



## SGT00P10DR03729

Brocade® (Formerly) E1MG-TX Compatible 10/100/1000Base-TX SFP Transceiver (Copper, 100m, RJ-45)

### Product Description

This Brocade® (Formerly) E1MG-TX compatible SFP transceiver provides 10/100/1000Base-TX throughput up to 100m over a copper connection via a RJ-45 connector. It can operate at temperatures between 0 and 70C. This TX module supports 10/100/1000Base auto-negotiation and can be configured to fit your needs. Our transceiver is built to meet or exceed OEM specifications and is guaranteed to be 100% compatible with Brocade® (Formerly). It has been programmed, uniquely serialized, and tested for data-traffic and application to ensure that it will initialize and perform identically. All of our transceivers comply with Multi-Source Agreement (MSA) standards to provide seamless network integration. We stand behind the quality of our products and proudly offer a limited lifetime warranty.

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

### 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:

- 1000Base Ethernet
- Access and Enterprise

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*For your product safety, please read the following information carefully before any manipulation of the transceiver:*



#### **ESD**

This transceiver is specified as ESD threshold 1kV for SFI pins and 2kV for all others electrical input pins, tested per MIL-STD-883G, Method 3015.4 /JESD22-A114-A (HBM). However, normal ESD precautions are still required during the handling of this module.



#### **LASER SAFETY**

This is a Class1 Laser Product according to IEC 60825-1:2007. This product complies with 21 CFR 1040.10 and 1040.11 except for deviations pursuant to Laser Notice No. 50, dated (June 24, 2007).

*The optical ports of the module need to be terminated with an optical connector or with a dust plug in order to avoid contamination.*

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## Absolute Maximum Ratings

| Parameter                   | Symbol | Min. | Typ.   | Max. | Unit | Notes |
|-----------------------------|--------|------|--------|------|------|-------|
| Storage Temperature         | Ts     | -40  |        | 85   | °C   |       |
| Operating Temperature       | Top    | 0    |        | +70  | °C   |       |
| Maximum Supply Voltage      | Vmax   | -0.5 |        | 4.0  | V    |       |
| Operating Relative Humidity | RH     |      |        | 85   | %    |       |
| Data Rate                   |        |      | 10/100 |      | Mbps |       |
| Distance                    |        |      |        | 100  | m    |       |

## Electrical Specifications +3.3 Volt Electrical Power Interface

| Parameter                                              | Symbol   | Min.         | Typ. | Max.         | Unit | Notes |
|--------------------------------------------------------|----------|--------------|------|--------------|------|-------|
| Power Supply Voltage                                   | Vcc      | 3.13         | 3.3  | 3.47         | V    |       |
| Supply Current                                         | Icc      |              | 300  | 350          | mA   |       |
| Surge Current                                          | Isurge   |              | 30   |              | A    |       |
| Low-Speed Signals, Electronic Characteristics          |          |              |      |              |      |       |
| 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     |
| High-Speed Electrical Interface, Transmission Line-SFP |          |              |      |              |      |       |
| Line Baud Rates                                        | fL       |              | 125  |              | MHz  | 3     |
| TX Output Impedance                                    | Zout, TX |              | 100  |              | Ohm  | 4     |
| RX Input Impedance                                     | Zin, RX  |              | 100  |              | Ohm  | 4     |
| High-Speed Electrical Interface, Host-SFP              |          |              |      |              |      |       |
| Single ended data input swing                          | Vin      | 250          |      | 1200         | mV   | 5     |
| Single ended data output swing                         | Vout     | 300          |      | 800          | mV   | 5     |
| Rise/Fall Time                                         | Tr, Tf   |              | 175  |              | Nsec | 6     |
| TX Input Impedance                                     | Zin      |              | 50   |              | Ohm  | 5     |
| RX Output Impedance                                    | Zin      |              | 50   |              | Ohm  | 5     |

**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
3. 5 level encoding per IEEE802.3
4. Differential, for all frequencies between 1MHz and 125MHz
5. Single ended
6. 20%-80%

**Pin Descriptions**

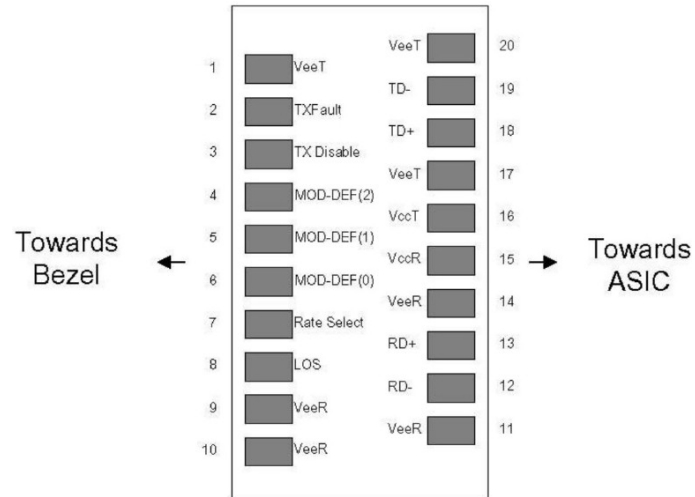
| Pin | Symbol      | Name/Descriptions                                  | Ref. |
|-----|-------------|----------------------------------------------------|------|
| 1   | VeeT        | Transmitter Ground (Common with Receiver Ground).  | 1    |
| 2   | TX Fault    | Transmitter Fault. Not Supported                   |      |
| 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

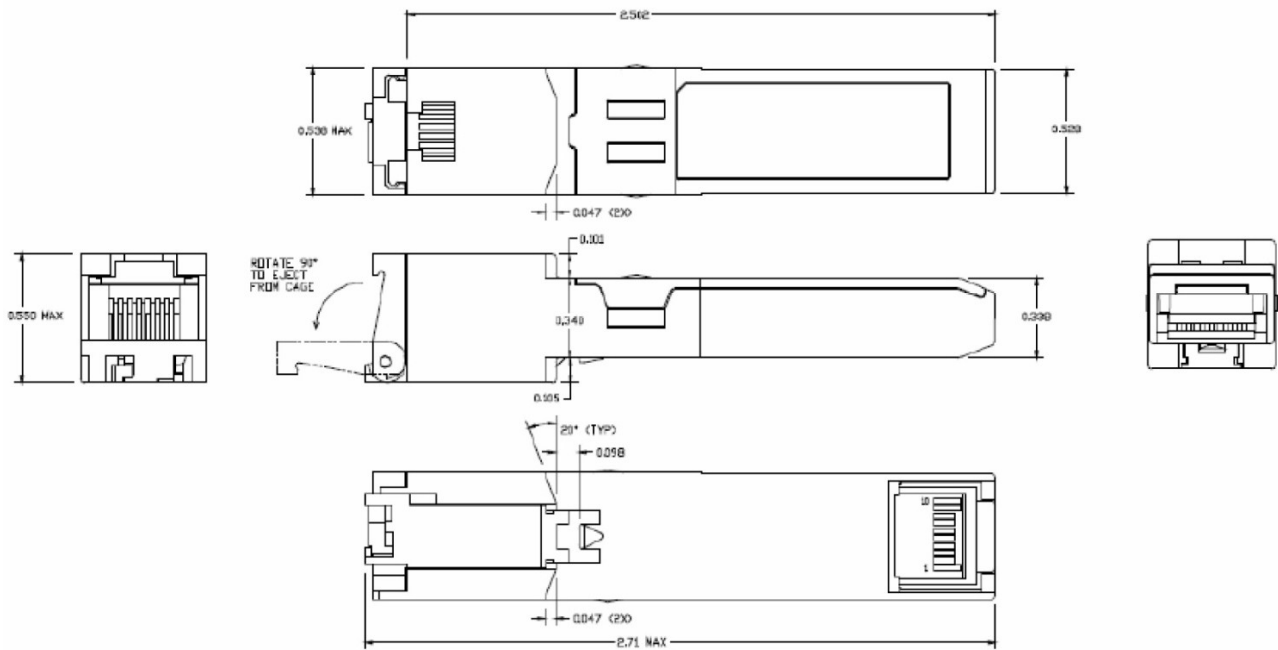
(0) pulls line low to indicate module is plugged in.

4. LVTTTL 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 Skylane Optics

Skylane is a leading provider of transceivers for optical communication.

We offer an extensive portfolio for the enterprise, access, datacenter and metropolitan fiber optical market as well as for smart home applications and home networks.

We cover the European, South American and North American market with a strong partner network and have offices in Belgium, Brazil, Sweden and USA.

Our offerings are characterized by high quality and performance. In combination with our strong technical support, we enable our customers to build cost optimized network solutions.

We offer an extensive range of high-quality products including transceivers (Optical and copper), Active Optical Cable (AOC), Direct Attach Cable (DAC), Mux/Demux, Coding Box.

