Datasheet

10/100/1000BASE-T SFP Copper RJ-45 100m Transceiver

SFP-GB-GE-T

Features

- Support 10/100/1000BASE-T Operation
  in Host Systems with SGMII interface
- 100m transmission over Cat 5
  UTP Cable
- Hot-Pluggable SFP Footprint
- Fully metallic enclosure for low EMI
- Low power dissipation (1.05 W typical)
- Compact RJ-45 connector assembly
- Access to physical layer IC via 2-wire serial bus
- Detailed product information in EEPROM
- Commercial Temperature
  Range： 0~70℃

Application

- LAN 10/100/1000Base-T
- Gigabit Ethernet over Cat 5 Cable
- Switch to Switch Interface
- Router/Server Interface

FS.COM | Optical Communication System

Description

SFP-GB-GE-T is a 10/100/1000BASE-T Copper Small Form Pluggable (SFP), which is based on the SFP Multi Source Agreement (MSA). It is compliant with the Gigabit Ethernet standard as pecified in IEEE STD 802.3 and can fully satisfy the 10/100/1000BASE-T application.

Product Specifications

I. General Product Characteristics

Parameter	Symbol	Typ.	Min	Max	Units	Notes/Conditions
Data rate		10		1000	Mbps	
Distance				100	m	Cat 5 UTP. BER $<10^{-12}$

II. Absolute Maximum Ratings

Parameter	Symbol	Min	Typ.	Max	Units
Maximum Supply Voltage	Vcc	-0.5		4.0	V
Storage Temperature	Ts	-40		85	° C

III. Electrical Characteristics

| Parameter	Symbol	Min	Typ.	Max	Units	Notes/Conditions
+3.3 Volt Electrical Power Interface						
Supply Current	Icc		300	350	mA	
Input Voltage	Vcc	3.15	3.3	3.45	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		1250		MHz	5-level encoding, per IEEE 802.3
Tx Output impedance	Zout,TX		100		Ohm	Differential, for all frequencies between 1MHz and 1250MHz
Rx Input Impedance	Zin,RX		100		Ohm	Differential, for all frequencies between 1MHz and 1250MHz

High-Speed Electrical Interface, Host-SFP					
Single ended data input swing	Vin	250	1200	mV	Single ended
Single ended dataoutput 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
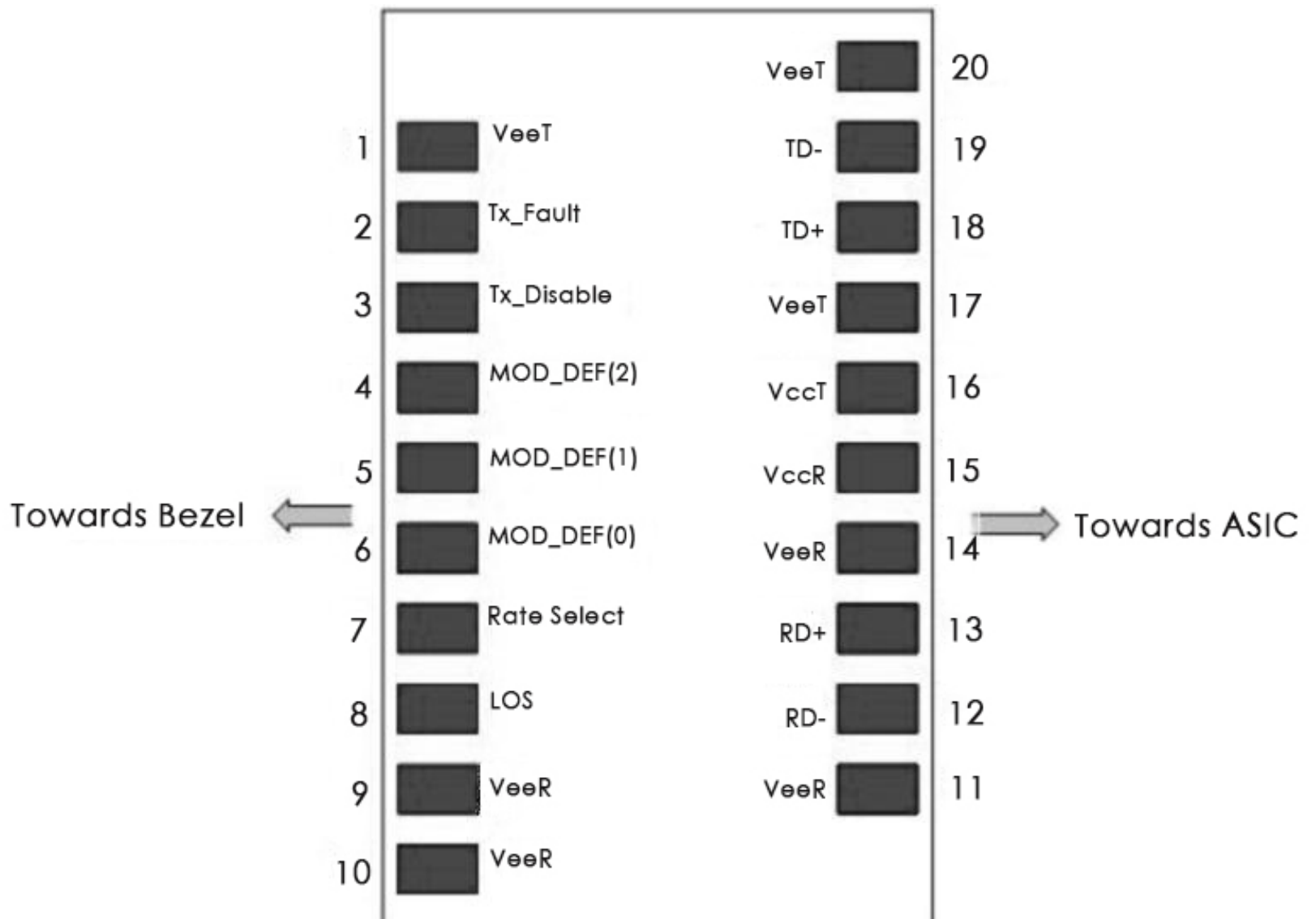
Datasheet

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	Loss of Signal	3	RX_LOSS
9	VeeR	Receiver Ground	1	
10	VeeR	Receiver Ground	1	
11	VeeR	Receiver Ground	1	
12	RD-	Inv. Received Data Out	3	
13	RD+	Received Data Out	3	
14	VeeR	Receiver Ground	1	
15	VccR	Receiver Power	2	
16	VccT	Transmitter Power	2	
17	VeeT	Transmitter Ground	1	

![FS.COM logo] FS.COM | Optical Communication System

18	TD+	Transmit Data In	3	
19	TD-	Inv. Transmit Data In	3	
20	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 4.7kΩ – 10kΩ 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

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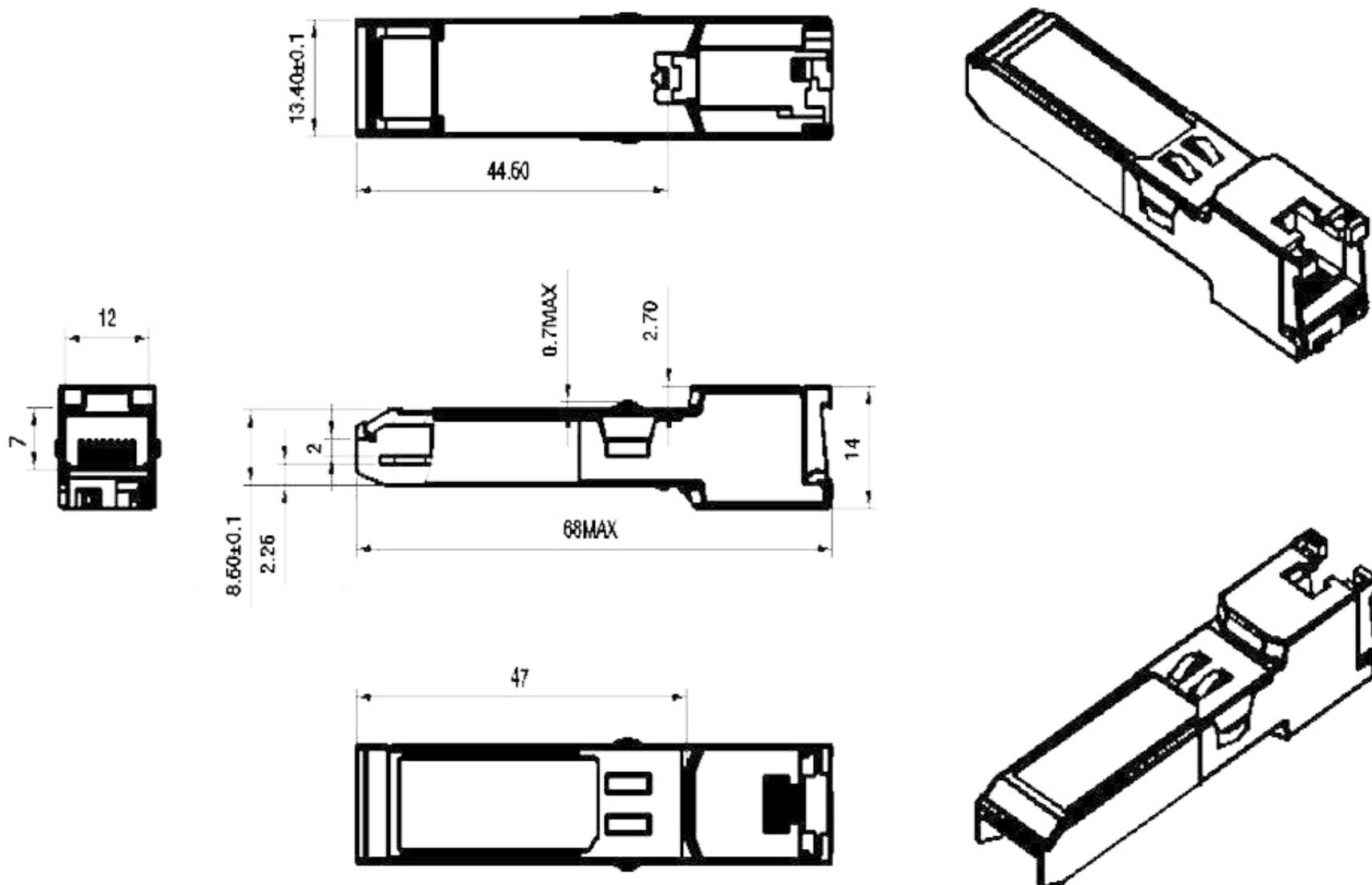
Test Center

Only when quality and 100% compatibility is verified and proved do our modules enter the market. This depends on FS.COM's test center which is supported by a variety of mainstream original brand switches and professional staff. We are proud of this test center and believe all of these devices worth the investments, because it brings the best to our customers.

The original switches could be found nowhere but at FS.COM's test center, eg: Juniper MX960 & EX 4300 series, Cisco Nexus 9396PX & Cisco ASR 9000 Series, HP 5900 Series & HP 5406R ZL2 V3(J9996A), Arista 7050S-64, Brocade ICX7750-26Q & ICX6610-48, Avaya VSP 7000 MDA 2, etc.

Cisco ASR 9000 Series(A9K-MPA-1X40GE)

ARISTA 7050S-64(DCS-7050S-64)

Juniper MX960

Brocade ICX 7750-26Q

Extreme Networks X670V VIM-40G4X

Mellanox M3601Q

Dell N4032F

HP 5406R ZL2 V3(J9996A)


AVAYA 7024XLS(7002QQ-MDA)

Test Assured Program

FS.COM truly understands the value of compatibility and interoperability to each optics. Every module FS.COM provides must run through programming and an extensive series of platform diagnostic tests to prove its performance and compatibility. In our test center, we care of every detail from staff to facilities—professionally trained staff, advanced test facilities and comprehensive original-brand switches, to ensure our customers to receive the optics with superior quality.

Our smart data system allows effective product management and quality control according to the unique serial number, properly tracing the order, shipment and every part.
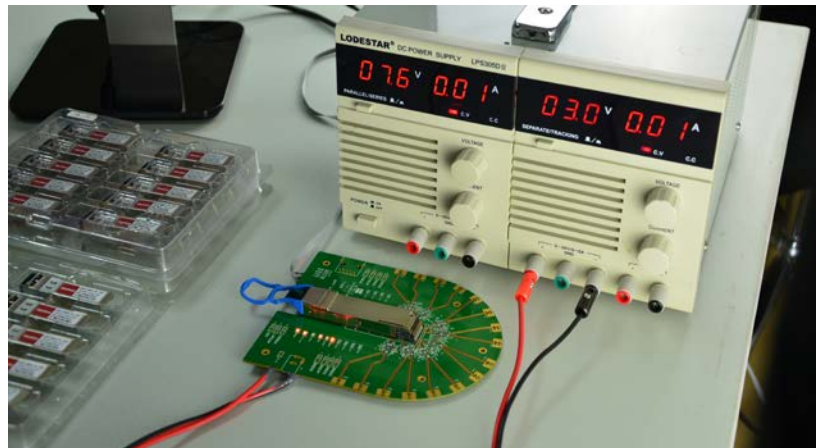
Our in-house coding facility programs all of our parts to standard OEM specs for compatibility on all major vendors and systems such as Cisco, Juniper, Brocade, HP, Dell, Arista and so on.

With a comprehensive line of original-brand switches, we can recreate an environment and test each optics in practical application to ensure quality and distance.

The last test assured step to ensure our products to be shipped with perfect package.

Order Information

Part Number	Description
SFP1G-SX- 85	SFP, 1000BASE-SX, 850nm, MMF, 550m, LC, DOM
SFP1G-SX-31	SFP, 1000BASE-SX, 1310nm, SMF, 2km, LC, DOM
SFP1G-LX-31	SFP, 1000BASE-LX, 1310nm, SMF, 10km, LC, DOM
SFP1G-LX-31	SFP, 1000BASE-LX, 1310nm, SMF, 15km, LC, DOM
SFP1G-LX-31	SFP, 1000BASE-LX/LH, 1310nm, SMF, 20km, LC, DOM
SFP1G-LH-31	SFP, 1000BASE-EX, 1310nm, SMF, 40km, LC, DOM
SFP1G-EX-55	SFP, 1000BASE-EX, 1550nm, SMF, 40km, LC, DOM
SFP1G-ZX-55	SFP, 1000BASE-EX, 1550nm, SMF, 60km, LC, DOM
SFP1G-ZX-55	SFP, 1000BASE-ZX, 1550nm, SMF, 80km, LC, DOM
SFP1G-EZX-55	SFP, 1000BASE-EZX, 1550nm, SMF, 100km, LC, DOM
SFP1G-EZX-55	SFP, 1000BASE-EZX, 1550nm, SMF, 120km, LC, DOM
SFP-GB-T	SFP, 1000BASE-T, SERDES/SGMII Interface
SFP-GB-T	SFP, 10/100/1000BASE-T, SERDES Interface

Note:
Every transceiver is individually tested on corresponding equipment, walks through the testing challenges and 100% compatible with Cisco, Arista, Juniper, Dell, Brocade and other brands.

Contact Us

Fiberstore China
Room 301, Third Floor, Weiyong Building, No. 10 Kefa Road, Nanshan District, Shenzhen, 518057, China
Tel: +86 (755) 8300 3611
Fax: +86 (755) 8326 9395

Fiberstore U.K.
Third Floor 207 Regent Street, London, W1B 3HH, United Kingdom
Tel: +44 (020) 3287 6810

Fiberstore Hong Kong
1220 Tung Chun Commercial Centre, 438-444 Shanghai Street, Kowloon, HongKong
Tel: +(852) 817 636 06
Fax: +(852) 817 636 06

Fiberstore U.S.
331 Andover Park East Ste330, Tukwila, WA 98188, United States
Tel: +1-425-226-2035
Fax: +1-253-246-7881

Addresses, phone number and fax number also have been listed at www.fs.com. Please e-mail us at sales@fs.com or call us for assistance.

All statements, technical information, and recommendations related to the products here are based upon information believed to be reliable or accurate. However, the accuracy or completeness thereof is not guaranteed, and no responsibility is assumed for any inaccuracies. Please contact FS for more information.