

## DATA SHEET

### MODULETEK:SFP10-T-C10

10GBASE-T SFP (Small Form Pluggable) Copper Transceiver  
10 Gigabit Ethernet

### SFP10-T-C10 Overview

ModuleTek's SFP10-T-C10 SFP+ 10GBASE-T is a RJ45 electrical port module, that uses a Cat 6a/7 cable to transmit 10Gbps, transmission distance up to 30 meters, and it also supports 10/100/1000/2500/5000Base-T applications. The advantage is that the product is based on the standard RJ45 interface, compatible with traditional networks, the Ethernet transmission rate can be increased without changing the existing wiring.

### Product Features

- Supports 10GBase-T using 30m Cat 6a/7 Cable
- Supports 5000Base-T using 50m Cat 5e cable or better
- Supports 2500Base-T using 75m Cat 5e cable or better
- Supports 10/100/1000Base-T using 100m Cat 5e cable or better
- Compliant with IEEE 802.3az
- Compliant with SFF-8431 and SFF-8432 MSA
- Low Power Consumption (2.5W MAX @ 30m)
- Auto-negotiates with other 10GBase-T PHYs
- I2C 2-Wire Interface for Serial ID and PHY Register Access
- Auto-sense MDI/MDIX
- RoHS Compliant
- Operating temperature range:0°C to70°C

### Applications

- 10 Gigabit Ethernet

## Ordering Information

Part Number	Description
SFP10-T-C10	10/100/1000/2500/5000/10GBase-T SFP+ Copper RJ-45 Connector
<b>For More Information:</b> ModuleTek Limited Web: <a href="http://www.moduletek.com">www.moduletek.com</a> Email: <a href="mailto:sales@moduletek.com">sales@moduletek.com</a>	

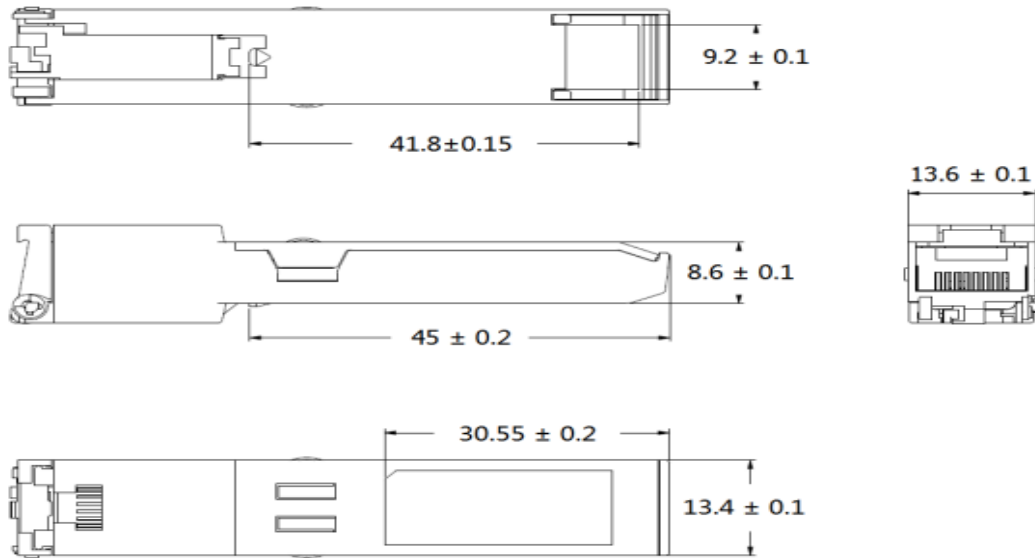
## General Specifications

Parameter	Symbol	Min	Typ	Max	Unit	Remarks
Data Rate	DR		10		Gb/s	1
Bit Error Rate	BER			$10^{-12}$		
Operating Temperature	T <sub>C</sub>	0		70	°C	2
Storage Temperature	T <sub>STO</sub>	-40		85	°C	3
Supply Current	I <sub>CC</sub>		700	750	mA	4
Input Voltage	V <sub>CC</sub>	3.14	3.3	3.46	V	
Maximum Voltage	V <sub>MAX</sub>			4	V	4
Surge Current	I <sub>surge</sub>			30	mA	6

### Notes:

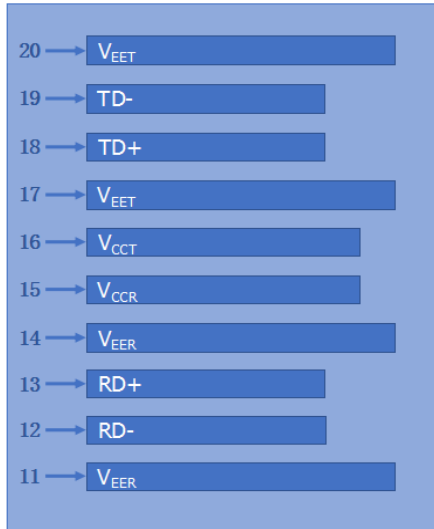
1. IEEE 802.3ae
2. Case temperature
3. Ambient temperature
4. For electrical power interface
5. Referenced to GND
6. Hot Plug above steady state current

## Dimensions

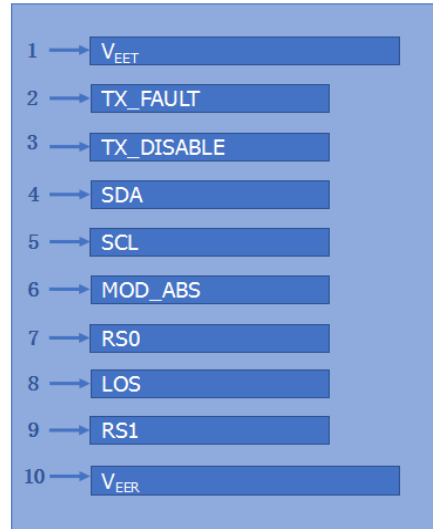
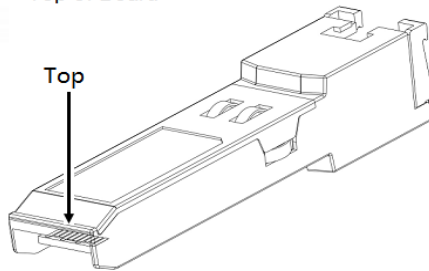


ALL DIMENSIONS ARE  $\pm 0.2$ mm UNLESS OTHERWISE SPECIFIED  
UNIT: mm

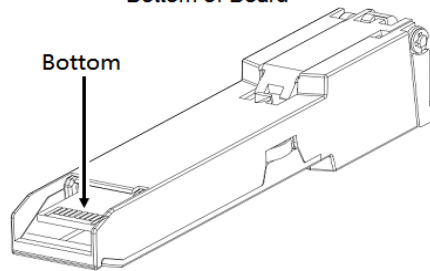
## Electrical Pad Layout



Top of Board



Bottom of Board



## Pin Assignment

PIN #	Symbol	Description	Remarks
1	V <sub>EET</sub>	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.	
9	RS1	No Connection Required	
10	V <sub>EER</sub>	Receiver ground (common with transmitter ground)	1
11	V <sub>EER</sub>	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 <sub>EER</sub>	Receiver ground (common with receiver ground)	1
15	V <sub>CCR</sub>	Receiver power supply	
16	V <sub>CCT</sub>	Transmitter power supply	
17	V <sub>EET</sub>	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 <sub>EET</sub>	Transmitter ground (common with receiver ground)	1

### Notes:

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