

SFP-SW10-100-R-PRO

MRV® SFP-SW10-100-R Compatible TAA Compliant 10/100Base-TX SFP Transceiver (Copper, 100m, 0 to 70C, RJ-45)

Features

- INF-8074 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:

- 100Base Ethernet
- Access and Enterprise

Product Description

This MRV® SFP-SW10-100-R compatible SFP transceiver provides 10/100Base-TX throughput up to 100m over a copper connection via a RJ-45 connector. This TX module supports 10/100Base auto-negotiation and can be configured to fit your needs. It is guaranteed to be 100% compatible with the equivalent MRV® transceiver. This easy to install, hot swappable transceiver has been programmed, uniquely serialized and data-traffic and application tested to ensure that it will initialize and perform identically. It is built to meet or exceed the specifications of MRV®, as well as to comply with MSA (Multi-Source Agreement) standards to ensure seamless network integration. 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.



Absolute Maximum Ratings

| Parameter | Symbol | Min. | Тур. | Max. | Unit | Notes |
|-----------------|--------|------|------|------|------|-------|
| Supply Current | Is | | 320 | 375 | mA | 1 |
| Input Voltage | Vcc | 3.13 | 3.3 | 3.47 | V | 2 |
| Maximum Voltage | Vmax | | | 4 | V | |
| Surge Current | Isurge | | | 30 | mA | 3 |

Notes:

- 1. 1.2W max power over full range of voltage and temperature. Power consumption and surge current are higher than the specified values in SFP MSA.
- 2. Referenced to GND
- 3. Hot plug above steady state current. Power consumption and surge current are higher than the specified values in SFP MSA.

Recommended Operating Conditions

| Parameter | Symbol | Min. | Тур. | Max. | Unit | Notes |
|-----------------------|--------|------|------|------|--------|-------|
| Data Rate | BR | 10 | | 1000 | Mb/sec | 3-5 |
| Distance Supported | L | | | 100 | m | 1 |
| Operating Temperature | Тор | 0 | | 85 | °C | |
| Storage Temperature | Tsto | -40 | | 85 | °C | |

Notes:

- 1. Category 5 UTP. BER <10-12
- 2. Clock tolerance is +/- 50 ppm
- 3. By default, the GE-GB-P is a full duplex device in preferred master mode
- 4. Automatic crossover detection is enabled. External crossover cable is not required
- 5. 1000Base-T operation requires the host system to have an SGMII interface with no clocks, and the module PHY to be configured per Application Note AN-2036. With a SERDES that does not support SGMII, the module will operate at 1000Base-T only.

Low-Speed Signals

| Parameter | Symbol | Min. | Тур. | Max. | Unit | Notes |
|-----------------|--------|--------------|------|--------------|------|-------|
| SFP Output LOW | VOL | 0 | | 0.5 | V | 1 |
| SFP Output High | VOH | Host_Vcc-0.5 | | Host_Vcc+0.3 | V | 1 |
| SFP Input LOW | VIL | 0 | | 0.8 | V | 2 |
| SFP Input HIGH | VIH | 2 | | Vcc+0.3 | V | 2 |

Notes:

- 1. 4.7k to 10k pull-up to Host_Vcc, measured at host side of connector
- 2. 4.7k to 10k pull-up to Vcc, measured at SFP side of connector

High-Speed Signals

| Parameter | Symbol | Min. | Тур. | Max. | Unit | Notes | | |
|--------------------------------|----------|------|------|------|------|-------|--|--|
| Transmission Line-SFP | | | | | | | | |
| Line Frequency | fL | | 125 | | MHz | 1 | | |
| TX Output impedance | Zout, TX | | 100 | | Ohm | 2 | | |
| Rx Input Impedance | Zin, RX | | 100 | | Ohm | 2 | | |
| Host-SFP | | | | | | | | |
| Single ended data input swing | Vinsing | 250 | | 1200 | mV | 3 | | |
| Single ended data output swing | Voutsing | 350 | | 800 | mV | 3 | | |
| Rise/Fall Time | Tr,Tf | | 175 | | Psec | 4 | | |
| Tx Input Impedance | Zin | | 50 | | Ohm | 3 | | |
| Rx Output Impedance | Zout | | 50 | | Ohm | 3 | | |

Notes:

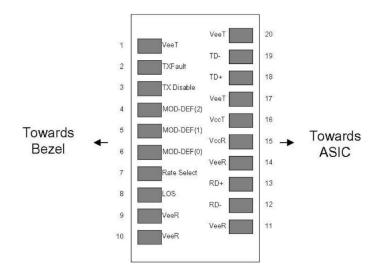
- 1. 5-level encoding, per IEEE 802.3
- 2. Differential, for all Frequencies between 1MHz and 125MHz
- 3. Single ended
- 4. 20%-80%

Pin Descriptions

| Pin | Symbol | Name/Descriptions | Ref. |
|-----|-------------|--|------|
| 1 | VeeT | Transmitter Ground (Common with Receiver Ground). | 1 |
| 2 | TX Fault | Transmitter Fault. Not Supported | |
| 3 | TDIS | Transmitter Disabled. PHY disabled on high or open | 2 |
| 4 | MOD_DEF(2) | Module Definition 2. Data line for serial ID | 3 |
| 5 | MOD_DEF(1) | Module 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 indication. | 4 |
| 9 | VeeR | Receiver Ground (common with Transmitter ground) | 1 |
| 10 | VeeR | Receiver Ground (common with Transmitter ground) | 1 |
| 11 | VeeR | 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 | VeeR | Receiver Ground (Common with Transmitter Ground). | 1 |
| 15 | VccR | Receiver Power Supply. | |
| 16 | VccT | Transmitter Power Supply. | |
| 17 | VeeT | 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 | VeeT | Transmitter Ground (Common with Receiver Ground). | 1 |

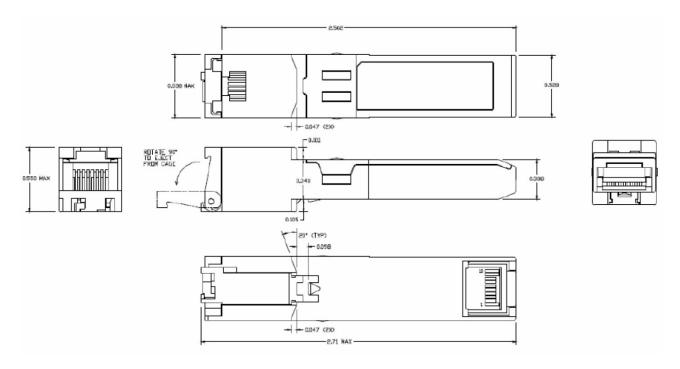
Notes:

- 1. Circuit ground is connected to chassis ground
- 2. PHY disabled on TDIS > 2.0V or open, enabled on TDIS < 0.8V
- 3. Should be pulled up with 4.7k-10k Ohms on host board to a voltage between 2.0V and 3.6V.MOD_DEF (0) pulls line low to indicate module is plugged in.
- 4. LVTTL compatible with a maximum voltage of 2.5V. Not supported on GE-GB-P



Pin-out of connector Block on Host board

Mechanical Specifications



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.



Tel: 855.933.3223

Email: sales@prolineoptions.com

Email: techsupport@prolineoptions.com Web: https://www.prolineoptions.com