Features

- Supports 10GBase-T using 80m Cat 6a/7 cable
- Supports 1000Base-T using 100m Cat 5e cable
- Compliant with IEEE 802.3az
- Compliant with SFF-8431 and SFF-8432 MSA
- Low power consumption (1.6W @ 10Gbps 30m，2.0W @ 10Gbps 80m)
- Compliant with RoHS 2.0, Reach, CE, FCC standards2C 2-
- Auto-sense MDI/MDIX
- RoHS Compliant
- Operating temperature range: 0°C to 70°C

Applications

- 10 Gigabit Ethernet

Description

This OPAK-TX1-00-CD is a newest version copper transceiver, its biggest feature are ultra low power consumption and longer transmission distance (1.6W @ 10Gbps 30m，2.0W @ 10Gbps 80m). OPAK-TX1-00-CD is a small hot-pluggable RJ45 port module, compliant with 10 Giga-bit Ethernet standards and SFP Multi-Source Agreement (MSA) standards, supporting 10G transmission rate, transfer distances up to 80 meters using Cat 6a/7 network cable, and 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.

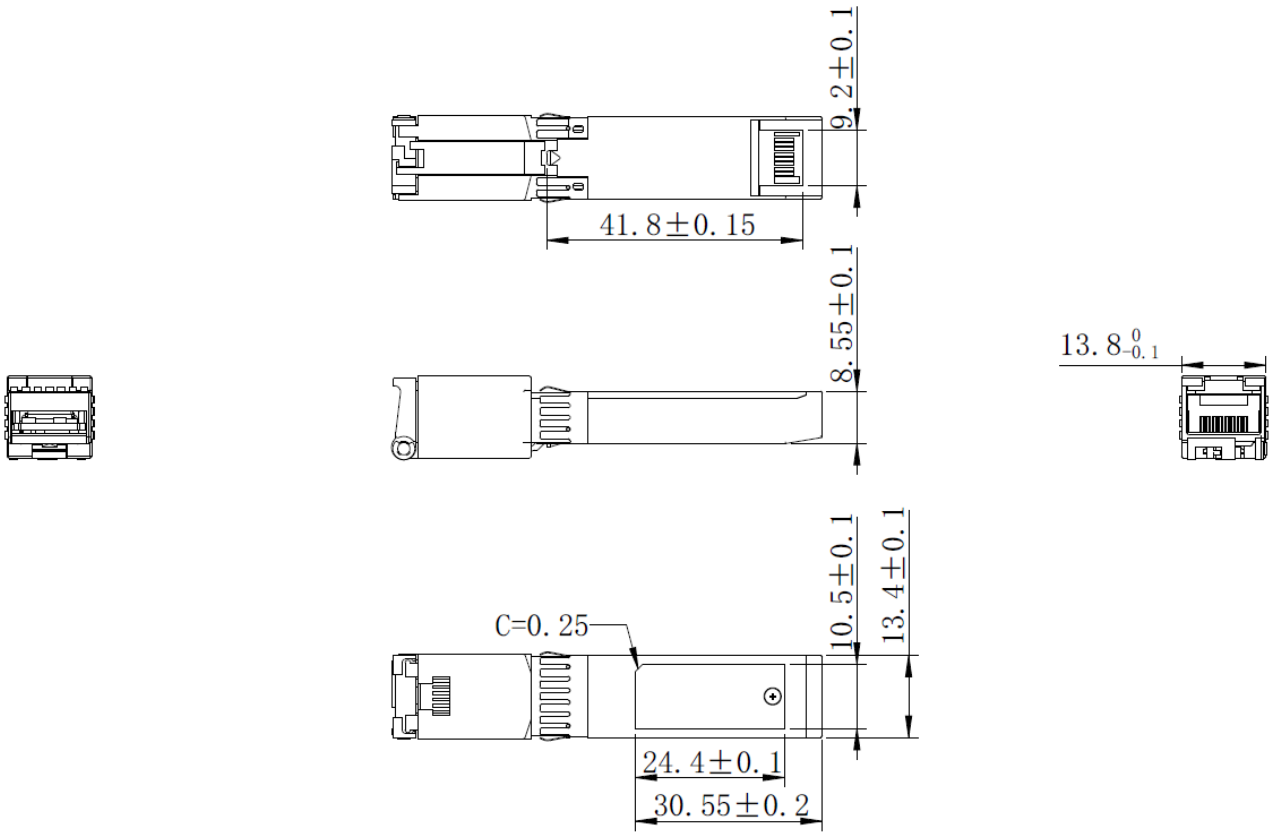
General Specifications

Parameter	Symbol	Min.	Typ.	Max.	Units	Note
Data Rate	*DR*		10		Gb/s	1
Bit Error Rate	*BER*			10^{-12}		
Storage Temperature	T_{STO}	-40		85	°C	2
Supply Current	Icc		590		mA	3
Input Voltage	*Vcc*	3.14	3.3	3.46	V	
Maximum Voltage	V_{MAX}	-0.5		4	V	
Surge Current	I_{surge}			30	mA	

Notes:

1. IEEE 802.3
2. Ambient temperature
3. Test at 10Gbps rate using 80m CAT 6A cable

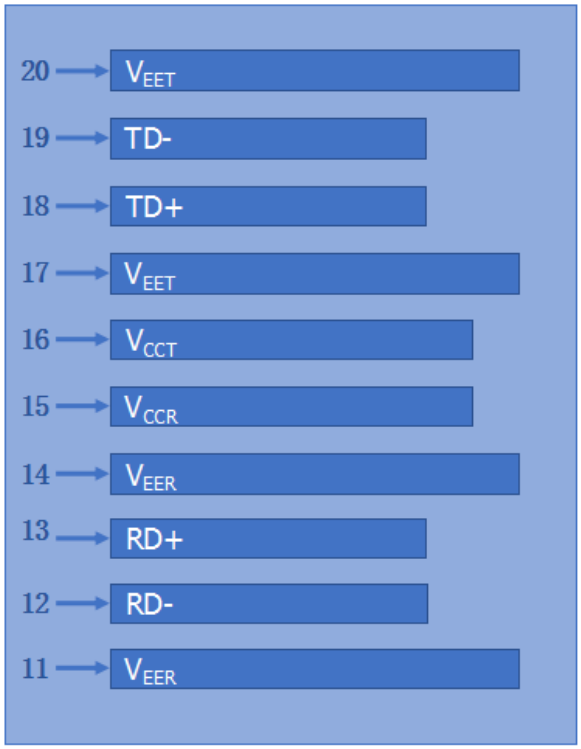
Dimensions

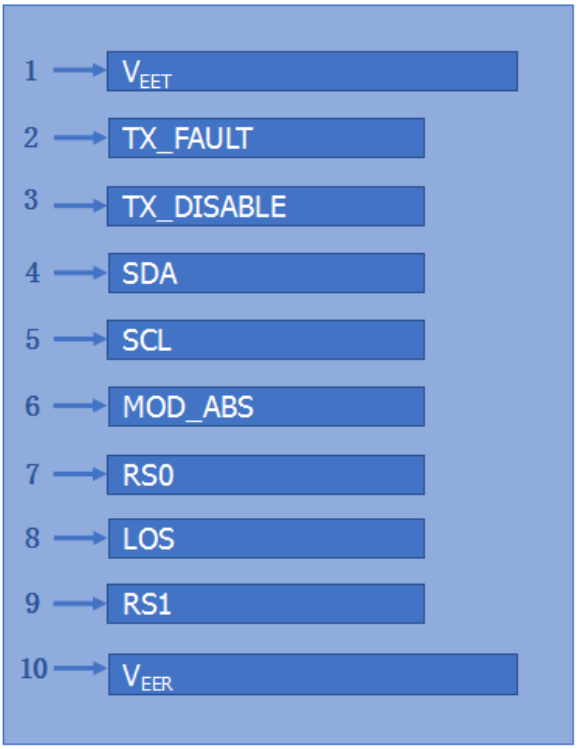


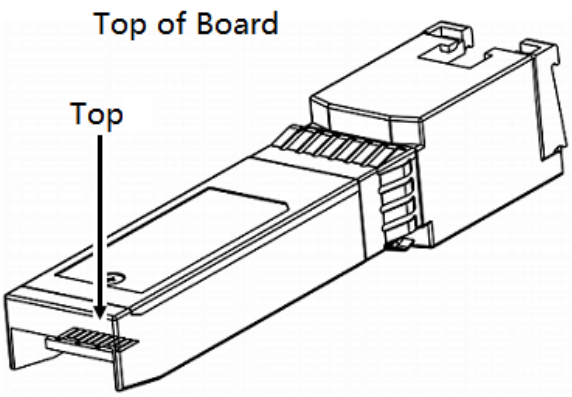
ALL DIMENSIONS ARE ±0.2mm UNLESS OTHERWISE SPECIFIED

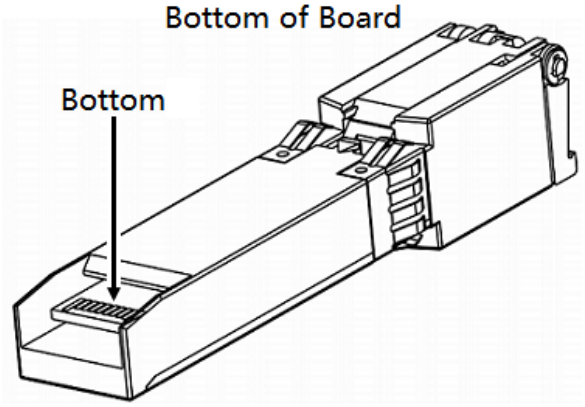
UNIT: mm

Electrical Pad Layout









Pin Description

PIN	Symbol	Description	Note
1	VEET	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	RX_LOS	Loss of Signal indication. Logic 0 indicates normal operation.	
9	RS1	No Connection Required	
10	VEER	Receiver ground (common with transmitter ground)	1
11	VEER	Receiver ground (common with transmitter ground)	1
12	RD–	Receiver Inverted DATA out. AC coupled	
13	RD+	Receiver Non-inverted DATA out. AC coupled	
14	VEER	Receiver ground (common with receiver ground)	1
15	VCCR	Receiver power supply	
16	VCCT	Transmitter power supply	
17	VEET	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	VEET	Transmitter ground (common with receiver ground)	1

Notes:

1. Circuit ground is connected to chassis ground
2. Disabled: TDIS>2Vor open, Enabled: TDIS<0.8V
3. Should Be pulled up with 4.7k –10k ohm on host board to a voltage between 2V and 3.6V

Ordering Information

Model Number	Part Number	Distance	Voltage	Temperature
SFP-10G-TX	OPAK-TX1-00-CD	80m	3.3V	0°C to 70 °C

Modification History

Revision	Date	Description
A1	April. 2022	Initial Release

Note: All information contained in this document is subject to change without notice.