

# 1000BASE-T RJ45 SFP Module

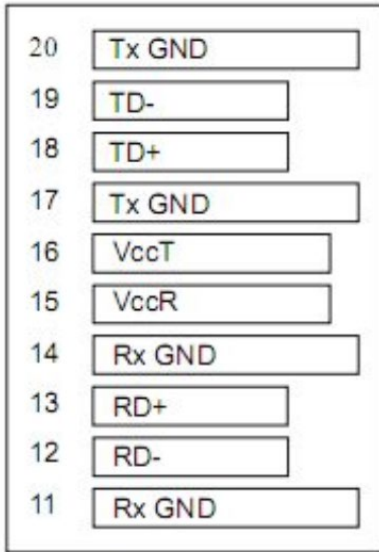
MODEL: TL-SM331T



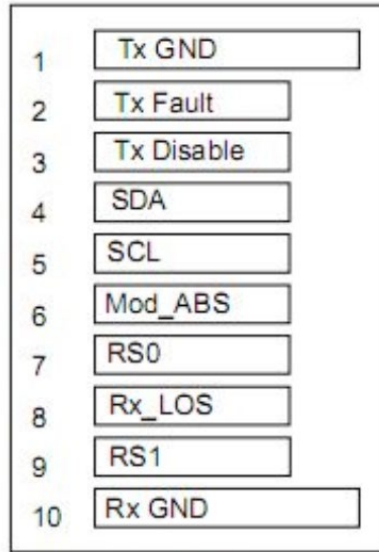
## Overview

- Support 1000BASE-T Operation in Host Systems
- Support TX Disable function
- For 100m Reach Over UTP Cat 5e or above Cable
- Hot-Pluggable SFP Footprint Features
- Commercial Product Operating Temperature Range: 0-70°C
- Compliant with IEEE Std 802.3-2002
- Fully Metallic Enclosure for Low EMI
- Low Power Dissipation (0.5 W Typical, 0.8 W Max)

# Pin Assignment



**Top of Board**



**Bottom of Board**

# Pin Description

Pin	Signal Name	Description	Plug Seq.
1	VEET	Transmitter Ground	1
2	TX FAULT	Unsupported, Connected to the ground Inside the module	3
3	TX DISABLE	Transmitter Disable	3
4	MOD_DEF(2)	SDA Serial Data Signal	3
5	MOD_DEF(1)	SCL Serial Clock Signal	3
6	MOD_DEF(0)	Absent, Connected to the ground Inside the module	3
7	Rate Select	Unsupported	3
8	LOS	Loss of Signal	3
9	VEER	Receiver ground	1
10	VEER	Receiver ground	1
11	VEER	Receiver ground	1
12	RX-	Inv. Received Data Out	3
13	RX+	Received Data Out	3
14	VEER	Receiver ground	1
15	VCCR	Receiver Power Supply	2
16	VCCT	Transmitter Power Supply	2
17	VEET	Transmitter Ground	1
18	TX+	Transmit Data In	3
19	TX-	Inv. Transmit Data In	3
20	VEET	Transmitter Ground	1

# Specifications

Parameter	Symbol	Typ.	Min.	Max.	Units	Notes
Data rate	—	1.25	—	—	Gbps	
Distance	—	—	—	100	m	Cat 5e or above
Product Operating Temperature	—	—	0	70	°C	+3.3 Volt Electrical Power Interface
Storage Temperature	Ts		-40	85	°C	
Supply Current	Icc	—	150	250	mA	
Recommend Input Voltage Range	Vcc	3.3	3.13	3.47	V	
SFP Output LOW	VOL	—	0	0.5	V	Low-Speed Signals, Electronic Characteristics
SFP Output HIGH	VOH	—	host_Vcc - 0.5	host_Vcc + 0.3	V	
SFP Input LOW	VIL	—	0	0.8	V	
SFP Input HIGH	VIH	—	2	Vcc + 0.3	V	
Line Frequency	fL	125	—	—	MHz	High-Speed Electrical Interface, Transmission Line-SFP
Tx Output impedance	Zout, TX	100	—	—	Ohm	
Rx Input Impedance	Zin, RX	100	—	—	Ohm	
input swing	Vin-pp	—	150	1000	mV	High-Speed Electrical Interface, Host-SFP
output swing	Vout-pp	1600	600	2000	mV	
Output Rise/Fall Time	Tr, Tf (0.2~0.8)	—	100	200	psec	
Tx Input Impedance	Zin-diff	100	—	—	Ohm	
Rx Output Impedance	Zout-diff	100	—	—	Ohm	

## Disclaimer:

All the above parameters are measured in a laboratory environment under specific conditions.

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