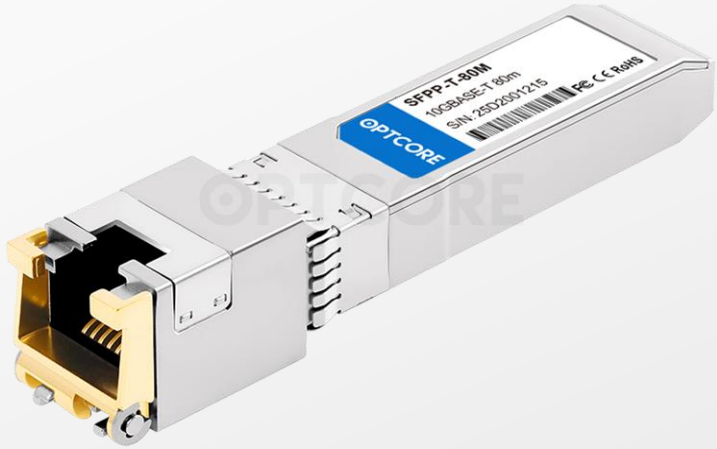
SFPP-T-80M

10GBASE-T SFP+ Transceiver, Copper, Cat6a/Cat7, 80m, RJ45



Features

- Hot-pluggable SFP+ footprint
- Supports Links up to 80m using Cat6a/Cat7 Cable
- Compliant with IEEE 802.3az
- Compliant with SFF-8431 and SFF-8432 MSA
- Low Power Consumption (2.5W Max @ 80m)
- I2C 2-Wire Interface for Serial ID and PHY Register Access
- Operating Temperature: Standard: 0~70° C
- RoHS compliant and lead-free

Applications

- 10G Ethernet over Cat6a/Cat7 twisted-pair copper cabling
- Enterprise data centers and server consolidations
- Low-cost campus backbones

Description

The 10GBASE-T SFP+ RJ45 copper transceiver is specifically designed for high-speed 10 Gigabit Ethernet communication over Cat6a / Cat7 cable. With an upgraded design than standard 10GBASE-T SFP+ transceiver, the transceiver overcoming the 30m limitation and reaches max 80m over Cat6a / Cat7 cable, which is enough for the normal UTP cabling. Please note this 10G-T SFP+ transceiver support only 10Gbase-T on line port.

Absolute Maximum Ratings

Parameter	Symbol	Min	Max	Unit	Notes
Maximum Supply Voltage	Vcc	-0.5	4	V	
Storage Temperature	T_S	-40	85	°C	
Operating Humidity	RH	5	85	%	

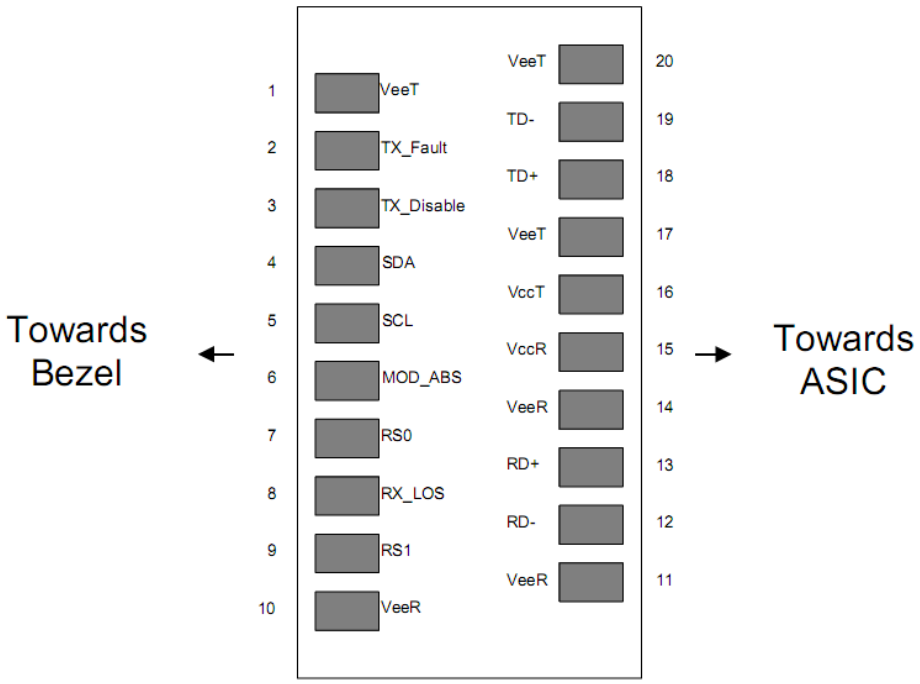
General Specifications

Parameter	Symbol	Min	Typ	Max	Unit	Notes
Data Rate	DR			10	Gbps	1
Cable Length	CL		80		meter	10GBase-T, Cat6a/Cat7
Bit Error Rate	BER			10^{-12}		
Supply Current	IS		700	750	mA	3
Input Voltage	V_{CC}	3.13	3.3	3.47	V	4
Maximum Voltage	V_{MAX}			4	V	
Surge Current	I_{surge}			30	mA	5

Note:

1. IEEE 802.3
2. Cat 6a/7 UTP
3. For electrical power interface
4. Referenced to GND
5. Hot Plug above steady state current

Pin Definitions



Pin Descriptions

Pin	Signal Name	Description	Plug Seq.	Notes
1	V_{EET}	Transmitter Ground	1	

2	TX FAULT	Transmitter Fault Indication	3	Note 1
3	TX DISABLE	Transmitter Disable	3	Note 2
4	SDA	SDA Serial Data Signal	3	
5	SCL	SCL Serial Clock Signal	3	
6	MOD_ABS	Module Absent. Grounded within the module	3	
7	RS0	Not Connected	3	
8	LOS	Loss of Signal	3	Note 3
9	RS1	Not Connected	3	
10	V_{EER}	Receiver ground	1	
11	V_{EER}	Receiver ground	1	
12	RD-	Inv. Received Data Out	3	Note 4
13	RD+	Received Data Out	3	Note 4
14	V_{EER}	Receiver ground	1	
15	V_{CCR}	Receiver Power Supply	2	
16	V_{CCT}	Transmitter Power Supply	2	
17	V_{EET}	Transmitter Ground	1	
18	TD+	Transmit Data In	3	Note 5
19	TD-	Inv. Transmit Data In	3	Note 5
20	V_{EET}	Transmitter Ground	1	

Notes:

1. TX Fault is an open collector output, which should be pulled up with a 4.7k~10kΩ resistor on the host board to a voltage between 2.0V and Vcc+0.3V. Logic 0 indicates normal operation; Logic 1 indicates a laser fault of some kind. In the low state, the output will be pulled to less than 0.8V.

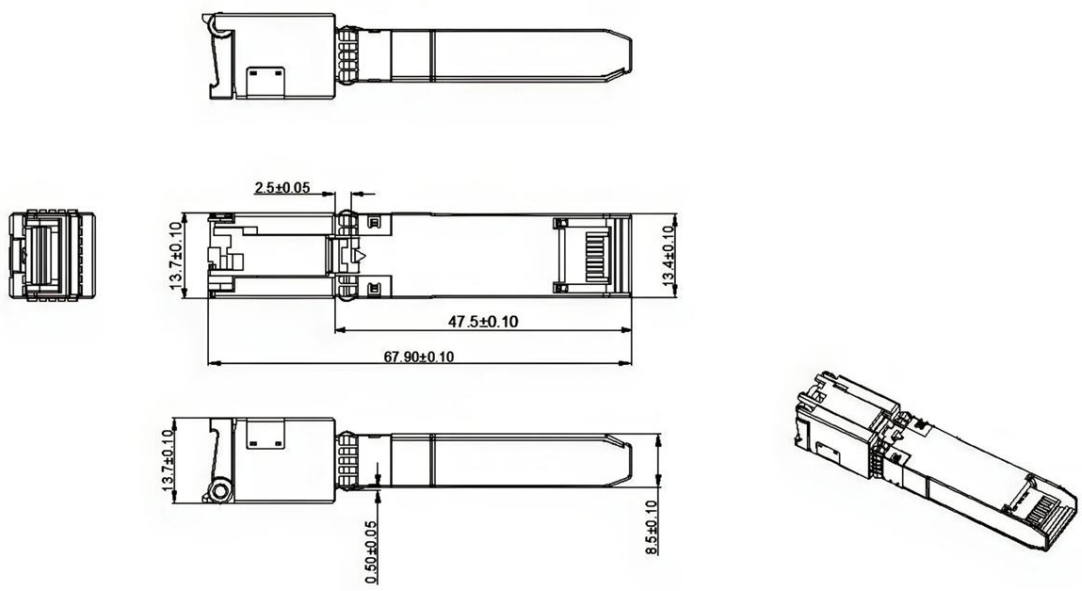
2. Laser output disabled on TDIS >2.0V or open, enabled on TDIS <0.8V.

3. LOS is open collector output. Should be pulled up with 4.7k~10kΩ on host board to a voltage between 2.0V and 3.6V. Logic 0 indicates normal operation; logic 1 indicates loss of signal.

4. RD-/+: These are the differential receiver outputs. They are internally AC-coupled 100 differential lines which should be terminated with 100Ω (differential) at the user SERDES.

5. TD-/+: These are the differential transmitter inputs. They are internally AC-coupled, differential lines with 100Ω differential termination inside the module.

Mechanical Dimensions



Ordering Information

Part number	Description
SFPP-T-80M	10GBASE-T SFP+ Copper Transceiver, Cat6a/Cat7, 80m, RJ45, 0ºC~70ºC

⚠ Warnings

Process plug

The transceiver module is supplied with a dust cover. This plug protects the transceiver optics during standard manufacturing processes by preventing contamination from air borne particles.It is recommended that the dust cover remain in the transceiver whenever an optical fiber connector is not inserted.

Handling Precautions

The transceiver module is susceptible to damage as a result of electrostatic discharge (ESD). A static free environment is highly recommended. Follow guidelines according to proper ESD procedures.

Laser Safety

The transceiver module is a Class 1 laser product per international standard IEC 60825-1. Radiation emitted by laser devices can be dangerous to human eyes. Avoid eye exposure to direct or indirect radiation.

Appendix A. Document Revision

Version No	Date	Description
DS/V1.0/EN	2019-08-08	Preliminary datasheet
DS/V211028/EN	2021-10-28	Update outline dimension
DS/V230904/EN	2023-09-04	Update part number
DS/V4.0/EN	2025-08-19	Update datasheet template, product image and outline dimension

For more product information, visit us on the web at www.optcore.net