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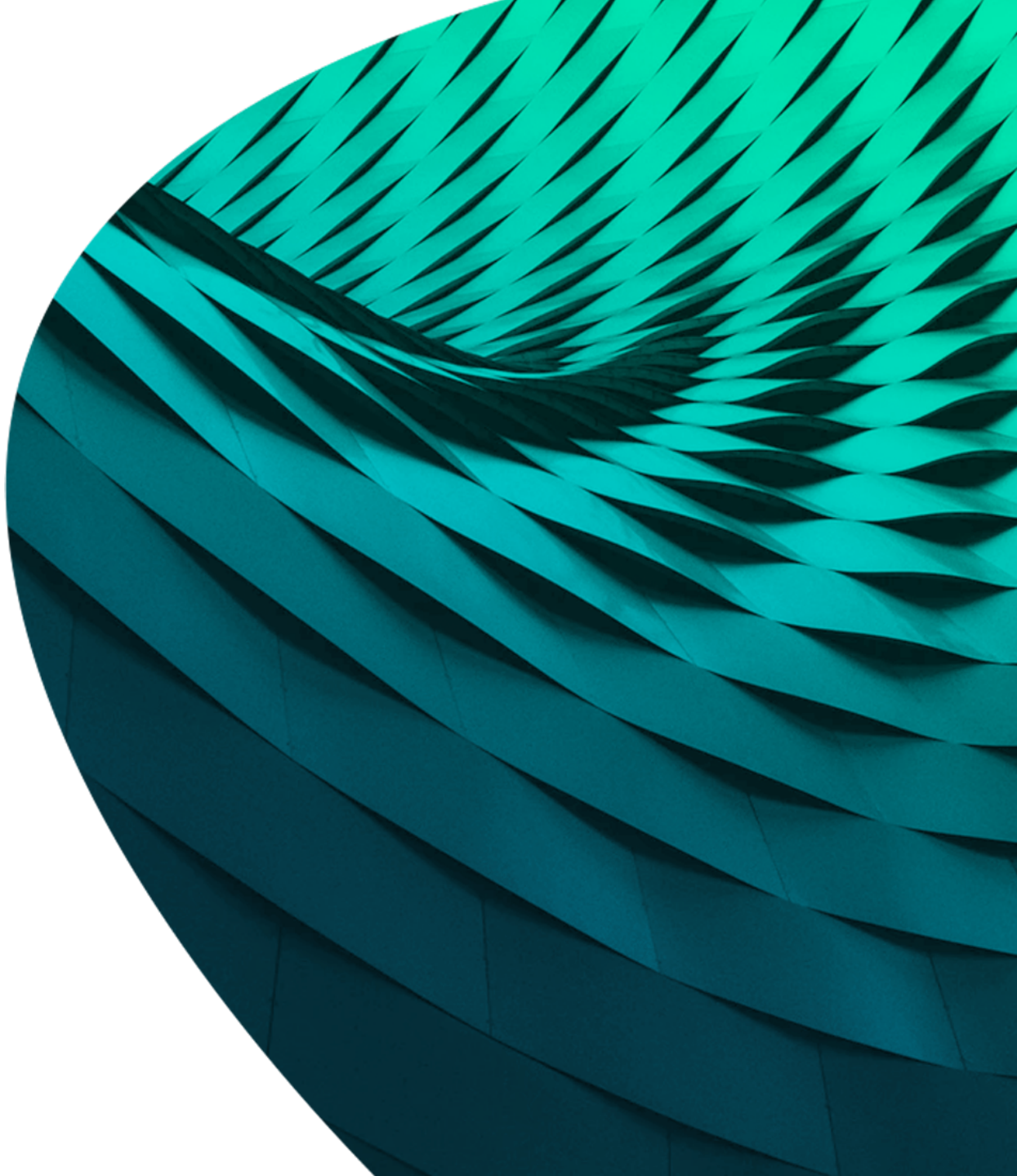
Datasheet

SFP+-10G-T+-PO (Copper)



01

Product features

- Up to 10 GBd bi-directional data links
- Compliant with IEEE 802.3az compliant
- Compliant with SFF-8472 and SFF-8431 MSA
- Hot-pluggable
- Support 10GBASE-T operation in host system
- Chipset Broadcom BCM84891
- Low power consumption (1.6W @ 10Gbps 30m, 2.0W @ 10Gbps 80m)
- RJ-45 connector
- Auto-sense MDI/MDIX
- RoHS Compliance
- Operating temperature range: 0˚C to 70˚C.

02

Applications

- 10G Ethernet

03

General Specifications

Parameter	Symbol	Min	Typical	Max	Units	Notes
Data Rate	DR		10		Gb/sec	IEEE 802.3
Cable Length	CL		80		m	Category 6a/7 UTP
Bit Error Rate	BER			1012		
Operating Temperature	TOP	0		70	℃	Case temperature
Storage Temperature	TSTO	-40		85	℃	Ambient temperature
Supply Current	IS		700	750	mA	For electrical power interface
Input Voltage	VCC	3.13	3.3	3.47	V	Referenced to GND. For electrical power interface
Maximum Voltage	VMAX			4	V	For electrical power interface
Surge Current	Isurge			30	mA	Hot Plug above steady state current. For electrical power
Power Dissipation	PD			1.6 @ 30m 2.0 @ 80m	W	

04

High Speed Electrical Interface Host-SFP

Parameter	Symbol	Min	Typical	Max	Unit	Notes
Differential Input Voltage	VINDIFF	250		1200	mV	Differential peak-peak
Differential Output Voltage	VOUTDIFF	350		800	mV	Differential peak-peak
Tx Input impedance	ZIN		50		ohm	Single ended
Rx Output impedance	ZOUT		50		ohm	Single ended

05

High Speed Electrical Interface Transmission Line-SFP

Parameter	Symbol	Min	Typical	Max	Unit	Notes
Tx Output Impedance Differential	ZOUT_T		100		Ohm	1
Rx Input Impedance Differential	ZIN_RX		100		Ohm	1

NOTES

1. For all frequencies between 1MHz and 125MHz.

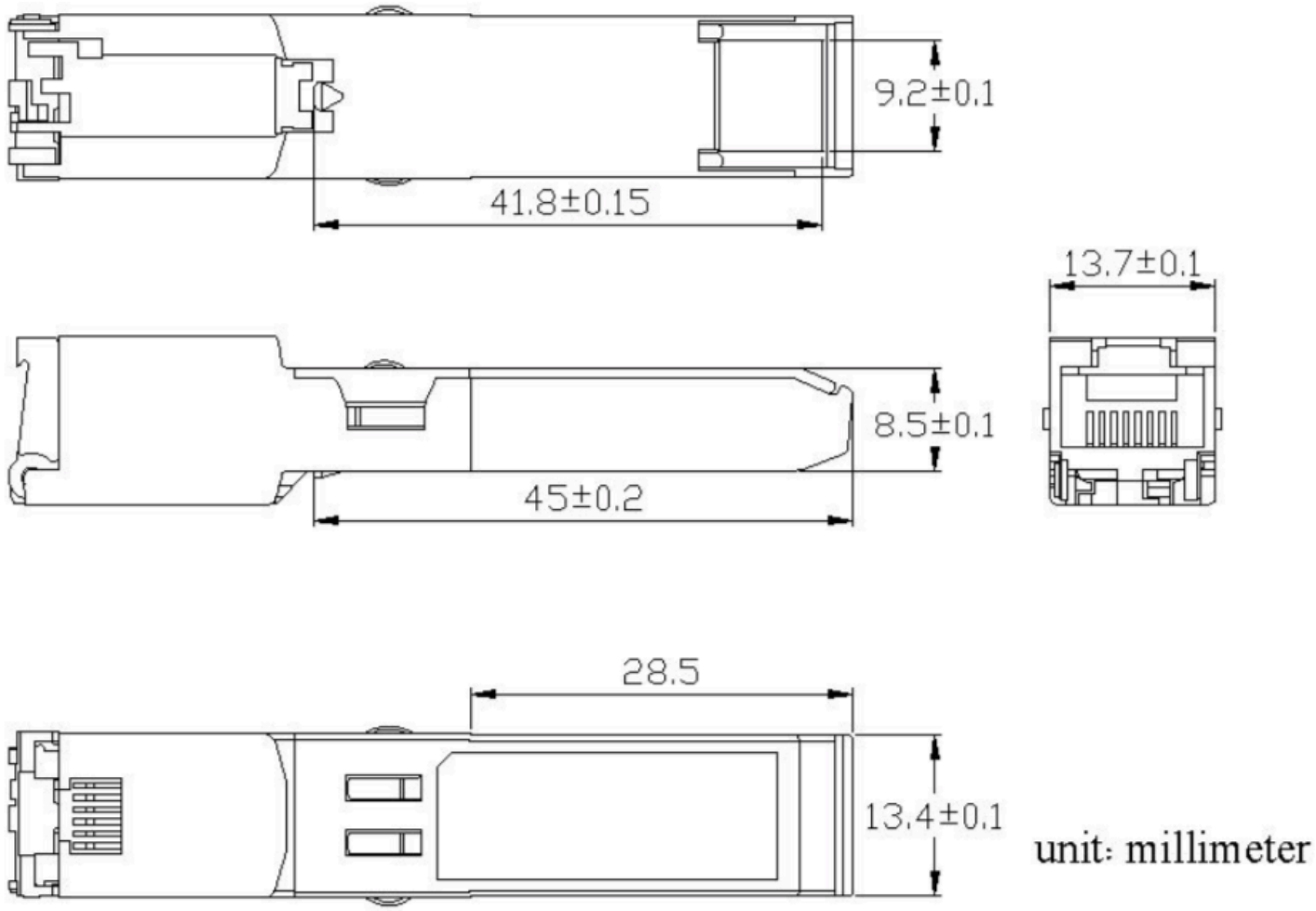
06

Low Speed Electrical Signal

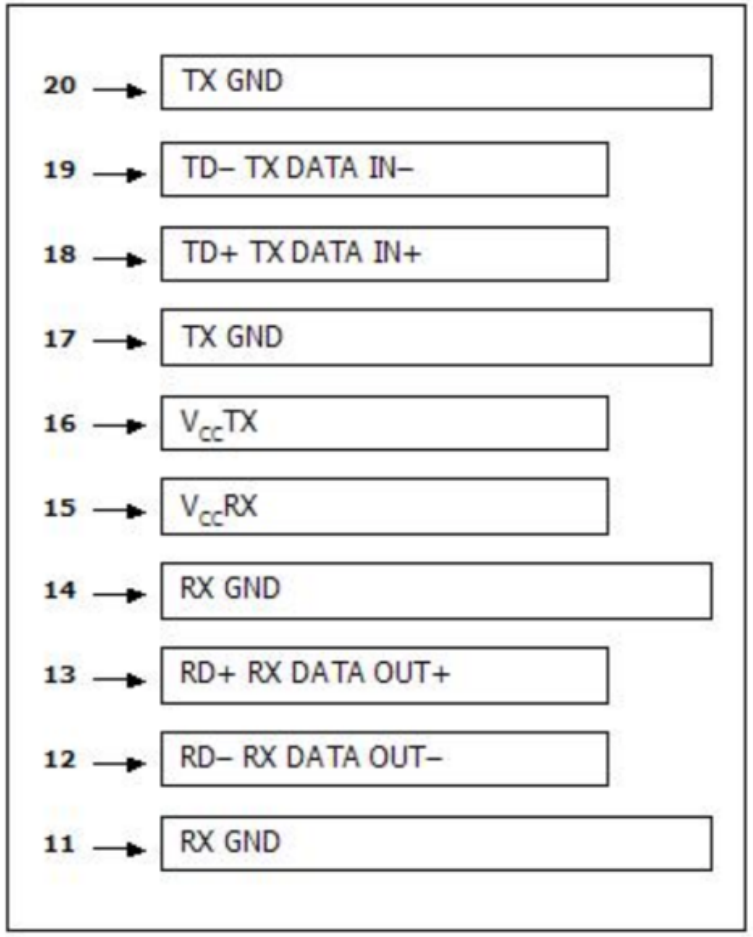
Parameter	Symbol	Min	Typical	Max	Unit	Notes
SFP Output Low	VOL	0		0.5	V	External 4.7-10k ohm pull-up resistor required
SFP Output High	VOH	Host_VCC -0.5	0.5	Host_VCC +0.3	V	External 4.7-10k ohm pull-up resistor required
SFP Input Low	VIL	0		0.8	V	External 4.7-10k ohm pull-up resistor required
SFP Input High	VIH	2		VCC + 0.3	V	External 4.7-10k ohm pull-up resistor required

06

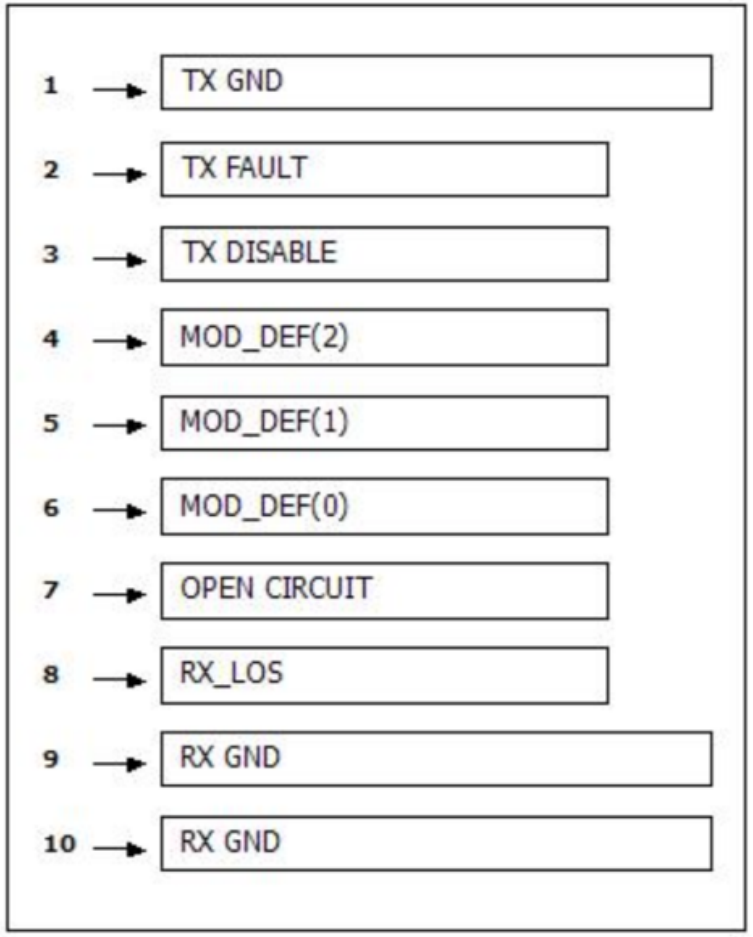
Mechanical Dimension



Pin Assignment and Description



Top of Board



Bottom of Board

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PIN Assignment

PIN #	Symbol	Description	Notes
1	VEET	Transmitter Ground (Common with Receiver Ground)	1
2	TFAULT	Transmitter Fault.	2
3	TDIS	Transmitter Disable. Laser output disabled on high or open.	3
4	MOD_DEF(2)	Module Definition 2. Data line for Serial ID.	4
5	MOD_DEF(1)	Module Definition 1. Clock line for Serial ID.	4
6	MOD_DEF(0)	Module Definition 0. Grounded within the module.	4
7	Rate Select	No connection required	
8	LOS	Loss of Signal indication. Logic 0 indicates normal operation.	5
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	

PIN #	Symbol	Description	Notes
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

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