

SO-SFP-1000BASE-T & -T-I

SFP, 1000Base-T, 100m, RJ45

OVERVIEW

The SO-SFP-1000BASE-T is a transceiver with a high-performance integrated duplex data link for bidirectional communication over copper cable. It is specifically designed for high speed communication links that require 1Gbps Ethernet (GbE) over a LAN cable (CAT5 UTP or better).

SO-SFP-1000BASE-T is a solution for 1Gbps Ethernet connections within racks and across adjacent racks where the interconnected equipment uses SFP interfaces instead of RJ45.

This transceiver provides digital diagnostic functions via a 2-wire serial interface as defined by the SFF-8472 specification. The transceiver module is compliant to RoHS-6/6.

The transceiver is available in two temperature range options, one being the Industrial temperature range (I-temp): -40°C to +85°C (-40°F to +185°F).

TECHNICAL DATA

Parameter	Value
Technology	Grey SFP (copper)
Transmission media	Electrical (1x RJ45)
Typical reach	100m ¹⁾
Interface standards	1000BASE-T IEEE 802.3
Protocol support	1Gbps Ethernet (GbE)
Operating temperature	0°C to +70°C (-T) -40°C to +85°C (-T-I)
Power consumption	< 1.2W
Storage temperature	-40°C to +85°C

Parameter	Value
Sync on line side	Preferred slave ²⁾
Auto- negotiation	Towards host
Rx LOS	No
MSA compliance	SFP MSA SFF-8472

¹⁾ Using CAT5e cable or better

²⁾ Slave mode means it uses the recovered clock from its link partner

Safety/regulatory compliance:

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

RoHS compliance



ORDERING INFORMATION

Ordering number	Description
SO-SFP-1000Base-T	SFP, 1000Base-T, 100m, RJ45
SO-SFP-1000Base-T-I	SFP, 1000Base-T, 100m, RJ45, I-temp.

Subject to change without notice.

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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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