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

<table>
<thead>
<tr>
<th>Technology</th>
<th>BiDi SFP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transmission media</td>
<td>SM (1x LC)</td>
</tr>
<tr>
<td>Nominal wavelength</td>
<td>1310 nm &amp; 1490 nm</td>
</tr>
<tr>
<td>Bit rate range</td>
<td>100 Mbps – 2.670 Gbps</td>
</tr>
<tr>
<td>Protocols</td>
<td>Eth: FE GbE</td>
</tr>
<tr>
<td></td>
<td>FC: 2G FC 1G FC</td>
</tr>
<tr>
<td></td>
<td>SDH/SONET: STM-1/OC-3 STM-4/OC-12 STM-16/OC-48</td>
</tr>
<tr>
<td>OTN:</td>
<td>OTU1</td>
</tr>
<tr>
<td>CPRI:</td>
<td>Opt 1 (0.8144 Gbps) Opt 2 (1.2288 Gbps) Opt 3 (2.4576 Gbps)</td>
</tr>
<tr>
<td>OBSAI:</td>
<td>1x (0.768 Gbps) 2x (1.536 Gbps)</td>
</tr>
<tr>
<td>Power budget</td>
<td>3.0 - 13.0 dB</td>
</tr>
<tr>
<td>Dispersion penalty</td>
<td>1dB</td>
</tr>
<tr>
<td>Temperature range</td>
<td>0°C to +70°C</td>
</tr>
<tr>
<td>Power consumption</td>
<td>&lt; 1 W</td>
</tr>
</tbody>
</table>

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 4

DDM

- Yes

MSA compliance

- SFP MSA
- SFF 8472

Regulatory compliance

- EMC CE: EN 55022:2010
- EN 55024:2010
- UL/Safety: UL 60950-1
- 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

<table>
<thead>
<tr>
<th>Part number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SO-SFP-MR25-BX20D-34</td>
<td>SFP BiDi, 100Mbps-2.7Gbps, TX/RX=1310/1490nm, SM, DDM, 13dB, 20km</td>
</tr>
<tr>
<td>SO-SFP-MR25-BX20D-43</td>
<td>SFP BiDi, 100Mbps-2.7Gbps, TX/RX=1490/1310nm, SM, DDM, 13dB, 20km</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: 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.