

Rev	Date	Modified by	Description
A0	2023		

## Product Specifications

### 10GBase-T Copper SFP+ 30M Transceiver

**PN: ES-T5-RI**

#### 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 30m using Cat 6a/7 Cable
- RoHS Compliant
- Operating case temperature: -40°C to 85°C

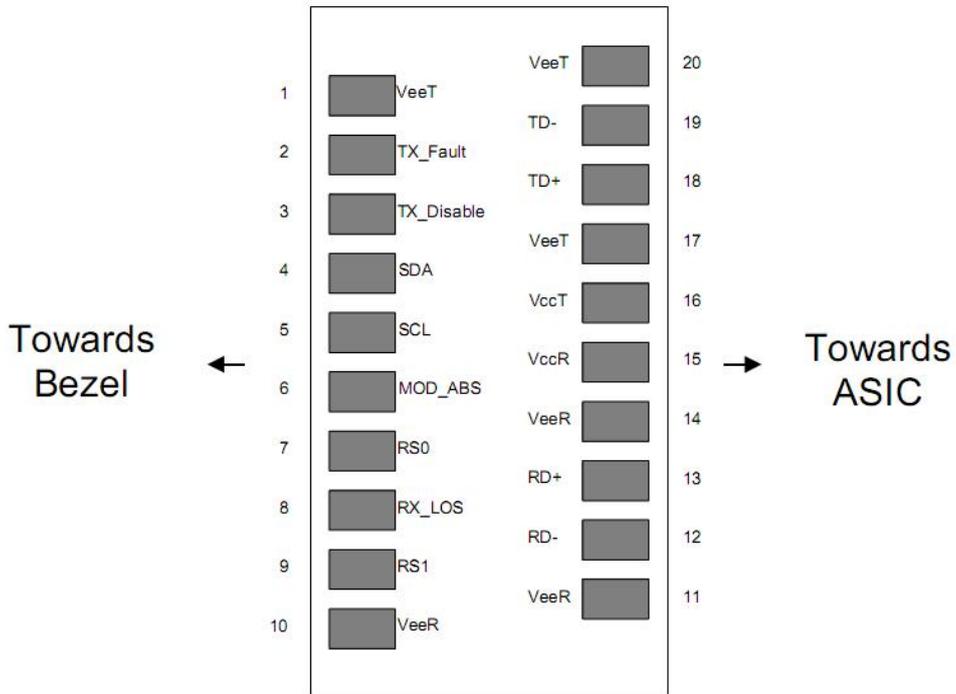
#### Applications

- 10 Gigabit Ethernet over Cat 6a/7 cable

#### Description

ETU-LINK ES-T5-RI 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 30 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	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	

## +3.3V Volt Electrical Power Interface

The SFP-TG-TIA 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			600	mA	2W 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			4	V	
Surge Current	Isurge			30	mA	Hot plug above steady state current.

## General Specifications

**Table 2. General specifications**

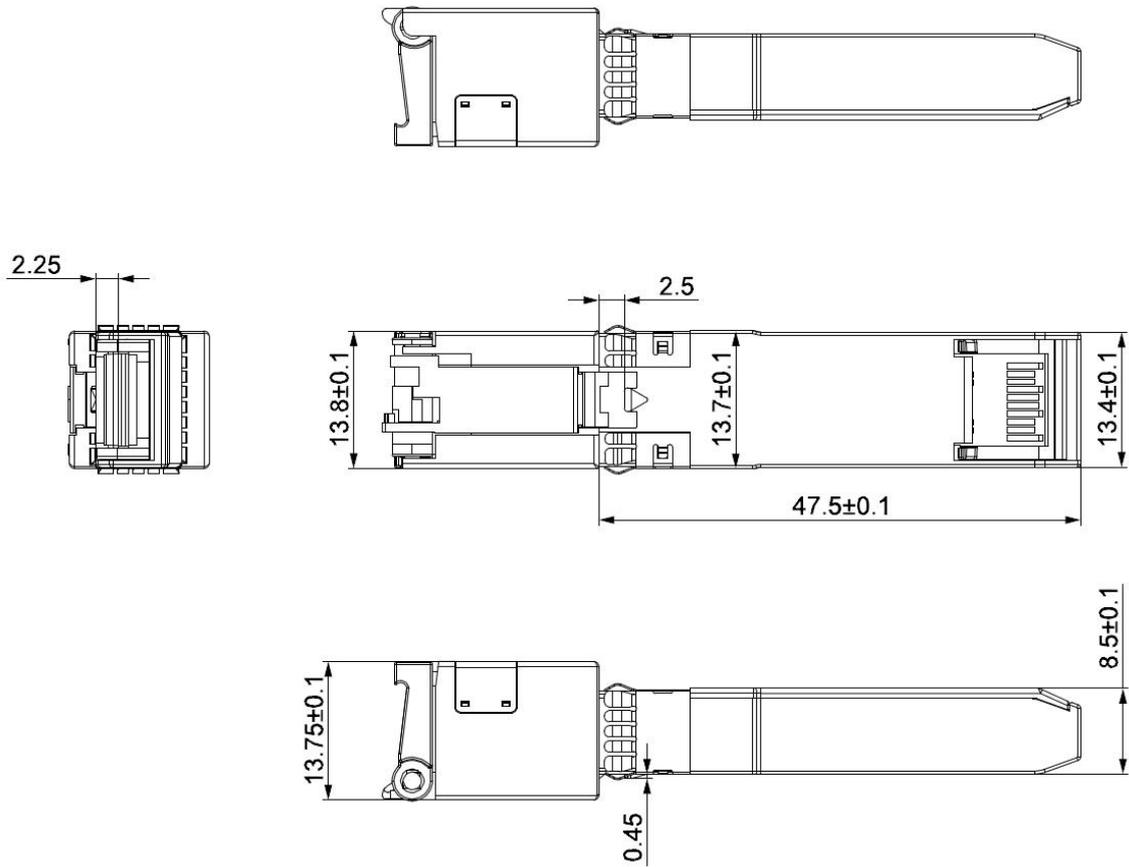
General						
Parameter	Symbol	Min	Typ	Max	Units	Notes/Conditions
Data Rate	BR		10.3		Gb/sec	IEEE 802.3 compatible.
Cable Length	L			30	m	Category 6a/7 UTP. BER <10-12

## Environmental Specifications

**Table 3. Environmental specifications**

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

## Mechanical Specifications



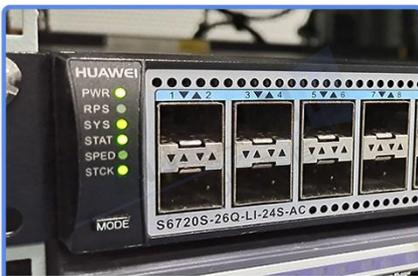
## Ordering information

Part Number	Tx_DIS	Link Indicator on Rx_LOS Pin	Temp.
ES-T5-RI	Yes	Yes	-40~85°C

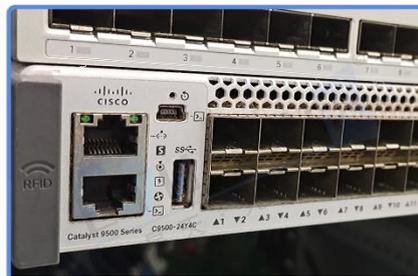
## Compatibility Test

In order to ensure the product compatibility, our products will be tested on the switch before shipment. Our modules can compatible with many mainstream brand switches, such as Cisco, Juniper, Extreme, Brocade, IBM, H3C, HP, Huawei, D-Link, Mikrotik, ZTE, TP-Link...

Our test equipment: VOLKTEK MEN-4110, HP 2530-8G, CRS226-24G-25+RM, Catalyst 2960G Series, Catalyst 3850 XS 10G SFP+, Catalyst 3750-E Series, HUAWEI S5700Series, H3C S3100V2 Series, Juniper-EX4200, etc.



HUAWEI S6720S



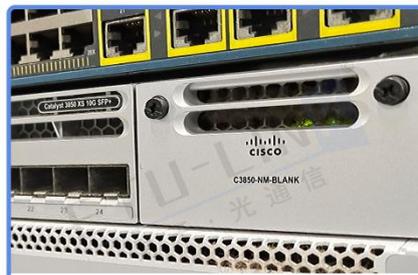
CISCO Catalyst 9500



DELL S5048F



H3C S3100V2



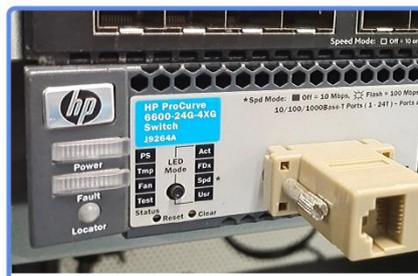
CISCO C3850



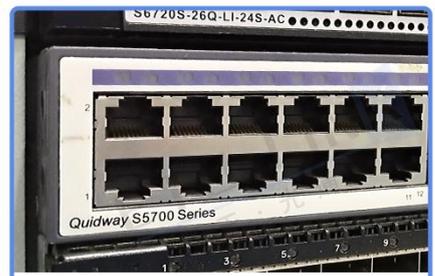
Aruba 2930F



Juniper EX 4200



HP J9264A

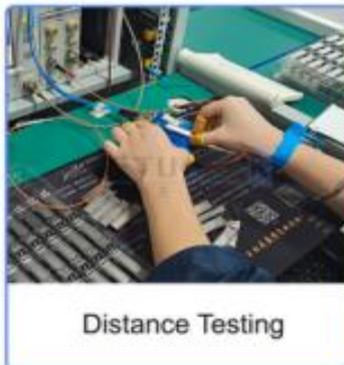


Quidway S5700

## Product Production Process

# Quality Assurance

Continuous introduction of new equipment,  
produced by strict standards, strict quality inspection,  
to guarantee the high quality, standard of each product.



## Packaging

ETU-Link provides two kinds of packaging, 10pcs/Tray and individual package.



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