

ES-T7-R

10GBase-T Copper SFP+ 100M Transceiver

Product 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 100m using Cat 6a/7 Cable
- RoHS Compliant
- Operating case temperature: 0°C to 70°C

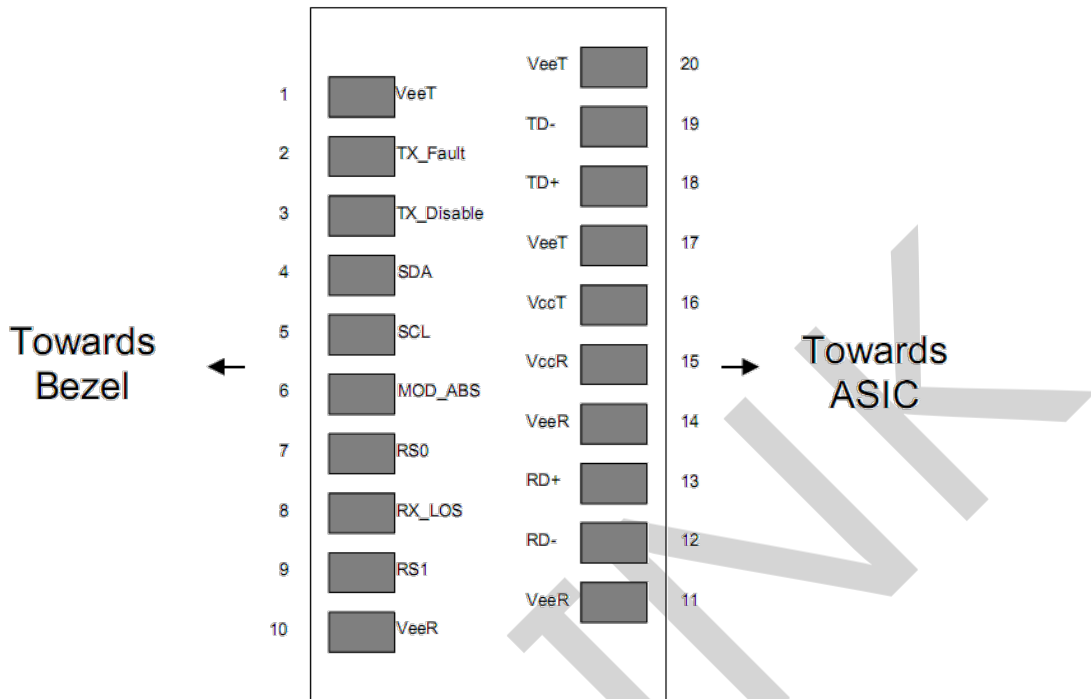
Applications

- 10 Gigabit Ethernet over Cat 6a/7 cable

Description

ETU-LINK's ES-T7-R Copper Enhanced 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 100 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.

Pin Descriptions



Pin	Signal Name	Description	Plug Seq.	Notes
1	VEET	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	VEER	Receiver ground	1	
11	VEER	Receiver ground	1	
12	RD-	Inv. Received Data Out	3	
13	RD+	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	TD+	Transmit Data In	3	
19	TD-	Inv. Transmit Data In	3	
20	VEET	Transmitter Ground	1	

Ordering information

Part Number	Tx_DIS	Link Indicator on Rx_LOS Pin	Temp.
ES-T7-R	Yes	Yes	0~70°C

+3.3V Volt Electrical Power Interface

The ES-T7-R 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

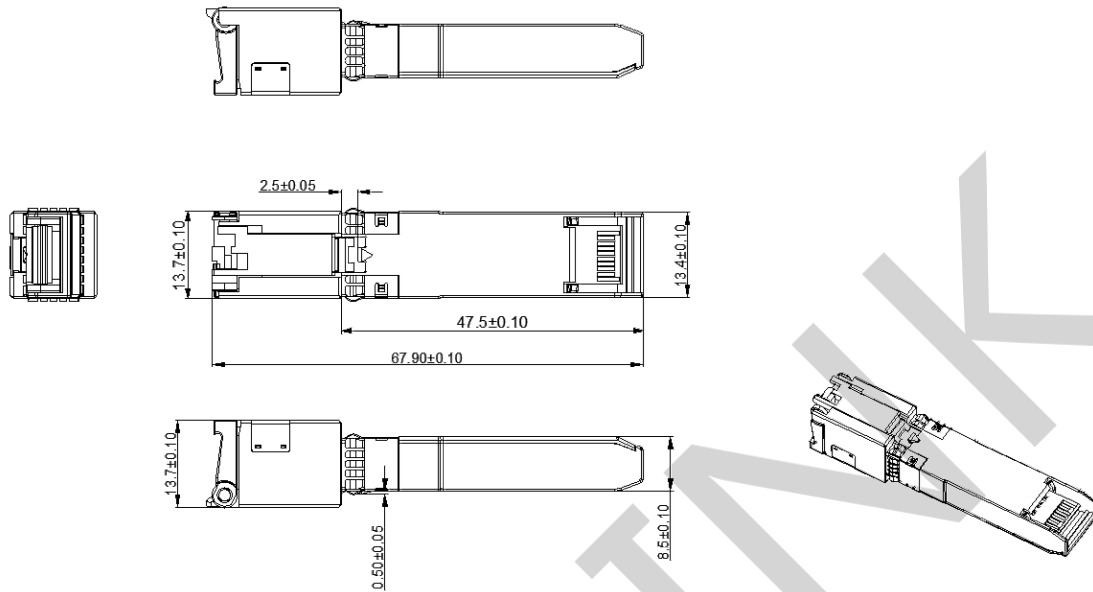
General						
Parameter	Symbol	Min	Typ	Max	Units	Notes/Conditions
Data Rate	BR		10.3		Gb/sec	IEEE 802.3 compatible.
Cable Length	L			100	m	Category 6a/7 UTP. BER <10-12

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

Mechanical Specifications



Revision History

Version No.	Date	Description
1.0	August 29, 2018	Preliminary datasheet
2.0	July 26, 2024	Format change

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