

10GBASE-T 80m Copper SFP+ Transceiver CLSFP10GTX3

Product Features:

- Support 10Gbase-T / 5Gbase-T / 2.5Gbase-T / 1000base-T / 100base-T on line side
- Support 10Gbase-R on host side
- Compatible with IEEE 802.3, IEEE 802.3u, IEEE 802.3ab
- Support IEEE 802.3az (Energy Efficient Ethernet)
- Support IEEE 802.3bz, IEEE 802.3an
- Support IEEE Fast Retrain and CISCO Negotiated Fast Retrain
- Support TX Disable & RX_LOS
- Hot-pluggable SFP footprint
- Compact RJ-45 connector assembly
- RoHS compliant and lead-free
- Single +3.3V power supply
- 10 Gigabit Ethernet over Cat6 cable
- Operating temperature: 0°C~70°C for COM, -40°C~85°C for IND

Applications:

- 10GBASE-T / 5GBASE-T / 2.5GBASE-T / 1000BASE-T / 100BASE-T

Functional Characteristics (Electrical)

The following tables list the performance specifications for the various functional blocks of the module.

Table 1 – Electrical Specifications

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Recommended Operating Conditions						
Supply Current			530	550	mA	10G speed 30m transmission
Input Voltage		3.14	3.3	3.46	V	
Maximum Voltage		-	-	4	V	
Operating Temperature		0 / -40	-	70 / 85	°C	COM / IND
IC Maximum Junction Temperature		-	-	110	°C	
Low-Speed Signals						
SFP Output LOW	VOL	0		0.5	V	4.7k to 10k pull-up to host_Vcc, measured at host side
SFP Output HIGH	VOH	host_Vcc - 0.5		host_Vcc + 0.3	V	4.7k to 10k pull-up to host_Vcc, measured at host side
SFP Input LOW	VIL	0		0.8	V	4.7k to 10k pull-up to Vcc, measured at SFP side
SFP Input HIGH	VIH	2		Vcc + 0.3	V	4.7k to 10k pull-up to Vcc, measured at SFP side

Table 2 – High-Speed Electrical Interface

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Transmission Line – SFP						
Clock Tolerance 100M~10G		-50ppm		+50ppm		
Line Frequency	fL		125		MHz	5-level encoding, per IEEE 802.3
Tx Output Impedance	Zout,TX		100		Ohm	Differential, 1MHz to 125MHz
Rx Input Impedance	Zin,RX		100		Ohm	Differential, 1MHz to 125MHz
Host – SFP 10GBASE-R Transmitter						
Mean Unit Interval	UI	-	96.97	-	ps	1/Data Rate ±100ppm
Eye Mask	T_X1	-	-	0.12	UI	-
Eye Mask	T_X2			0.33	UI	-
Eye Mask	T_Y1	95	-	-	mV	-
Eye Mask	T_Y2	-	-	350	mV	-
Output Differential Voltage	VTX-DIFFp-p	190	-	700	mV	-
Output Jitter	TTX-JITTER	-	-	0.28	UI	CDR BW depend on data rate
Output Rise Time	TTX-RISE	34	-	-	ps	20%~80%
Output Fall Time	TTX-FALL	34	-	-	ps	20%~80%
Differential Resistance	RTX	90	100	110	ohm	-
AC Coupling Capacitor	CTX	90	100	110	nF	-
Host – SFP 10GBASE-R Receiver						
Mean Unit Interval	UI	-	96.97	-	ps	1/Data Rate ±100ppm
Eye Mask	R_X1			0.35	UI	-
Eye Mask	R_Y1	150	-	-	mV	-
Eye Mask	R_Y2	-	-	425	mV	-
Output Differential Voltage	VRX-DIFFp-p	300	-	850	mV	
Output Jitter	TRX-JITTER	-	-	0.7	UI	
Differential Resistance	RRX	90	100	110	ohm	
Serial Bus						
I2C Clock Rate		0		400000	Hz	

Ordering Information

Table 3 - Ordering Information

Part No.	Data Rate	DDM	Connector	Cable	Dist.	Temp.
CLSFP10GTX3	10G on host	Temp.	RJ45	CAT*	80m~100m	0~70°C
	10G~100M on line	Volt.				
CLSFP10GTX3I	10G on host	Temp.	RJ45	CAT*	80m~100m	-40~85°C
	10G~100M on line	Volt.				

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