td>
<td>XFP, BiDi, 10G Multirate, TX/RX=1330/1270nm, DDM, 9dB, 10km</td>
</tr>
</tbody>
</table>

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/penalty:
- Min and max power budget between Transmitter and Receiver. Excluding any dispersion 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.