

SO-SFP-622M-L120D-Cxx

SFP, FE, STM1/OC3, STM4/OC12, CWDM, DDM, 34dB, 120 km, 1310/1470-1610nm (8+1ch)

OVERVIEW

The SO-SFP-622M-L120D-Cxx is a CWDM transceiver 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 of up to 120km on SM G.652 fiber. Note that the actual optical path attenuation must be taken into consideration to ensure that all channels can bridge the desired distance. The lower CWDM channels face a higher fiber attenuation.

The transceiver is available in 8 CWDM wavelengths, spanning from 1471nm to 1611nm in accordance with the G.694.2 standard. A 1310nm version is also provided for Optical Supervisory Channel (OSC) applications. 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	120km ³⁾
Nominal wavelength	1310nm, 1470 – 1610nm (9ch)
Bit rate support	125 to 622Mbps
Protocol support	FE, STM1/OC3, STM4/OC12
Power budget	15 – 34dB @ STM4/OC12
Dispersion penalty	Max 1dB
Power consumption	< 1.0W
Operating temperature	-0°C to +70°C
Storage temperature	-40°C to +85°C

³⁾ Dependent on actual optical path attenuation.

Parameter	Value
Transmitter data:	
Output power	Min: +2.0dB ¹⁾ Max: +7.0dBm ¹⁾
Transmit wavelength	1311nm, 1471nm – 1611nm G.694.2
Receiver data:	
Minimum input power	STM4/OC12 -32dBm ^{1) 2)} STM1/OC3 -33dBm ^{1) 2)} 100M FE -34dBm ^{1) 2)}
Overload (max power)	-8dBm ¹⁾
Wavelength range	1100nm – 1650nm
LOS Assert	Min -45dBm
LOS De-assert	Max -33dBm
Hysteresis	Min 0.5dB
DDM	Yes
MSA compliance	SFF-8431, -8432, -8472

¹⁾ Average power.

²⁾ BER 1×10^{-12} , PRBS 2²³-1.

Safety/regulatory compliance:

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

RoHS compliance

ORDERING INFORMATION

Ordering number	Description
SO-SFP-622M-L120D-C31	SFP, STM-4/OC-12, STM-1/OC3, 100M Ethernet, CWDM, 120km, 34dB, LC, 1310nm
SO-SFP-622M-L120D-C47	SFP, STM-4/OC-12, STM-1/OC3, 100M Ethernet, CWDM, 120km, 34dB, LC, 1470nm
SO-SFP-622M-L120D-C49	SFP, STM-4/OC-12, STM-1/OC3, 100M Ethernet, CWDM, 120km, 34dB, LC, 1490nm
SO-SFP-622M-L120D-C51	SFP, STM-4/OC-12, STM-1/OC3, 100M Ethernet, CWDM, 120km, 34dB, LC, 1510nm
SO-SFP-622M-L120D-C53	SFP, STM-4/OC-12, STM-1/OC3, 100M Ethernet, CWDM, 120km, 34dB, LC, 1530nm
SO-SFP-622M-L120D-C55	SFP, STM-4/OC-12, STM-1/OC3, 100M Ethernet, CWDM, 120km, 34dB, LC, 1550nm
SO-SFP-622M-L120D-C57	SFP, STM-4/OC-12, STM-1/OC3, 100M Ethernet, CWDM, 120km, 34dB, LC, 1570nm
SO-SFP-622M-L120D-C59	SFP, STM-4/OC-12, STM-1/OC3, 100M Ethernet, CWDM, 120km, 34dB, LC, 1590nm
SO-SFP-622M-L120D-C61	SFP, STM-4/OC12, STM-1/OC3, 100M Ethernet, CWDM, 120km, 34dB, 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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