

SO-SFP-622M-L15D

SFP, FE, STM1/OC3, STM4/OC12, 1310nm, SM, DDM, 13dB, 15km

OVERVIEW

SO-SFP-622M-L15D is a 1310nm SFP transceiver for SingleMode (SM) fiber, primarily for 622Mbps SDH/SONET (STM-4/OC-12) services. The support extends down to 100M Fast Ethernet (FE) services. The optical performance provides a bridgeable distance up to 15km. 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.

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	15km
Nominal wavelength	1x 1310nm
Bit rate support	125 to 622Mbps
Standard interfaces	STM4 S-4.1, OC12 IR-1
Protocol support	FE, STM1/OC3, STM4/OC12
Power budget	0 – 13dB @ STM4/OC12
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: -15.0dB ¹⁾	
	Max: -8.0dBm ¹⁾	
Transmit wavelength	1274nm – 1356nm	
Receiver data:		
Minimum input power	STM4/OC12	-28dBm ¹⁾ ²⁾
	STM1/OC3	-29dBm ¹⁾ ²⁾
	100M FE	-30dBm ¹⁾ ²⁾
Overload (max power)	-8dBm ¹⁾	
Wavelength range	1260nm – 1600nm	
LOS Assert	Min -42dBm	
LOS De-assert	Max -29dBm	
Hysteresis	Min 0.5dB	
DDM	Yes	
MSA compliance	SFF-8431, -8432, -8472	

¹⁾ Average power.

²⁾ 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-622M-L15D	SFP, STM-4/OC12, STM-1/OC3, 100M Ethernet, SM 1310nm, 15km, 13dB, 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.

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