

SFP-2-5GBASE-T-PRO

MSA and TAA Compliant 2500Base-TX SFP Transceiver (Copper, 100m, 0 to 70C, RJ-45)

Features

- SFF-8432 Compliance
- RJ-45 Connector
- Commercial Temperature 0 to 70 Celsius
- Copper Media Type
- Hot Pluggable
- Excellent ESD Protection
- Metal with Lower EMI
- RoHS Compliant and Lead Free



Applications:

- 10GBase Ethernet
- Access and Enterprise

Product Description

This MSA Compliant SFP transceiver provides 2500Base-TX throughput up to 100m over a copper connection via a RJ-45 connector. This TX module supports 2500Base auto-negotiation and can be configured to fit your needs. It is built to MSA standards and is uniquely serialized and data-traffic and application tested to ensure that they will integrate into your network seamlessly. This transceiver is Trade Agreements Act (TAA) compliant. We stand behind the quality of our products and proudly offer a limited lifetime warranty.

Proline's transceivers are RoHS compliant and lead-free.

TAA refers to the Trade Agreements Act (19 U.S.C. & 2501-2581), which is intended to foster fair and open international trade. TAA requires that the U.S. Government may acquire only "U.S. – made or designated country end products.



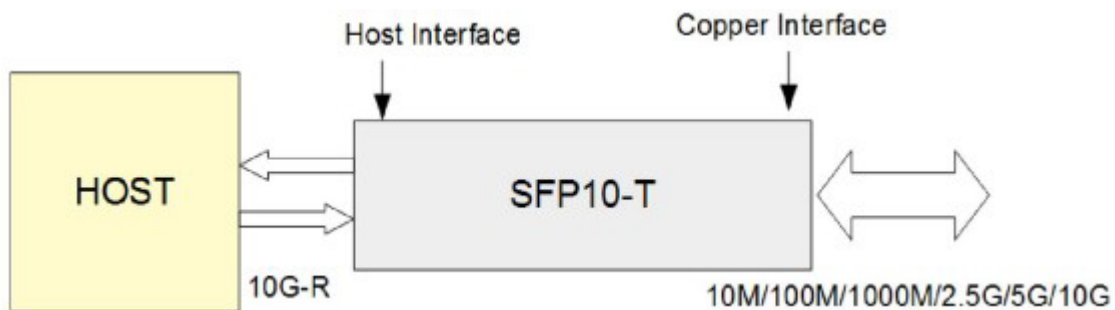
General Specifications

| Parameter | Symbol | Min. | Typ. | Max. | Unit | Notes |
|----------------------------|--------|------|------|-------------------|------|-------|
| Maximum Supply Voltage | Vmax | -0.5 | | 4 | V | |
| Storage Temperature | TS | -40 | | 85 | °C | 1 |
| Operating Case Temperature | Tc | 0 | | 70 | °C | 1 |
| Operating Humidity | RH | 5 | | 95 | % | |
| Data Rate | DR | | 10 | | Gbps | 3 |
| Bit Error Rate | BER | | | 10 ⁻¹² | | |
| Supply Current | Icc | | 700 | 750 | mA | 4 |
| Input Voltage | Vcc | 3.14 | 3.3 | 3.46 | V | |

Notes:

1. Ambient temperature
2. Case temperature
3. IEEE 802.3ae
4. Test at 10Gbps rate using 30m CAT 6A cable

Compatible with Multiple Rates



1. Host Interface: Compatible with 10G rate, only be used on 10G switch port.
2. Copper Interface: Compatible with 10/100/1000M/2.5G/5G/10G, auto-negotiates with remote module rate.
3. Supports 10GBase-T up to 30m using Cat 6A/7 cable.
4. Supports 5GBase-T up to 70m using Cat 5E cable.
5. Supports 2.5GBase-T up to 100m using Cat 5E cable.
6. Supports 10/100/1000Base-T up to 100m using Cat 5E cable.

Pin Descriptions

| Pin | Symbol | Name/Descriptions | Ref. |
|-----|------------------|--|------|
| 1 | V _{EET} | Transmitter ground (common with receiver ground) | 1 |
| 2 | TX_FAULT | Transmitter Fault. Not supported | |
| 3 | TX_DISABLE | Transmitter Disable. PHY disabled on high or open | 2 |
| 4 | SDA | 2-wire Serial Interface Data Line | 3 |
| 5 | SCL | 2-wire Serial Interface Clock Line | 3 |
| 6 | MOD_ABS | Module Absent. Grounded within the module | 3 |
| 7 | RS0 | No Connection Required | |
| 8 | LOS | Loss of Signal indication. Logic 0 indicates normal operation. | 4 |
| 9 | RS1 | No Connection Required | |
| 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 | 5 |
| 13 | RD+ | Receiver Non-inverted DATA out. AC coupled | 5 |
| 14 | V _{EER} | Receiver ground (common with receiver 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 |

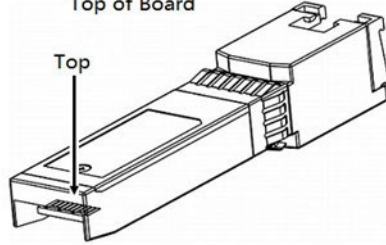
Notes:

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
4. The LOS pin can indicate the connection status of the copper interface. When the copper interface is connected to the far end through the network cable, the LOS is low. Otherwise, when the network cable is disconnected, the LOS is high.
5. RD± has squelch function. When the copper interface is connected to the far end through a network cable, RX± is working normally. If the network cable is disconnected, RX± has no signal output.

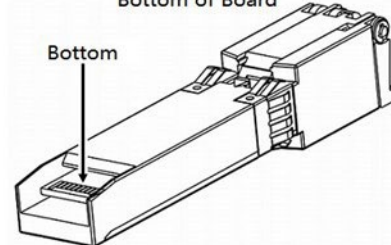
Electrical Pad Layout



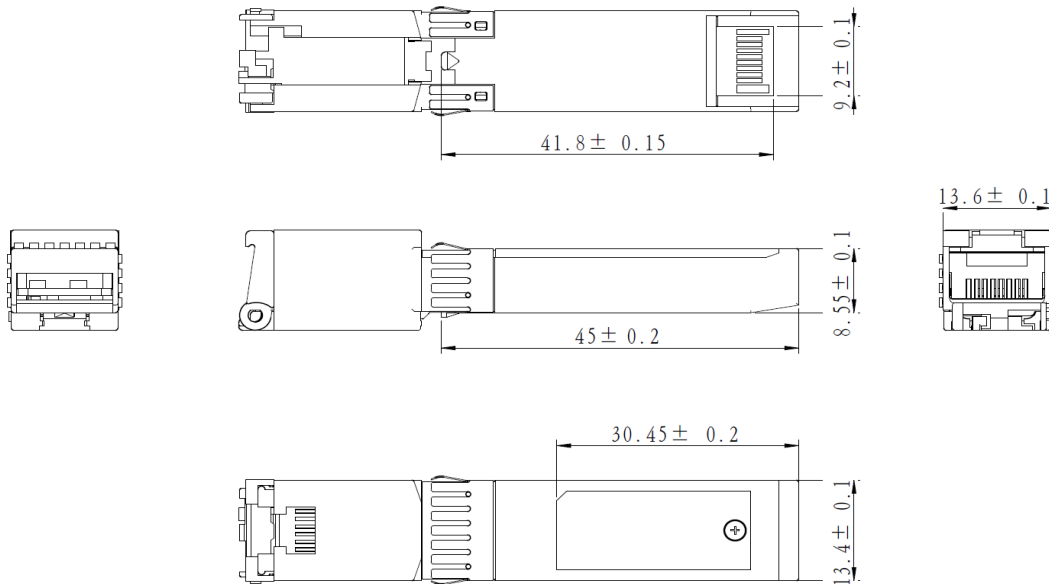
Top of Board



Bottom of Board



Mechanical Specifications



ALL DIMENSIONS ARE ±0.2mm UNLESS OTHERWISE SPECIFIED

UNIT: mm

About Us:

Proline Options is one of North America's leading providers of transceivers and high speed cabling. With a reputation for quality, tested products that cover the connectivity spectrum, Proline Options has a solution for you regardless of the specification.

At Proline Options, every product is tested in its intended application - never batch or spec tested only. We run bandwidth, distance and IOS network tests. We have documented an impressive 0.03% failure rate over the last 10 years. To continue this rate of success we invest millions annually in our own on-site testing lab.



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