

SO-SFP-MR50D-Cxx

SFP, 100Mbps-2.7Gbps, Multirate, CWDM, DDM, 17dB, 1270nm-1610nm (18ch)

OVERVIEW

The SO-SFP-MR50D-Cxx is a CWDM transceiver 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 of 17dB power budget provides a bridgeable distance of up to ~50 km at 2.5Gbps in the high CWDM band. Please note the wavelength-dependent fiber attenuation. The higher attenuation in the lower CWDM band must be considered.

The transceiver is available in 18 CWDM wavelength versions, spanning from 1270nm to 1610nm in accordance with the G.694.2 standard. This transceiver provides digital diagnostic functions via a 2-wire serial interface as defined by the SFF-8472 specification.

TECHNICAL DATA

| Parameter | Value |
|-----------------------|---|
| Technology | CWDM SFP |
| Transmission media | SM (2x LC) |
| Typical reach | 50km ¹⁾ |
| Nominal wavelengths | 1271 – 1610 nm (18ch) |
| Bit rate range | 100 Mbps – 2.67 Gbps |
| Protocol support | FE GbE STM-1 / OC3 STM-4 / OC12 STM-16/OC48 OTU1 1G FC 2G FC CPRI Opt 1 (0.6144 Gbps) CPRI Opt 2 (1.2288 Gbps) CPRI Opt 3 (2.4576 Gbps) OBSAI 0.768 Gbps OBSAI 1.536 Gbps |
| Power budget | 5 – 17 dB |
| Optical path penalty | 1 dB |
| Power consumption | < 1 W |
| Operating temperature | 0°C to +70°C |
| Storage temperature | -40°C to +85°C |

| Parameter | Value |
|--------------------------|--------------------------------|
| Transmitter data: | |
| Output power | Min: -3.0 dBm Max: +2.0 dBm |
| Transmit wavelength | 1271 to 1611nm (G.694.2) |
| Receiver data: | |
| Minimum input power | -20 dBm ²⁾ |
| Overload (max power) | -3 dBm ²⁾ |
| Wavelength range | 1260 – 1600 nm |
| DDM | Yes |
| MSA compliance | SFP MSA SFF-8472 |

¹⁾ Distance is limited by fiber attenuation. 50km is achievable when fiber attenuation is less than 0.25dB/km. For standard SM fiber this typically occurs in the 1471 to 1610nm region.

²⁾ Measured at 2.5 Gbps using PRBS31 @ BER 1x10⁻¹²



ORDERING INFORMATION

| Ordering number | Description |
|------------------|--|
| SO-SFP-MR50D-C27 | SFP, 100Mbps-2.7Gbps, Multirate, CWDM, DDM, 17dB, 1270nm |
| SO-SFP-MR50D-C29 | SFP, 100Mbps-2.7Gbps, Multirate, CWDM, DDM, 17dB, 1290nm |
| SO-SFP-MR50D-C31 | SFP, 100Mbps-2.7Gbps, Multirate, CWDM, DDM, 17dB, 1310nm |
| SO-SFP-MR50D-C33 | SFP, 100Mbps-2.7Gbps, Multirate, CWDM, DDM, 17dB, 1330nm |
| SO-SFP-MR50D-C35 | SFP, 100Mbps-2.7Gbps, Multirate, CWDM, DDM, 17dB, 1350nm |
| SO-SFP-MR50D-C37 | SFP, 100Mbps-2.7Gbps, Multirate, CWDM, DDM, 17dB, 1370nm |
| SO-SFP-MR50D-C39 | SFP, 100Mbps-2.7Gbps, Multirate, CWDM, DDM, 17dB, 1390nm |
| SO-SFP-MR50D-C41 | SFP, 100Mbps-2.7Gbps, Multirate, CWDM, DDM, 17dB, 1410nm |
| SO-SFP-MR50D-C43 | SFP, 100Mbps-2.7Gbps, Multirate, CWDM, DDM, 17dB, 1430nm |
| SO-SFP-MR50D-C45 | SFP, 100Mbps-2.7Gbps, Multirate, CWDM, DDM, 17dB, 1450nm |
| SO-SFP-MR50D-C47 | SFP, 100Mbps-2.7Gbps, Multirate, CWDM, DDM, 17dB, 1470nm |
| SO-SFP-MR50D-C49 | SFP, 100Mbps-2.7Gbps, Multirate, CWDM, DDM, 17dB, 1490nm |
| SO-SFP-MR50D-C51 | SFP, 100Mbps-2.7Gbps, Multirate, CWDM, DDM, 17dB, 1510nm |
| SO-SFP-MR50D-C53 | SFP, 100Mbps-2.7Gbps, Multirate, CWDM, DDM, 17dB, 1530nm |
| SO-SFP-MR50D-C55 | SFP, 100Mbps-2.7Gbps, Multirate, CWDM, DDM, 17dB, 1550nm |
| SO-SFP-MR50D-C57 | SFP, 100Mbps-2.7Gbps, Multirate, CWDM, DDM, 17dB, 1570nm |
| SO-SFP-MR50D-C59 | SFP, 100Mbps-2.7Gbps, Multirate, CWDM, DDM, 17dB, 1590nm |
| SO-SFP-MR50D-C61 | SFP, 100Mbps-2.7Gbps, Multirate, CWDM, DDM, 17dB, 1610nm |

GENERAL 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 (DAC). 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. |
| 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. Commercial 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 $1E^{-12}$. |
| Receiver max input power: | Maximum average input power giving a BER, normally $1E^{-12}$. |
| DDM: | Digital Diagnostic Monitoring functionality as defined in SFF-8472 MSA. |

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