SO-SFP-10GE-T

SFP+, 10GBASE-T, 1000BASE-T, 100BASE-T, 30m, RJ45

OVERVIEW

The SO-SFP-10GE-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 10 Gigabit Ethernet over Cat 6a/7 cable. The transceiver also supports a wide range of Ethernet services from 100 Mbps and upwards.

SO-SFP-10GE-T supports auto-negotiation of 10G Base-T, 5000 Base-T, 2500 Base-T, 1000 Base-T, 100 Base-Tx and 10 Base-T in copper side. For the MAC side, it can support XFI, 5G/2.5G/1G BASE-X, SGMII.

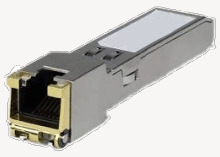
If host cannot perform auto negotiation from 10G down to lower rate, the transceiver can be forced to operate at lower rates. This is described in a separate application note.

SO-SFP-10GE-T is a solution for Ethernet connections within racks and across adjacent racks where the interconnected equipment uses SFP interfaces instead of RJ45.

TECHNICAL DATA

Parameter	Value
Technology	Grey SFP+ (copper)
Transmission media	Electrical (1x RJ45)
Typical reach	30m (10G) - 100m (100M)
Interface standards	10G BASE-T IEEE 802.3an
	5GBASE-T 802.3bz
	2.5GBASE-T 802.3bz
	1000BASE-T IEEE 802.3ab
	100BASE-TX IEEE 802.3u
Power consumption	< 2.5W
Operating temperature	-10°C to +70°C
Storage temperature	-40°C to +85°C

Parameter	Value
Distance 10G	30m (CAT6A/CAT7)
Distance 5G	50m (CAT6 or better)
Distance 2.5G	100m (CAT5E or better)
Distance 1G	100m (CAT5E or better)
Distance 100M	100m (CAT5E or better)
RX_LOS	Yes
Auto-neg	Yes (on line i/f)
DDM	No
MSA compliance	SFP MSA



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

ORDERING INFORMATION

Ordering number	Description
SO-SFP-10GE-T	SFP+, 10GBASE-T, 1000BASE-T, 100BASE-T, 30m, RJ45

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.