

# SO-XFP-LRM

XFP, 10GBase-LRM, 1310nm, MM, DDM, 2dB, 300m@OM3

## OVERVIEW

The SO-XFP-LRM is an 1310nm XFP transceiver for MultiMode fiber for 10GbE-LAN services. The optical performance is in accordance with the IEEE 802.3ae 10GBASE-LRM standard, providing a bridgeable distance of up to 300m.

The transceiver has no minimum distance (i.e. no minimum attenuation) which is ideal for intra-office connections since extra attenuators need not be considered. An OM3 or higher-grade fiber shall be used to avoid distance issues.

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

## TECHNICAL DATA

<b>Technology</b>	Grey XFP
<b>Transmission media</b>	MM (2x LC)
<b>Typical reach</b>	300 m @ OM3 fiber
<b>Nominal wavelength</b>	1310 nm
<b>Interface standards</b>	10GBASE-LRM
<b>Bit rate range</b>	10.3125 Gbps
<b>Protocols</b> Eth:	10GbE-LAN
<b>Power budget</b>	0 – 2 dB
<b>Temperature range</b>	0°C to +70°C
<b>Power consumption</b>	< 2.0W

<b>Transmitter data</b>	Output power:	Min: -6.5 dBm Max: +0.5 dBm
	Tx wavelength:	Min: 1260 nm Max: 1360 nm
<b>Receiver data</b>	Minimum input power:	-8.5 dBm <sup>1)</sup>
	Overload (max power):	+0.5 dBm
	Wavelength range:	1260 - 1565 nm
<b>DDM</b>		Yes
<b>MSA compliance</b>		SFF-8431 SFF-8472

<sup>1)</sup> @ 10.3Gbps

### Regulatory compliance

<b>UL/Safety</b>	IEC-60825, FDA 21 CFR 1040.10 and 1040.11
<b>RoHS</b>	RoHS 6

<b>Storage temp.</b>	-40°C to +85°C
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**Note! See “Definitions” below.**

## ORDERING INFORMATION

Part number	Description
SO-XFP-LRM	XFP, 10GBase-LRM, 1310nm, MM, DDM, 2dB, 300m@OM3

## 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.
Transmission Media:	DAC: Direct Attach Cable (DAC). Electrical or optical cable with attached connectors. 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 giving a BER, normally $1E^{-12}$ .
DDM:	Digital Diagnostic Monitoring functionality as defined in SFF-8472 MSA.