SO-SFP-1000BASE-TR & -TR-I

SFP, 1G Ethernet, 100m@CAT5, RJ45

OVERVIEW

The SO-SFP-1000BASE-TR 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 1G Ethernet over LAN cable.

SO-SFP-1000BASE-TR is a solution for 1000 Mbps Ethernet (GbE) connections within racks and across adjacent racks where the interconnected equipment uses SFP interfaces instead of RJ45.

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 (-TR)
	-40°C to +85°C (-TR-I)
Power consumption	< 1.2W
Storage temperature	-40°C to +85°C

Parameter	Value
Sync on line side	Preferred master [2]
Auto- negotiation	No
Rx LOS	Yes
MSA compliance	SFP MSA
	SFF-8472

[1] Using CAT5 UTP cable or better

[2] Master mode means the module uses it local clock to transmit to other side

Safety/regulatory compliance:
TUV/UL/FDA (contact Smartoptics for latest certification information)
RoHS compliance

ORDERING INFORMATION

Ordering number	Description
SO-SFP-1000Base-TR	SFP, 1000Base-T, 100m/CAT5 RJ45
SO-SFP-1000Base-TR-I	SFP, 1000Base-T, 100m/CAT5, 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.