1000BASE-T SFP Copper RJ-45 100m Transceiver

SFP-GE-T-LL

Application

- LAN 1000Base-T
- Gigabit Ethernet over Cat 5/5e/6 Cable
- Switch to Switch Interface
- Router/Server Interface

Features

- Support 1000BASE-T Operation in Host Systems
- Support RX_LOS as Link indication function
- For 100m Reach Over UTP Cat 5/5e/6 Cable
- Hot-Pluggable SFP Footprint
- Fully Metallic Enclosure for Low EMI
- Low Power Dissipation (1.05W Typical)
- Compact RJ-45 Connector Assembly
- Access to Physical Layer IC via 2-Wire Serial Bus
- Detailed Product Information in EEPROM
- Compliant with MSA SFP
- Industrial Temperature Range: -40 to 85°C (-40 to 185°F)
- Commercial Temperature Range: 0~70℃
- Compliant with IEEE Std 802.3-2002

Description

SFP-GB-GE-T 1000BASE-T Copper Small Form Pluggable (SFP) modules are based on the SFP Multi Source Agreement (MSA). It is compliant with the Gigabit Ethernet and 1000BASE-T standards as specified in IEEE STD 802.3 and 802.3ab.

Product Specifications

I. General Specifications

Parameter	Symbol	Typ.	Min	Max	Units	Notes
Data rate		1000			Mbps	
Distance				100	m	Cat 5/5e/6

II. Absolute Maximum Ratings

Parameter	Symbol	Min	Typ.	Max	Unit
Maximum Supply Voltage	Vcc	-0.5		4.0	V
Storage Temperature	Ts	0		70	°C

III. Electrical Characteristics

Parameter	Symbol	Typ.	Min	Max	Unit	Notes/Conditions
+3.3 Volt Electrical Power Interface						
Supply Current	Icc		300	350	mA	
Input Voltage	Vcc	3.13	3.3	3.47	V	
Surge Current	Isurge			30	mA	
Low-Speed Signals, Electronic Characteristics						
SFP Output LOW	V_{OL}	0		0.5	V	4.7k to 10k pull-up to host_Vcc, measured at host side of connector

SFP Output HIGH	V_{OH}	host_Vcc – 0.5		host_Vcc + 0.3	V	4.7k to 10k pull-up to host_Vcc, measured at host side of connector
SFP Input LOW	VIL	0		0.8	V	4.7k to 10k pull-up to Vcc, measured at SFP side of connector
SFP Input HIGH	VIH	2		Vcc + 0.3	V	4.7k to 10k pull-up to Vcc, measured at SFP side of connector

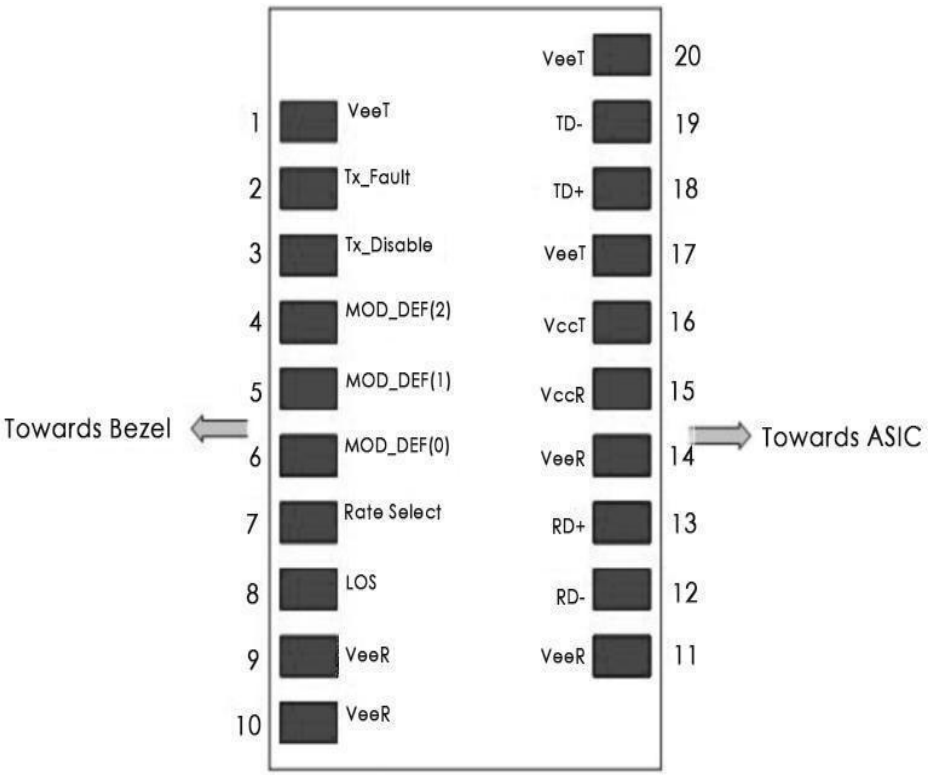
High-Speed Electrical Interface, Transmission Line-SFP

Line Frequency	f_L		125		MHz	5-level encoding, per IEEE 802.3
Tx Output impedance	Zout, TX		100		Ohm	Differential, for all frequencies between 1MHz and 125MHz
Rx Input Impedance	Zin, RX		100		Ohm	Differential, for all frequencies between 1MHz and 125MHz

High-Speed Electrical Interface, Host-SFP

Single ended data input swing	Vin	250		1200	mV	Single ended
Single ended data output swing	Vout	350		800	mV	Single ended
Rise/Fall Time	Tr,Tf		175		psec	20%-80%
Tx Input Impedance	Zin		50		Ohm	Single ended
Rx Output Impedance	Zout		50		Ohm	Single ended

IV. Pin Description



Pin No.	Name	Function	Plug Seq.	Notes
1	VeeT	Transmitter Ground	1	
2	TX Fault	Transmitter Fault Indication	3	Not used
3	TX Disable	Transmitter Disable	3	Note 1
4	MOD-DEF2	Module Definition 2	3	Note 2
5	MOD-DEF1	Module Definition 1	3	Note 2
6	MOD-DEF0	Module Definition 0	3	Note 2
7	Rate Select	Not Connected	3	
8	LOS	Receiver Ground	1	

9	VeeR	Receiver Ground	1	
10	VeeR	Receiver Ground	1	
11	RD-	Inv. Received Data Out	3	
12	RD+	Received Data Out	3	
13	VeeR	Receiver Ground	1	
14	VccR	Receiver Power	2	
15	VccT	Transmitter Power	2	
16	VeeT	Transmitter Ground	1	
17	TD+	Transmit Data In	3	
18	TD-	Inv. Transmit Data In	3	
19	VeeT	Transmitter Ground	1	

Notes:

1. PHY disabled on TDIS > 2.0V or open, enabled on TDIS < 0.8V, used to reset the module.
2. Should be pulled up with 4.7k – 10k Ohm on host board to a voltage between 2.0 V and 3.6 V.MOD_DEF(0) pulls line low to indicate module is plugged in.

V. Mechanical Specifications

Longline .COM Copper SFP transceivers are compliant with the dimensions defined by the SFPMulti -Sourcing Agreement (MSA).