

# 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. The higher attenuation in the lower CWDM band must be considered, particularly for fibers with water peak attenuation.

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 <sup>1)</sup>
Nominal wavelengths	1271 – 1610nm (18ch)
Bit rate range	100Mbps – 2.67Gbps
Protocol support	FE, GbE STM1/OC3, STM4/OC12, STM16/OC48 OTU1 1G FC, 2G FC CPRI Opt 1, 2, 3 OBSAI 1x, 2x
Power budget	5 – 17dB
Optical path penalty	1dB
Power consumption	< 1W
Operating temperature	0°C to +70°C
Storage temperature	-40°C to +85°C

Parameter	Value
<b>Transmitter data:</b>	
Output power	Min: -3.0dBm <sup>3)</sup> Max: +2.0dBm <sup>3)</sup>
Transmit wavelength	1271 to 1611nm (G.694.2)
<b>Receiver data:</b>	
Minimum input power	-20dBm <sup>2) 3)</sup>
Overload (max power)	-3dBm <sup>2) 3)</sup>
Wavelength range	1260 – 1600nm
LOS Assert	Min -35dBm
LOS De-assert	Max -21dBm
LOS Hysteresis	Min 0.5dB
DDM	Yes
MSA compliance	SFP MSA SFF-8472

<sup>1)</sup> Dependent on actual optical path attenuation.

<sup>2)</sup> Measured at 2.5 Gbps using PRBS31 @ BER 1x10<sup>-12</sup>

<sup>3)</sup> Average power



### Safety/regulatory compliance:

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

RoHS compliance

## ORDERING INFORMATION

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

## 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.

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