

# SO-SFP-L120D-Dxxx & Dxxx-E

SFP, 0.1 - 1.25Gbps, DWDM, 100GHz, DDM, 32dB, 120km, D9190-D9600 (42ch)

## OVERVIEW

The SO-SFP-L120D-Dxxx is a DWDM transceiver for services from 100 Mbps (Fast Ethernet) up to 1.25 Gbps (Gigabit Ethernet).

The optical performance provides a bridgeable distance of up to 120km. The transceiver is provided in 42 channel versions at the 100GHz DWDM grid as specified in the ITU-T 694.1 standard.

This transceiver provides digital diagnostic functions via a 2-wire serial interface as defined by the SFF-8472 specification. The transceiver is available in two temperature range options, one being an extended temperature range (E-temp): -20°C to +75°C (-4°F to +167°F).

The transceiver module is compliant to RoHS-6/6

## TECHNICAL DATA

Parameter	Value
Technology	DWDM SFP 100GHz
Transmission media	SM (2x LC)
Typical reach	120km
Nominal wavelength	191.90 - 196.0THz (42ch)
Bit rate support	0.1Gbps to 1.25Gbps
Protocol support	FE, GbE STM4/OC12, STM1/OC3 1G FC CPRI Opt, 1, 2 OBSAI 1x
Power budget	15 – 32dB
Dispersion tolerance	Typical 2400ps/nm
Power consumption	< 1.5W
Operating temperature	0°C to +70°C -20°C to +75°C (-E)
Storage temperature	-40°C to +85°C

Parameter	Value
<b>Transmitter data:</b>	
Output power	Min: 0.0dBm <sup>1)</sup> Max: +5.0dBm <sup>1)</sup>
Transmit wavelength	191.90 - 196.00THz, 100GHz (G.694.1)
<b>Receiver data:</b>	
Minimum input power	-32.0dBm <sup>1) 2)</sup>
Overload (max power)	-10.0dBm <sup>1) 2)</sup>
Wavelength range	1528nm – 1566nm
LOS Assert	Min -45dBm
LOS De-assert	Max -33dBm
LOS Hysteresis	Min 0.5dB
DDM	Yes
MSA compliance	SFF-8431, -8432, -8472

<sup>1)</sup> Average power.

<sup>2)</sup> @ 1.25Gbps, BER 1x10<sup>-12</sup>, PRBS 2<sup>7</sup>-1, back-to-back.

### Safety/regulatory compliance:

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

RoHS compliance

## ORDERING INFORMATION

Part number C-temp	Freq. THz	$\lambda$ nm	Part number E-temp	Freq. THz	$\lambda$ nm
SO-SFP-L120D-D919	191.90	1562.23	SO-SFP-L120D-D919-E	191.90	1562.23
SO-SFP-L120D-D920	192.00	1561.42	SO-SFP-L120D-D920-E	192.00	1561.42
SO-SFP-L120D-D921	192.10	1560.61	SO-SFP-L120D-D921-E	192.10	1560.61
SO-SFP-L120D-D922	192.20	1559.79	SO-SFP-L120D-D922-E	192.20	1559.79
SO-SFP-L120D-D923	192.30	1558.98	SO-SFP-L120D-D923-E	192.30	1558.98
SO-SFP-L120D-D924	192.40	1558.17	SO-SFP-L120D-D924-E	192.40	1558.17
SO-SFP-L120D-D925	192.50	1557.36	SO-SFP-L120D-D925-E	192.50	1557.36
SO-SFP-L120D-D926	192.60	1556.55	SO-SFP-L120D-D926-E	192.60	1556.55
SO-SFP-L120D-D927	192.70	1555.75	SO-SFP-L120D-D927-E	192.70	1555.75
SO-SFP-L120D-D928	192.80	1554.94	SO-SFP-L120D-D928-E	192.80	1554.94
SO-SFP-L120D-D929	192.90	1554.13	SO-SFP-L120D-D929-E	192.90	1554.13
SO-SFP-L120D-D930	193.00	1553.33	SO-SFP-L120D-D930-E	193.00	1553.33
SO-SFP-L120D-D931	193.10	1552.52	SO-SFP-L120D-D931-E	193.10	1552.52
SO-SFP-L120D-D932	193.20	1551.72	SO-SFP-L120D-D932-E	193.20	1551.72
SO-SFP-L120D-D933	193.30	1550.92	SO-SFP-L120D-D933-E	193.30	1550.92
SO-SFP-L120D-D934	193.40	1550.12	SO-SFP-L120D-D934-E	193.40	1550.12
SO-SFP-L120D-D935	193.50	1549.32	SO-SFP-L120D-D935-E	193.50	1549.32
SO-SFP-L120D-D936	193.60	1548.51	SO-SFP-L120D-D936-E	193.60	1548.51
SO-SFP-L120D-D937	193.70	1547.72	SO-SFP-L120D-D937-E	193.70	1547.72
SO-SFP-L120D-D938	193.80	1546.92	SO-SFP-L120D-D938-E	193.80	1546.92
SO-SFP-L120D-D939	193.90	1546.12	SO-SFP-L120D-D939-E	193.90	1546.12
SO-SFP-L120D-D940	194.00	1545.32	SO-SFP-L120D-D940-E	194.00	1545.32
SO-SFP-L120D-D941	194.10	1544.53	SO-SFP-L120D-D941-E	194.10	1544.53
SO-SFP-L120D-D942	194.20	1543.73	SO-SFP-L120D-D942-E	194.20	1543.73
SO-SFP-L120D-D943	194.30	1542.94	SO-SFP-L120D-D943-E	194.30	1542.94
SO-SFP-L120D-D944	194.40	1542.14	SO-SFP-L120D-D944-E	194.40	1542.14
SO-SFP-L120D-D945	194.50	1541.35	SO-SFP-L120D-D945-E	194.50	1541.35
SO-SFP-L120D-D946	194.60	1540.56	SO-SFP-L120D-D946-E	194.60	1540.56
SO-SFP-L120D-D947	194.70	1539.77	SO-SFP-L120D-D947-E	194.70	1539.77
SO-SFP-L120D-D948	194.80	1538.98	SO-SFP-L120D-D948-E	194.80	1538.98
SO-SFP-L120D-D949	194.90	1538.19	SO-SFP-L120D-D949-E	194.90	1538.19
SO-SFP-L120D-D950	195.00	1537.40	SO-SFP-L120D-D950-E	195.00	1537.40
SO-SFP-L120D-D951	195.10	1536.61	SO-SFP-L120D-D951-E	195.10	1536.61
SO-SFP-L120D-D952	195.20	1535.82	SO-SFP-L120D-D952-E	195.20	1535.82
SO-SFP-L120D-D953	195.30	1535.04	SO-SFP-L120D-D953-E	195.30	1535.04
SO-SFP-L120D-D954	195.40	1534.25	SO-SFP-L120D-D954-E	195.40	1534.25
SO-SFP-L120D-D955	195.50	1533.47	SO-SFP-L120D-D955-E	195.50	1533.47
SO-SFP-L120D-D956	195.60	1532.68	SO-SFP-L120D-D956-E	195.60	1532.68
SO-SFP-L120D-D957	195.70	1531.90	SO-SFP-L120D-D957-E	195.70	1531.90
SO-SFP-L120D-D958	195.80	1531.12	SO-SFP-L120D-D958-E	195.80	1531.12
SO-SFP-L120D-D959	195.90	1530.33	SO-SFP-L120D-D959-E	195.90	1530.33
SO-SFP-L120D-D960	196.00	1529.55	SO-SFP-L120D-D960-E	196.00	1529.55

## 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.
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.
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 <sup>-12</sup> . Note that some protocols require FEC to achieve sufficient BER.
Receiver max input power	Maximum average input power giving a BER, normally 1E <sup>-12</sup> .
DDM	Digital Diagnostic Monitoring functionality as defined in e.g. SFF-8472 MSA.

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