SFP-1G-ZX120

CAN BE CONFIGUREDFORCOMPATIBILTY WITH DIFFERENT BRANDS

WARRANTY 5 YEARS

1.25Gb/s SFP 120KM Optical Transceiver

Features:

- Up to 1.25Gb/s bi-directional data links
- Hot-pluggable SFP footprint
- Uncooled 1550nm DFB laser transmitter
- APD Photo-detector
- Single +3.3V Power Supply
- Up to 120km on 9/125μm SMF
- Duplex LC connector
- Built-in digital diagnostic functions
- Low power dissipation
- Metal enclosure, for lower EMI
- Operating temperature range: 0°C to 70°C Industrial : -40ÜC<>85ÜC
- RoHS Compliant and Lead-Free

Applications:

- 1.25Gb/s Gigabit Ethernet
- 1.063Gb/s Fiber Channel

Absolute Maximum Ratings:

Parameter	Symbol	Min.	Max.	Unit
Storage Temperature	T_{ST}	-40	85	℃
Supply Voltage	Vcc	0	5	V
Output Current	Io	0	30	mA
Supply Current	I_S	-	400	mA

Recommended Operating Conditions:

Parameter	Symbol	Min.	Typical	Max.	Unit
Supply Voltage	Vcc	3.15	3.3	3.45	V
Supply Current	$I_{TX} + I_{RX}$	-	-	300	mA
Operating Temperature	T_{OP}	0	-	70	℃

Electrical Characteristics（*Vcc* = 3.15V to 3.45V, T_C = 0°C to 70°C）:

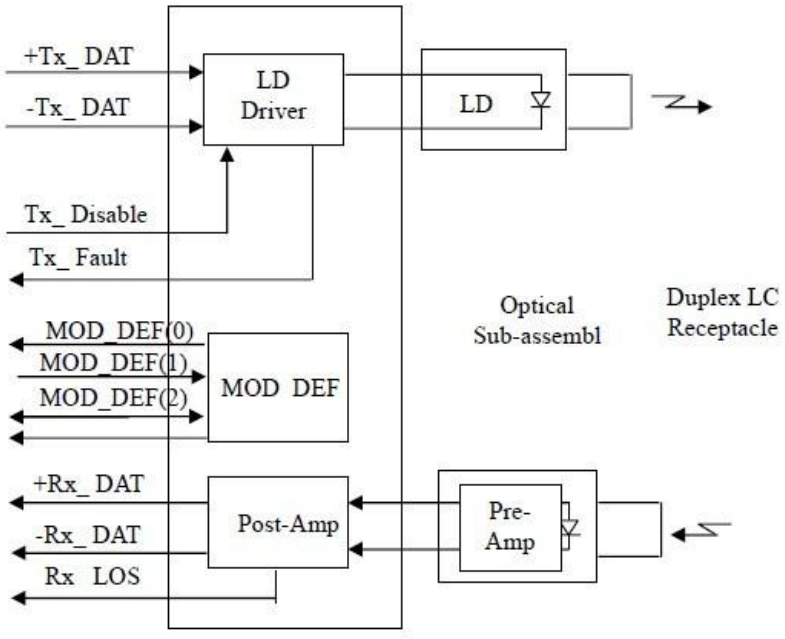
Parameter	Symbol	Min.	Typical	Max.	Unit
Transmitter					
Transmitter Supply Current	I_{CCT}	-	-	150	mA
Tx_ Disable Input Voltage-Low	V_{IL}	0	-	0.8	V
Tx_ Disable Input Voltage-High	V_{IH}	2	-	Vcc	V
Tx_ Fault Output Voltage-Low	V_{OL}	0	-	0.8	V
Tx_ Fault Output Voltage-High	V_{OH}	2	-	Vcc	V
Receiver					
Receiver Supply Current	I_{CCR}	-	-	100	mA
Receiver Data Output Differential Voltage	V_{OD}	0	-	1.3	V
Rx_LOS Output Voltage-Low	V_{OL}	0.4	-	0.8	V
Rx_LOS Output Voltage-High	V_{OH}	2	-	Vcc	V

MOD_DEF (1), MOD_DEF (2)- Low	V_{IL}	-0.6	-	Vcc×0.3	V
MOD_DEF (1), MOD_DEF (2)- High	V_{IH}	Vcc×0.7	-	Vc +0.5	V

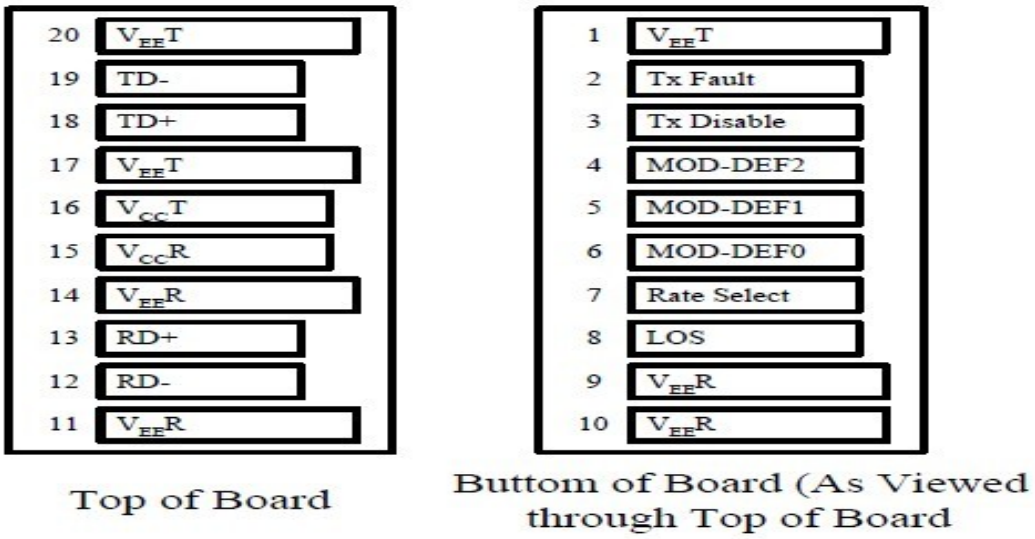
Transmitter Electro-optical Characteristics（*Vcc* = 3.15V to 3.45V, T_C = 0°C to 70°C）:

Parameter	Symbol	Min.	Typical	Max.	Unit
Transmitter					
Data Rate	B	-	1.25	-	Gb/s
Center Wavelength (0~70°C)	λ_C	1480	1550	1580	nm
Output Spectral Width	△λ	-	-	1	nm
Optical Output Powe	P_o	0	-	+5	dBm
Extinction Ratio	ER	9	-	-	dB
Rise and Fall Time (20~80%)	Tr/T_f		-	160	ps
Relative Intensity Noise	RIN		-	-120	dB/Hz
Total Jitter	TJ		-	100	ps
Output Eye	Compliant with IEEE802.3z				
Receiver					
Parameter	**Symbol**	**Min.**	**Typical**	**Max.**	**Unit**
Minimum Input Optical Power (Sensitivity)	Pmin	-	-	-30	dBm
Maximum Input Optical Power	Pmax	-5	-	-	dBm
Operating Center Wavelength	λ_C	1100		1600	nm
LOS of Signal - Deasserted	P_D	-	-	-35	dBm
LOS of Signal - Asserted	P_A	-45	-	-	dBm
Loss of Signal Hysteresis	P_D-P_A		3	-	dB
Alarm Output Interface	LV-TTL-				

Block Diagram of Transceiver:



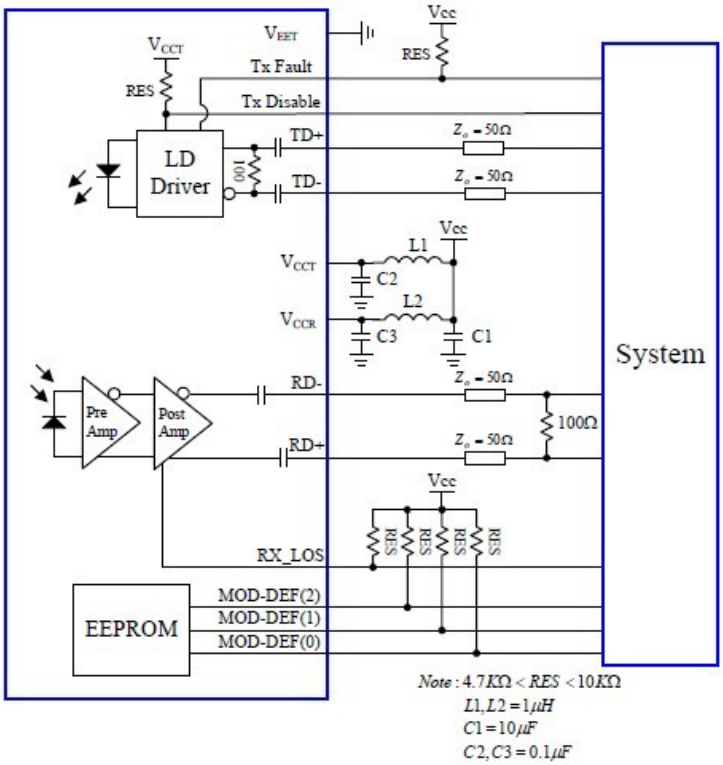
Pin Assignment:



Pin Description:

Pin	Symbol	Functional Description
1	VeeT	Transmitter Ground
2	TX Fault	Transmitter Fault Indication
3	TX Disable	Transmitter Disable–Module disables on high or open
4	MOD-DEF(2)	Module Definition 2–Two wire serial ID interface
5	MOD-DEF(1)	Module Definition 1–Two wire serial ID interface
6	MOD-DEF(0)	Module Definition 0–Grounded in module
7	Rate Select	Not Connected
8	LOS	Loss of Signal
9	VeeR	Receiver Ground
10	VeeR	Receiver Ground
11	VeeR	Receiver Ground
12	RD-	Inverse Received Data Out
13	RD+	Received Data Out
14	VeeR	Receiver Ground
15	VccR	Receiver Power
16	VccT	Transmitter Power
17	VeeT	Transmitter Ground
18	TD+	Transmitter Data In
19	TD-	Inverse Transmitter Data In
20	VeeT	Transmitter Ground

Recommended circuit schematic:



Mechanical Dimensions: