

SO-SFP-MR40D

SFP, 155Mbps-2.7Gbps, Multirate, 1310nm, SM, DDM, 25dB, 40km

OVERVIEW

SO-SFP-MR40D is a 1310nm SFP transceiver for SingleMode fiber, covering a wide range of services up to 2.67Gbps, such as the SDH/SONET range STM-1/OC-3 to STM-16/OC-48 as well as 1Gbps Ethernet (GbE) services etc.

The optical performance provides a bridgeable distance of up to 40km.

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

TECHNICAL DATA

| Parameter | Value |
|-----------------------|--|
| Technology | Grey SFP |
| Transmission media | SM (2x LC) |
| Typical reach | 40km |
| Nominal wavelength | 1x 1310nm |
| Bit rate support | 155Mbps to 2.67Gbps |
| Protocol support | GbE STM1/OC3, STM4/OC12, STM16/OC48 OTU1 1G FC, 2G FC CPRI Opt 1, 2, 3 OBSAI 1x, 2x |
| Power budget | 12 – 25dB |
| Power consumption | < 1.0W |
| Operating temperature | -0°C to +70°C |
| Storage temperature | -40°C to +85°C |

| Parameter | Value |
|--------------------------|---|
| Transmitter data: | |
| Output power | Min: -2.0dB ¹⁾ Max: +3.0dBm ¹⁾ |
| Transmit wavelength | 1260nm – 1360nm |
| Receiver data: | |
| Minimum input power | -27dBm ^{1) 2)} |
| Overload (max power) | -9dBm ¹⁾ |
| Wavelength range | 1260nm – 1600nm |
| LOS Assert | Min -42dBm |
| LOS De-assert | Max -28dBm |
| Hysteresis | Min 0.5dB |
| DDM | Yes |
| MSA compliance | SFF-8431, -8432, -8472 |

¹⁾ Average power.

²⁾ @ 2488Mbps, BER 1x10⁻¹², PRBS 2²³-1.

Safety/regulatory compliance:

TUV/UL/FDA (contact Smartoptics for latest certification information)

RoHS compliance

ORDERING INFORMATION

| Ordering code | Description |
|---------------|---|
| SO-SFP-MR40D | SFP, Multirate 155Mbps-2.7Gbps, SM 1310nm, 40km, 25dB, LC |

GENERAL DEFINITIONS

| Parameter | Description |
|------------------------------|--|
| 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 cable with attached connectors. AOC: Active Optical Cable. 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 typical fiber dispersion, fiber loss and power budget properties, i.e. w/o dispersion compensation and optical amplification. Actual distance is dependent on actual optical path loss and dispersion properties. |
| 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(s) from transmitter. |
| Interface standards | Referenced interface standards or MSA's, e.g. IEEE 802.3 standard for 10GbE services or 100G 4WDM-10 etc. |
| Power budget | Min and max power budget between Transmitter and Receiver w/o optical path penalties. |
| Dispersion tolerance/penalty | Maximum amount of tolerated dispersion and required reduction of power budget to maintain stipulated Bit Error Rate (BER) and at a given bit rate. |
| Temperature range | Max operating case temperature range. Standard temperature range (C-temp): 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. Will vary over temperature. |
| Transmitter Output power | Average output power. Provided in min and max values. |
| Receiver minimum input power | Minimum average input power at specified BER, normally $1E^{-12}$. Note that some protocols require FEC to achieve sufficient BER. |
| Receiver max input power | Maximum average input power giving a BER, normally $1E^{-12}$. |
| DDM | Digital Diagnostic Monitoring functionality as defined in e.g. SFF-8472 MSA. |

Smartoptics makes no warranties or representations, expressed or implied, of any kind relative to the information or any portion thereof contained in this document or its adaptation or use, and assumes no responsibility or liability of any kind, including, but not limited to, indirect, special, consequential or incidental damages, for any errors or inaccuracies contained in the information or arising from the adaptation or use of the information or any portion thereof. The information in this document is subject to change without notice.