

Product  
**Specifications**
**10GBASE-T COPPER SFP+ MODULE**
**KEY FEATURES:**

- SFF-8431 and SFF-8432 MSA Compliant
- Support 10 Gbase-T / 5 Gbase-T / 2.5 Gbase-T / 1000 Base-T
- Hot-pluggable
- Compact RJ-45 connector assembly
- RoHS compliant and lead-free
- Single +3.3V power supply
- Supports 10 Gigabit Ethernet up to 30m over CAT6a/7 cable
- Ambient Operating Temperature: 0°C to +70°C


**ORDERING INFORMATION:**

PART NO.	DESCRIPTION
AS50010	10GBase-T Copper SFP+ Module

# Product Specifications

## SFP TO HOST CONNECTOR PIN OUT:

PIN #	NAME	DESCRIPTION	NOTE
1	VeeT	Module transmitter ground	1
2	Tx Fault	Module transmitter fault Not supported	2
3	Tx Disable	Transmitter Disable; Turns off transmitter laser output	3
4	SDL	2wire serial interface data input/output(SDA)	
5	SCL	2 wire serial interface clock input (SCL)	
6	MOD-ABS	Module Absent, connect to VeeR or VeeT in the module	2
7	RSO	No connection required	
8	LOS	Receiver Loss of Signal Indication	4
9	VeeR	Receiver Ground (Common with Transmitter Ground)	1
10	VeeR	Receiver Ground (Common with Transmitter Ground)	1
11	VeeR	Receiver Ground (Common with Transmitter Ground)	1
12	RD-	Receiver inverted data output	
13	RD+	Receiver non-inverted data output	
14	VeeR	Receiver Ground (Common with Transmitter Ground)	1
15	VccR	Module receiver 3.3V power supply	
16	VccT	Module transmitter ground	
17	VeeT	Module transmitter 3.3V supply	1
18	TD+	Transmitter inverted data output	
19	TD-	Transmitter non-inverted data output	
20	VeeT	Module transmitter ground	1

### NOTES:

1. Circuit ground is connected to chassis ground
2. PHY disabled on TDIS > 2.0V or open, enabled on TDIS < 0.8V
3. Should be pulled up with 4.7k - 10k Ohms on host board to a voltage between 2.0 V and 3.6 V. MOD\_DEF(0) pulls line low to indicate module is plugged in
4. LVTTTL compatible with a maximum voltage of 2.5V Hot-pluggable

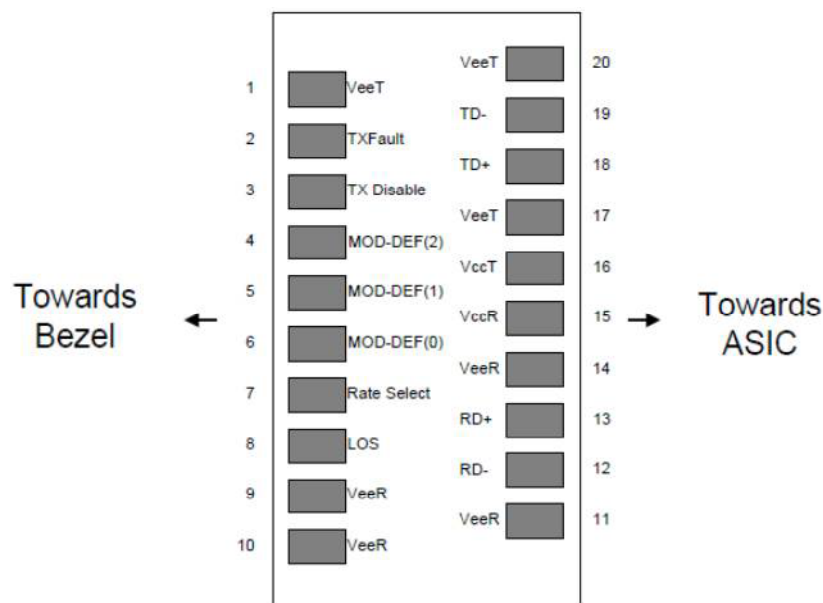


Figure 1. Diagram of host board connector block pin numbers and names

**SPECIFICATIONS**

**APPLICABLE STANDARDS**

IEEE 802.3an 10GBase-T  
 IEEE 802.3bz 5GBase-T, 2.5GBase-T  
 IEEE 802.3ab 1000Base-T

**3.3V ELECTRICAL POWER INTERFACE**

**Supply Current** : Typical: 700, Max: 900mA  
**Input Voltage** : Typical: 3.3, Min: 3.13, Max: 3.47V  
**Maximum Voltage** : 4V

**LOW SPEED SIGNALS**

**SFP Output LOW**: 0 to 0.5V  
**SFP Output HIGH**: host\_Vcc -0.5 to host\_Vcc + 0.3  
**SFP Input LOW**: 0 to 0.8V  
**SFP Input HIGH**: 2 to Vcc + 0.3

**HIGH-SPEED ELECTRICAL INTERFACE**

**TRANSMISSION LINE-SFP:**

**Line Frequency** : 125MHz  
**Tx Output Impedance** : 100 Ohm  
**Rx Input Impedance** : 100 Ohm

**HOST-SFP:**

**Single ended data input swing** : 250 to 1200 mV  
**Single ended data output swing** : 350 to 800 mV  
**Rise/Fall Time** : 175 psec  
**Tx Input Impedance** : 50 Ohm  
**Rx Output Impedance** : 50 Ohm

**SERIAL COMMUNICATION PROTOCOL**

**I 2C Clock Rate** : 0 to 200,000Hz

**ENVIRONMENTAL CONDITIONS**

**Operating Temperature**: 0 to 158 °F (0 to 70 °C)  
**Storage Temperature**: -40 to 185 °F (-40 to 85 °C)  
**Operating RH**: 5 - 95% (non-condensing)

**WARRANTY**

5 - Year Limited Component

**MECHANICAL DIMENSIONS (MM)**

