

DATA SHEET

MODULETEK: SFP-FE-T-C10

1000BASE-T SFP (Small Form Pluggable) Copper Transceiver

SFP-GE-T-xxxx-C10 Overview

ModuleTek's SFP-FE-T-C10 SFP electrical port module is based on the Fast Ethernet IEEE 802.3 standard and the 100BASE-T standard, providing a fast and reliable interface for 10G Ethernet applications. The product complies with the Small Form Factor Pluggable Multi-Source Agreement (MSA).

Product Features

- Up to 1.25Gb/s bi-directional data links
- Compliant with SFP MSA
- Hot-pluggable SFP footprint
- Support 100BASE-T full duplex default operating mode
- Support 100BASE-T operation in host systems
- Auto-sense MDI/MDIX
- Single power supply 3.3V
- RoHS Compliant
- Two Temperature Range Options:
 - C grade (Commercial Temperature Range): 0°C to 70°C
 - I grade (Industrial Temperature Range): -40°C to 85°C

Applications

- 125 Mb/s Fast Ethernet

Ordering Information

| Part Number | Description | Operating Temperature Range |
|---|--|-----------------------------|
| SFP-FE-T-C10 | 100BASE-T SFP Copper RJ-45 Connector 100m, commercial temperature | 0°C to 70°C |
| SFP-FE-T-C10 | 100BASE-T SFP Copper RJ-45 Connector 100m, industrial temperature | -40°C to 85°C |
| For More Information: ModuleTek Limited Web: www.moduletek.com Email: sales@moduletek.com | | |

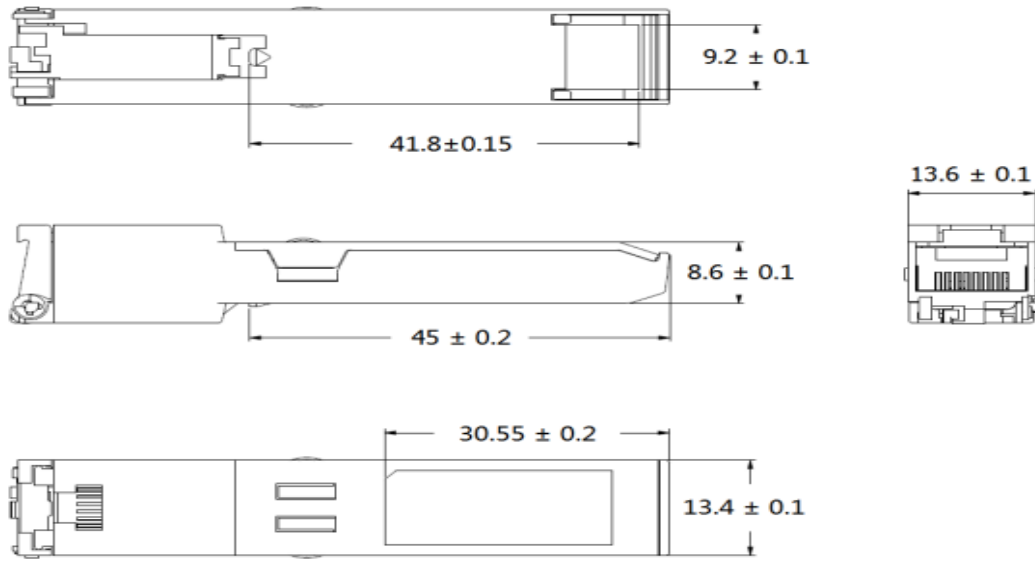
General Specifications

| Parameter | Symbol | Min | Typ | Max | Unit | Remarks |
|-----------------------|--------------------|------|-----|-------------------|--------|---------|
| Data Rate | DR | | 100 | | Mb/sec | |
| Cable Length | CL | | | 100 | m | 1 |
| Bit Error Rate | BER | | | 10 ⁻¹² | | |
| Operating Temperature | T _C | 0 | | 70 | °C | 2 |
| Operating Temperature | T _C | -40 | | 85 | °C | 3 |
| Storage Temperature | T _{STO} | -40 | | 85 | °C | 4 |
| Supply Current | I _{CC} | | 190 | 300 | mA | 5 |
| Input Voltage | V _{CC} | 3.14 | 3.3 | 3.46 | V | 6 |
| Maximum Voltage | V _{MAX} | | | 4 | V | 5 |
| Surge Current | V _{surge} | | | 30 | V | 7 |

Notes:

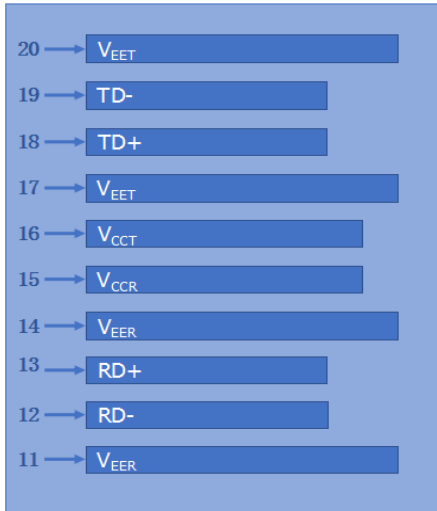
1. Category 5 UTP
2. Case temperature, commercial temperature
3. Case temperature, industrial temperature
4. Ambient temperature
5. For electrical power interface
6. Referenced to GND. For electrical power interface
7. Hot Plug above steady state current. For electrical power interface

Dimensions

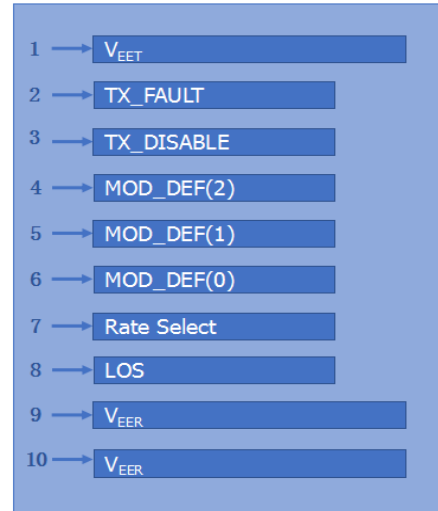


ALL DIMENSIONS ARE ± 0.2 mm UNLESS OTHERWISE SPECIFIED
UNIT: mm

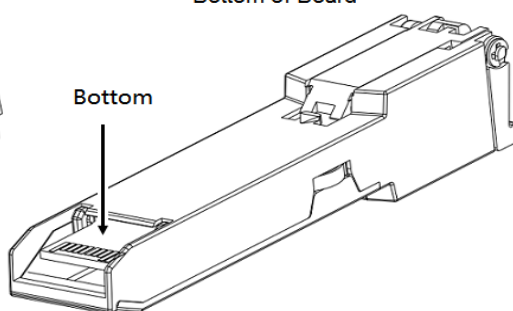
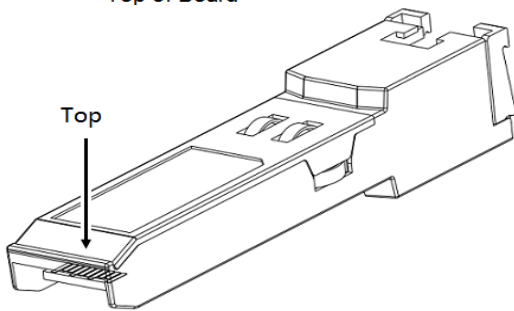
Electrical Pad Layout



Top of Board



Bottom of Board



Pin Assignment

| PIN # | Symbol | Description | Remarks |
|-------|------------------|---|---------|
| 1 | V _{EET} | Transmitter ground (common with receiver ground) | 1 |
| 2 | TX_FAULT | Transmitter Fault. Not supported | |
| 3 | TX_DIS | Transmitter Disable. PHY disabled on high or open | 2 |
| 4 | MOD_DEF(2) | Module Definition 2. Data line for serial ID | 3 |
| 5 | MOD_DEF(1) | 2Module Definition 1. Clock line for serial ID | 3 |
| 6 | MOD_DEF(0) | Module Definition 0. Grounded within the module | 3 |
| 7 | Rate Select | No connection required | |
| 8 | LOS | Loss of Signal | |
| 9 | V _{EER} | Receiver ground (common with transmitter ground) | 1 |
| 10 | V _{EER} | Receiver ground (common with transmitter ground) | 1 |
| 11 | V _{EER} | Receiver ground (common with transmitter ground) | 1 |
| 12 | RD- | Receiver Inverted DATA out. AC coupled | |
| 13 | RD+ | Receiver Non-inverted DATA out. AC coupled | |
| 14 | V _{EER} | Receiver ground (common with transmitter ground) | 1 |
| 15 | V _{CCR} | Receiver power supply | |
| 16 | V _{CCT} | Transmitter power supply | |
| 17 | V _{EET} | Transmitter ground (common with receiver ground) | 1 |
| 18 | TD+ | Transmitter Non-Inverted DATA in. AC coupled | |
| 19 | TD- | Transmitter Inverted DATA in. AC coupled | |
| 20 | V _{EET} | Transmitter ground (common with receiver ground) | 1 |

Notes:

1. Circuit ground is connected to chassis ground
2. Disabled: T_{DIS}>2V or open, Enabled: T_{DIS}<0.8V
3. Should Be pulled up with 4.7k –10k ohm on host board to a voltage between 2V and 3.6V

References

1. IEEE standard 802.3. IEEE Standard Department,2005.
2. Small Form Factor Pluggable (SFP) Transceiver Multi-Source Agreement (MSA),INF-8074i.