LANVIEW
PROFESSIONAL NETWORK SOLUTIONS

10GBASE-T Copper Transceiver

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Lanviews Copper Small Form Pluggable (SFP) transceivers is high performance, cost effective module compliant with 50Gbase-T, 5Gbase-T, 2.5Gbas-T and 1000Base-T standards as specified in IEEE std 802.3. SFP+-10GBASE-T uses the SFP's RX_LOS(must be pulled up on host) pin for link
indication. If pull up or open SFP's TX_DISABLE pin, PHY IC be reset

Product Features

- ✓ Support 10G / 5G / 2.5G / 1000Base-T
- ✓ Hot-pluggable SFP footprint
- ✓ Fully metallic enclosure for low EMI
- ✓ Single +3.3V power supply
- ✓ Compact RJ-45 connector assembly
- ✓ 10 Gigabit Ethernet over Cat6a cable
- ✓ Ambient operating temperature(0℃to +65℃)
- ✓ RoHS compliant and lead-free
- ✓

Applications

- ✓ 10Gbase Ethernet over Cat6a cable

Pin Descriptions

Pin	Symbol	Name	Ref.
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	MOD_DEF(2)	Module Definition 2. Data line for Serial ID.	3
5	MOD_DEF(1)	Module Definition 1. Clock line for Serial ID.	3
6	MOD_DEF(0)	Module Definition 0. Grounded within the module.	3
7	Rate Select	No connection required	
8	LOS	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 out. AC Coupled	
13	RD+	Receiver Non-inverted DATA out. AC Coupled	
14	VeeR	Receiver Ground (Common with Transmitter 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

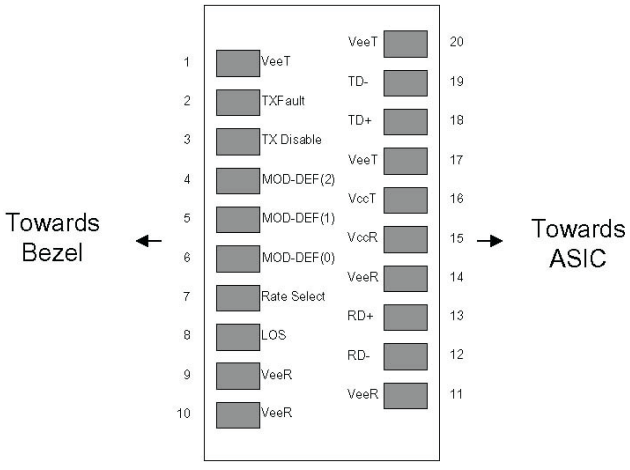
Notes:

1.Circuit ground is internally isolated from 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 3.6V. MOD_DEF (0) pulls line low to indicate module is plugged in.

4. LVTTL compatible with a maximum voltage of 2.5V



Pin-out of Connector Block on Host Board

Low-Speed Signals

MOD_DEF(1) (SCL) and MOD_DEF(2) (SDA), are open drain CMOS signals (see section VII,“Serial Communication Protocol”).

Both MOD_DEF(1) and MOD_DEF(2) must be pulled up to host_Vcc.

Parameter	Symbol	Min	Typ	Max	Unit	Ref.
SFP Output LOW	VOL	0		0.5	V	1
SFP Output HIGH	VOH	Vcc -0.5		Vcc +0.3	V	1
SFP Input LOW	VIL	0		0.8	V	2
SFP Input HIGH	VIH	2.0		Vcc +0.3		2

Notes:

1. 4.7k to 10k pull-up to host_Vcc, measured at host side of connector
2. 4.7k to 10k pull-up to Vcc, measured at SFP side of connector

High-Speed Electrical Interface

All high-speed signals are AC-coupled internally.

Parameter	Symbol	Min	Typ	Max	Unit	Ref.
Line Frequency	fL	-	125	-	MHz	1
Tx Output Impedance			100		Ohm	2
Rx Input Impedance	-		100		Ohm	2

Notes:

1. 5-level encoding, per IEEE 802.3.
2. Differential, for all Frequencies between 1MHz and 125MHz.

High-Speed Electrical Interface

Parameter	Symbol	Min	Typ	Max	Unit	Ref.
Single ended data input swing	Vin	250	-	1200	mV	1
Single ended data output swing	Vout	350		800	mV	1
Rise/Fall Time	tr/tf	-	175		ps	2
Tx Input Impedance	Zin	-	50		Ohm	1
Rx Output Impedance	Zout	-	50		Ohm	

Notes:

1. Single ended.
2. 20%-80%.

General Specifications

Parameter	Symbol	Min	Typ	Max	Unit	Ref.
Data Rate	BR	1	-	10	Gbps	1
Cable Length	L			30	m	

Notes:

1. Clock tolerance is +/- 50ppm

Environmental Specifications

Parameter	Symbol	Min	Typ	Max	Unit	Ref.
Operating Temperature	Top	0	-	+65	℃	
Storage Temperature	Tsto	-40		+85	℃	

Mechanical Specifications