

# SFP-10G-T-80

**10GBase-T Copper SFP+ Transceiver**

## 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 80m using Cat 6a/7 Cable
- RoHS Compliant
- Operating case temperature: 0°C to 70°C
- Broadcom chips

## Applications

- 10 Gigabit Ethernet over Cat 6a/7 cable

## Description

SFP-10G-TC80-BC 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 80 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.

## +3.3V Volt Electrical Power Interface

The SFP-10G-TC80-BC has an input voltage range of +3.3V +/- 5%.

**Table 1. +3.3V Volt electrical power interface**

| +3.3V volt Electrical Power Interface |        |      |     |      |       |                                                                                   |
|---------------------------------------|--------|------|-----|------|-------|-----------------------------------------------------------------------------------|
| Parameter                             | Symbol | Min  | Typ | Max  | Units | Notes/Conditions                                                                  |
| Supply Current                        | Is     |      |     | 750  | mA    | 2.5W max power over full range of voltage and temperature. See caution note below |
| Input Voltage                         | Vcc    | 3.13 | 3.3 | 3.47 | V     | Referenced to GND                                                                 |
| Maximum Voltage                       | Vmax   |      |     | 3.8  | V     |                                                                                   |
| Surge Current                         | Isurge |      |     | 30   | mA    | Hot plug above steady state current.                                              |

## 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      |     |      | 80  | m      | Category 6a/7 UTP. BER <10 <sup>-12</sup> |

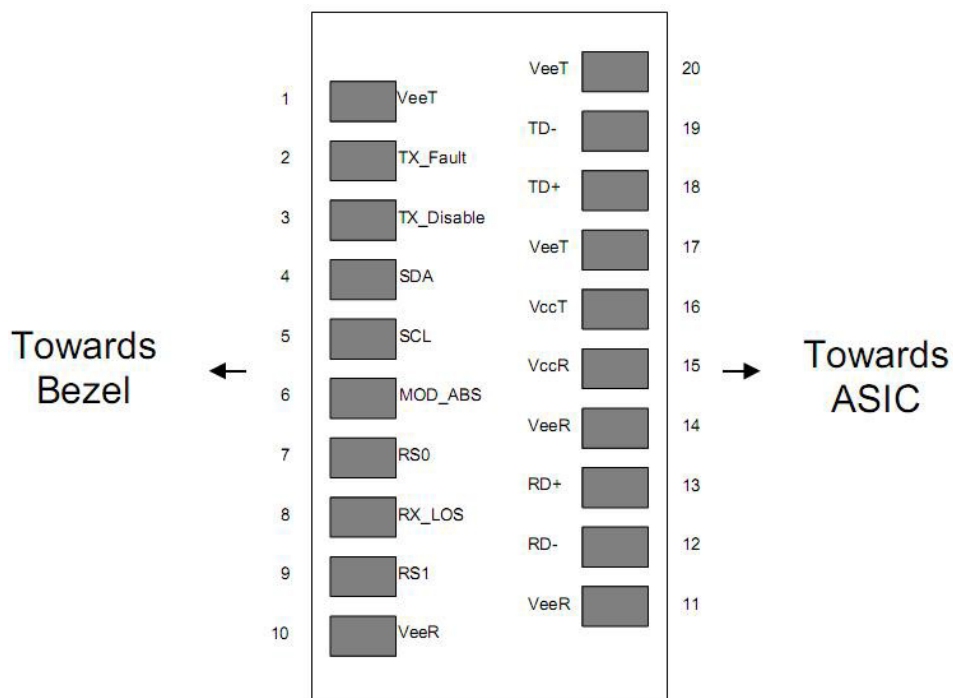
## Environmental Specifications

**Table 3. Environmental specifications**

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

## Pin Assignment

Pin Diagram

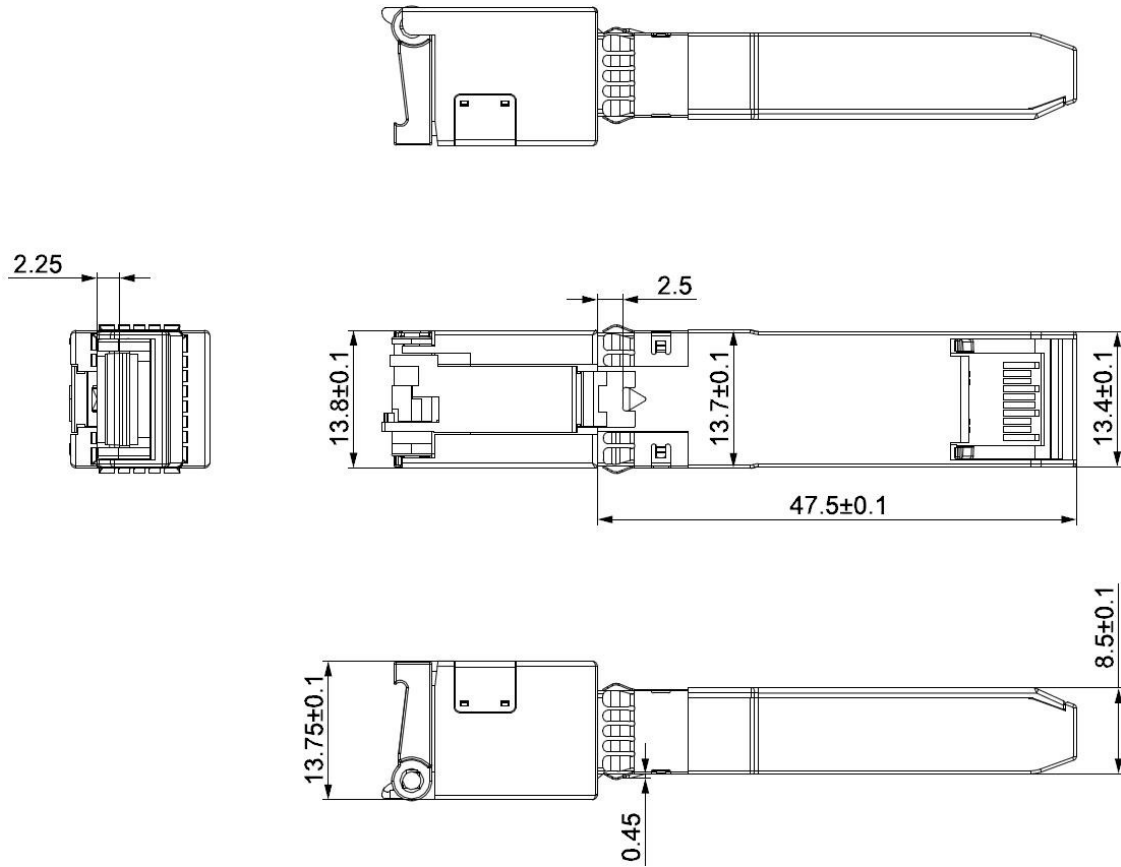


## Pin Descriptions

**Table 4- Pin Descriptions**

| Pin | Signal Name      | Description                               | Plug Seq. | Notes         |
|-----|------------------|-------------------------------------------|-----------|---------------|
| 1   | V <sub>EET</sub> | 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   | RS1              | Not Connected                             | 3         |               |
| 10  | V <sub>EER</sub> | Receiver ground                           | 1         |               |
| 11  | V <sub>EER</sub> | Receiver ground                           | 1         |               |
| 12  | RD-              | Inv. Received Data Out                    | 3         |               |
| 13  | RD+              | Received Data Out                         | 3         |               |
| 14  | V <sub>EER</sub> | Receiver ground                           | 1         |               |
| 15  | V <sub>CCR</sub> | Receiver Power Supply                     | 2         |               |
| 16  | V <sub>CCT</sub> | Transmitter Power Supply                  | 2         |               |
| 17  | V <sub>EET</sub> | Transmitter Ground                        | 1         |               |
| 18  | TD+              | Transmit Data In                          | 3         |               |
| 19  | TD-              | Inv. Transmit Data In                     | 3         |               |
| 20  | V <sub>EET</sub> | Transmitter Ground                        | 1         |               |

## Mechanical Specifications



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