DATA SHEET

UNIVISO:UMS10GT30

10GBASE-T SFP Copper Transceiver
10 Gigabit Ethernet

UMS10GT30 Overview

UNIVISO's UMS10GT30 is a small hot-pluggable RJ45 electrical port module, compliant with 10 Giga-bit Ethernet standards and SFP Multi-Source Agreement (MSA) standards, supporting 10G transmis-sion rate, transfer distances up to 30 meters using Cat 6a/7 network cable, it is also backward compatible with 10M/100M/1000M/2.5G/5GBase-T applications. Low power consumption (2.3W TYP @ 10Gbps 30m), compatible with various brands of hosts, widely used in data centers and enterprise networks. Comply with certification requirements such as RoHS 2.0, Reach, CE and FCC.

The product is based on a standard RJ45 interface, compatible with traditional networks, the Ethernet transfer rates can be increased without changing existing wiring. It is a low-cost alternative to Ethernet upgrades.

Product Features

- Supports 10GBase-T using 30m Cat 6a/7 cable
- Supports 5GBase-T using 70m Cat 5e cable
- Supports 2.5GBase-T using 100m Cat 5e cable
- Supports 10/100/1000Base-T using 100m Cat 5e cable
- Low power consumption (2.3W TYP @10Gbps 30m)
- Auto-sense MDI/MDIX
- Compliant with IEEE 802.3az
- Compliant with SFF-8431 and SFF-8432 MSA
- Compliant with RoHS 2.0, Reach, CE, FCC standards
- Operating temperature range:0°C to70°C

Applications

- 10 Gigabit Ethernet

Ordering Information

Part Number	Description
UMS10GT30	10M/100M/1000M/2.5G/5G/10GBase-T SFP+ Copper RJ-45 Connector

Note:
1. Rx with auto squelch.
2. Rx_LOS report copper interface link status.
3. A0 and A2 table 00/01 with wirite protection function.

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_C	0		70	°C	2
Storage Temperature	T_{STO}	-40		85	°C	3
Supply Current	I_{CC}		700	750	mA	4
Input Voltage	V_{CC}	3.14	3.3	3.46	V	
Maximum Voltage	V_{MAX}	-0.5		4	V	
Surge Current	I_{surge}			30	mA	

Notes:
1. IEEE 802.3ae
2. Case temperature
3. Ambient temperature
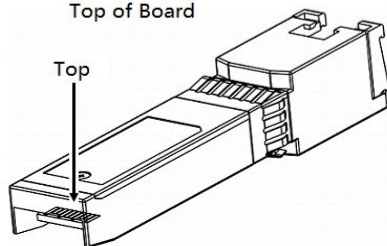4. Test at 10Gbps rate using 30m CAT 6A cable

Dimensions

9.2 ± 0.1

41.8 ± 0.15

13.6 ± 0.1

8.55 ± 0.1

45 ± 0.2

30.45 ± 0.2

13.4 ± 0.1
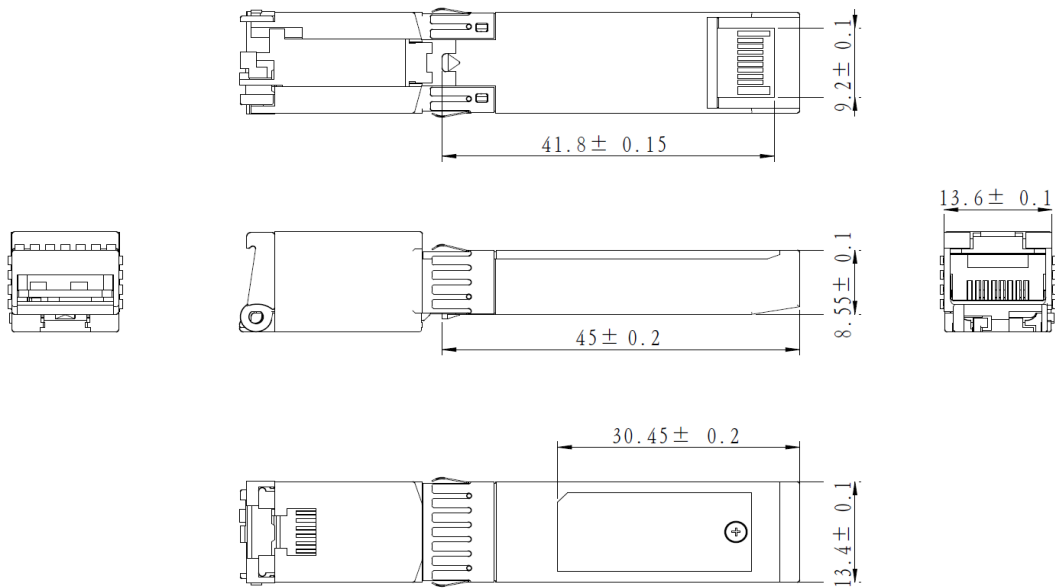
ALL DIMENSIONS ARE ±0.2mm UNLESS OTHERWISE SPECIFIED
UNIT: mm

Electrical Pad Layout

20 → V_{EET}		1 → V_{EET}
19 → TD-		2 → TX_FAULT
18 → TD+		3 → TX_DISABLE
17 → V_{EET}		4 → SDA
16 → V_{CCT}		5 → SCL
15 → V_{CCR}		6 → MOD_ABS
14 → V_{EER}		7 → RS0
13 → RD+		8 → LOS
12 → RD-		9 → RS1
11 → V_{EER}		10 → V_{EER}

Top of Board

Top

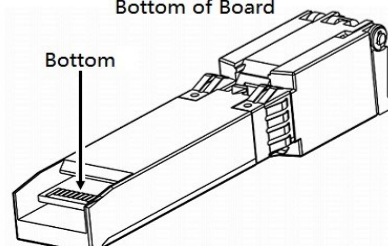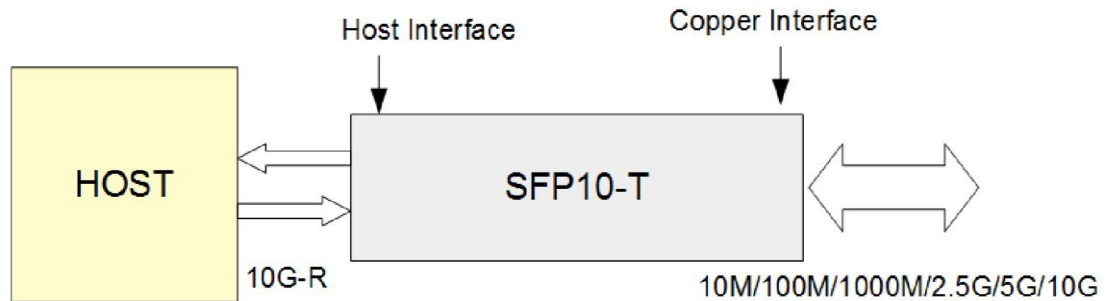**Bottom of Board**

Bottom

Compatible With Multiple Rates

1. Host Interface: Compatible with 10G rate, only be used on 10G switch port.

2. Copper Interface: Compatible with 10/100/1000M/2.5G/5G/10G, auto-negotiates with remote module rate.

3. Supports 10GBase-T up to 30m using Cat 6A/7 cable.

4. Supports 5GBase-T up to 70m using Cat 5E cable.

5. Supports 2.5GBase-T up to 100m using Cat 5E cable.

6. Supports 10/100/1000Base-T up to 100m using Cat 5E cable.

Pin Assignment

PIN #	Symbol	Description	Remarks
1	V_{EET}	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.	4
9	RS1	No Connection Required	
10	V_{EER}	Receiver ground (common with transmitter ground)	1
11	V_{EER}	Receiver ground (common with transmitter ground)	1
12	RD−	Receiver Inverted DATA out. AC coupled	5
13	RD+	Receiver Non-inverted DATA out. AC coupled	5
14	V_{EER}	Receiver ground (common with receiver ground)	1
15	V_{CCR}	Receiver power supply	
16	V_{CCT}	Transmitter power supply	
17	V_{EET}	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_{EET}	Transmitter ground (common with receiver ground)	1

Notes:

1. Circuit ground is connected to chassis ground
2. Disabled: $T_{DIS} > 2V$ or open, Enabled: $T_{DIS} < 0.8V$
3. Should Be pulled up with 4.7k –10k ohm on host board to a voltage between 2V and 3.6V
4. The LOS pin can indicate the connection status of the copper interface. When the copper interface is connected to the far end through the network cable, the LOS is low. Otherwise, when the network cable is disconnected, the LOS is high.
5. RD± has squelch function. When the copper interface is connected to the far end through a network cable, RX± is working normally. If the network cable is disconnected, RX± has no signal output.