

SFP-10G-T-FM

10GBase-T Copper SFP+ Transceiver



Product Features

- ❖ Up to 10Gb/s bi-directional data links
- ❖ Hot-pluggable SFP+ footprint
- ❖ Fully metallic enclosure for low EMI
- ❖ Low power dissipation
- ❖ Compact RJ-45 connector assembly
- ❖ Access to physical layer IC via 2-wire serial bus
- ❖ Supports Links up to 30m using Cat 6a/7 Cable

- ❖ RoHS Compliant
- ❖ Operating case temperature: 0°C to 70°C

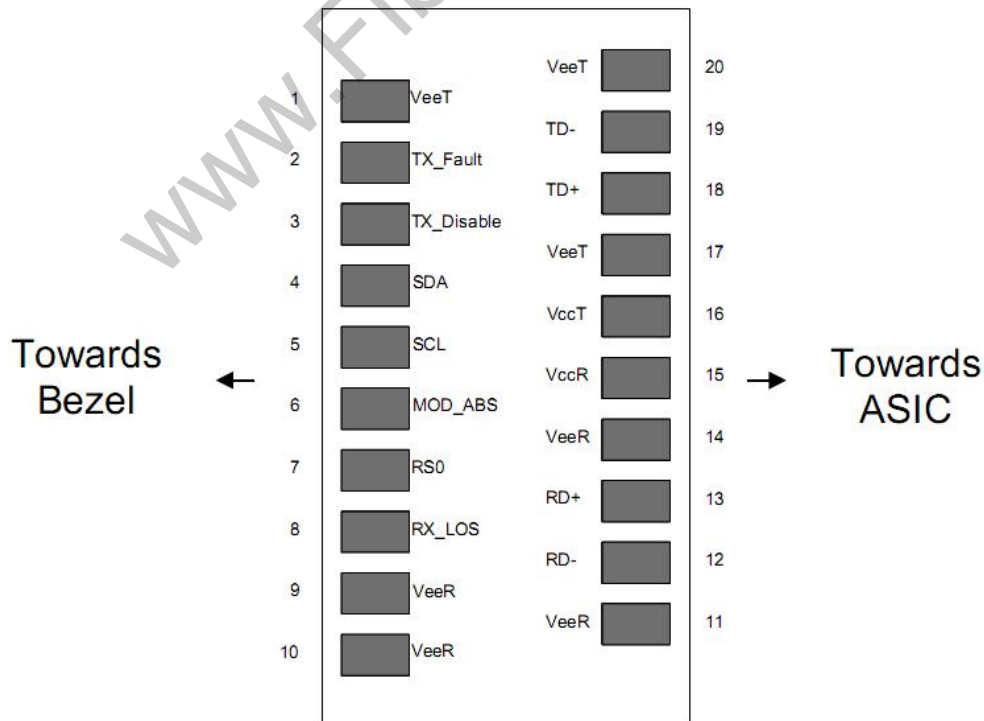
Applications

- ❖ 10 Gigabit Ethernet over Cat 6a/7 cable

Description

SFP-10G-TS Copper Small Form Pluggable (SFP) transceivers are high performance, cost effective module compliant with the 10G Ethernet and 10GBASE-T standards as specified in IEEE 802.3az, which supporting 10Gbps data- rate up to 30 meters reach over unshielded twisted-pair category 6a/7 cables. The module provides standard serial ID information compliant with SFP+ MSA, which can be accessed with address of A0h via the 2wire serial EEPROM protocol. The physical IC can also be accessed via 2wire serial bus at address A0h.

Pin Descriptions



| Pin | Signal Name | Description | Plug Seq. | Notes |
|-----|------------------|---|-----------|---------------|
| 1 | V _{EET} | Transmitter Ground | 1 | |
| 2 | TX FAULT | Transmitter Fault Indication | 3 | Not supported |
| 3 | TX DISABLE | Transmitter Disable | 3 | |
| 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 | |
| 9 | V _{EER} | Receiver ground | 1 | |
| 10 | V _{EER} | Receiver ground | 1 | |
| 11 | V _{EER} | Receiver ground | 1 | |
| 12 | RD- | Inv. Received Data Out | 3 | |
| 13 | RD+ | Received Data Out | 3 | |
| 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 | |
| 19 | TD- | Inv. Transmit Data In | 3 | |
| 20 | V _{EET} | Transmitter Ground | 1 | |

+3.3V Volt Electrical Power Interface

The SFP-10G-TS has an input voltage range of +3.3V +/- 5%.

Table 1. +3.3V Volt electrical power interface

| Parameter | Symbol | Min | Typical | Max | Units | Notes/Conditions |
|-----------------|--------------------|------|---------|------|-------|---|
| Supply Current | I _s | | 700 | 750 | mA | 2.5W max power over full range of voltage and temperature. See caution note below |
| Input Voltage | V _{cc} | 3.13 | 3.3 | 3.47 | V | Referenced to GND |
| Maximum Voltage | V _{max} | | | 4 | V | |
| Surge Current | I _{surge} | | | 30 | mA | Hot plug above steady state current. See caution note below |

General Specifications

Table 2. General specifications

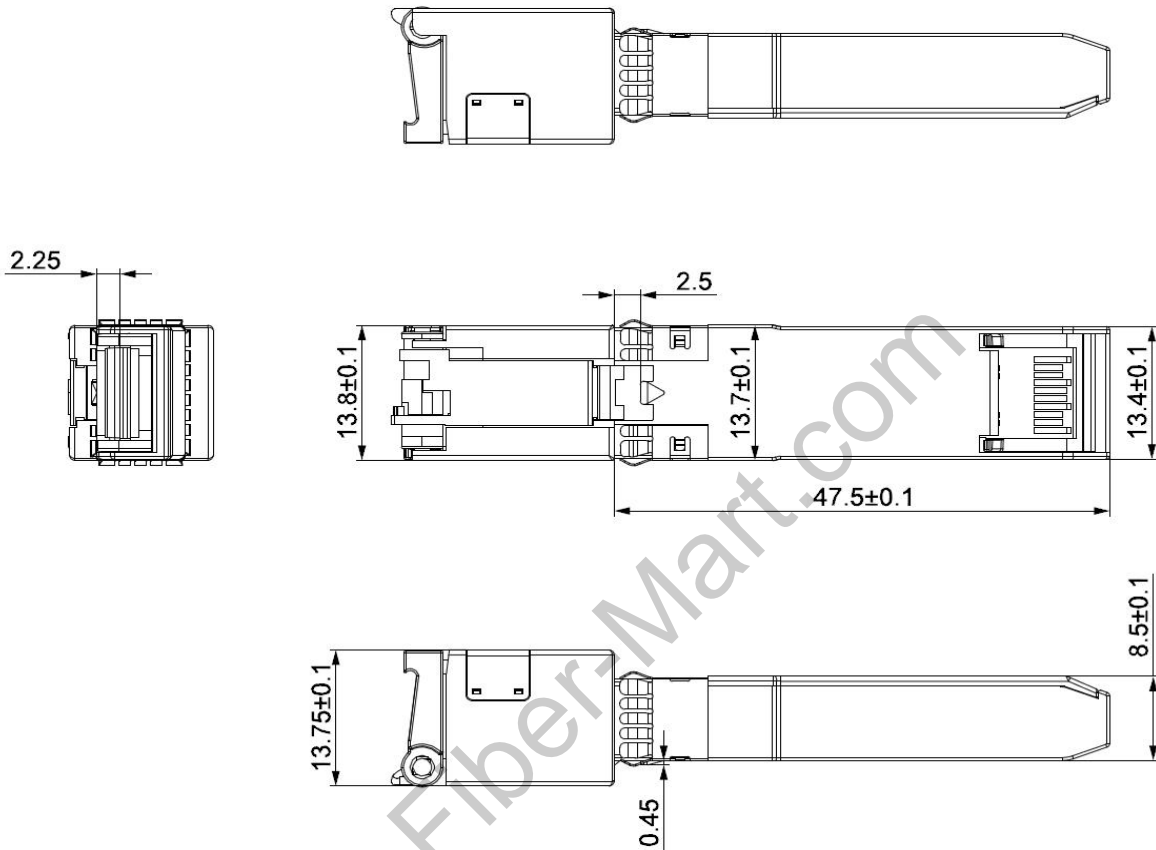
| General | | | | | | |
|--------------|--------|-----|------|-----|--------|---|
| Parameter | Symbol | Min | Typ | Max | Units | Notes/Conditions |
| Data Rate | BR | | 10.3 | | Gb/sec | IEEE 802.3 compatible. |
| Cable Length | L | | | 30 | m | Category 6a/7 UTP. BER <10 ⁻¹² |

Environmental Specifications

Table 3. Environmental specifications

| Environmental Specifications | | | | | | |
|------------------------------|--------|-----|---------|-----|-------|---------------------|
| Parameter | Symbol | Min | Typical | Max | Units | Notes/Conditions |
| Operating Temperature | Top | 0 | | 70 | °C | Case temperature |
| Storage Temperature | Tsto | -40 | | 85 | °C | Ambient temperature |

Mechanical Specifications



Ordering Information

| Part Number | Tx_DIS | Link Indicator on Rx_LOS Pin | Temperature |
|----------------|--------|------------------------------|-------------|
| SFP-10G-T-FM | Yes | Yes | 0~70° C |
| SFP-10G-T-I-FM | Yes | Yes | -40~85° C |