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 CAT5 UTP 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.

GENERAL 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. DAC: Direct Attach Cable (DAC). Electrical or 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 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.
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. Commercial 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 $1E^{-12}$.
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.