1.25Gb/S SFP SX Transceiver

P/N: TSFP-1CxC85A

Product Features

- Compliant with SFP MSA and SFF-8472 with LC receptacle
- Hot-pluggable
- Up to reach 550m transmission distance with 50/125um Multi-Mode Fiber and 275m with 62.5/125um Multi-Mode Fiber
- Single 3.3V power supply
- SFP mechanical interface
- Digital Diagnostic Monitor Interface
- RoHS-6 Compliant

Application

- Gigabit Ethernet
- Fiber Channel

Baycom O-E Technology Co., LTD.
3F No.9 Industrial East 9th RD., Hsinchu Science Park,
Hsinchu City, Taiwan, R.O.C
Ph: +886-3-5786178 Fax: +886-3-5770650
http://www.baycom.com.tw

Absolute Maximum Rating

Parameter	Min	Max	Unit	Note
Storage Temperature	-40	85	℃	
3.3V Power Supply Voltage	-0.5	3.6	V	

Recommended Operating Conditions

Parameter	Min	Typical	Max	Unit	Note
Case Operating Temperature	0		70	℃	TSFP-1C1C85A
	-40		85		TSFP-1C5C85A
Power Supply Voltage	3.135	3.3	3.465	V	
Date Rate		1.25		Gbps	
Supply Current			300	mA	

Electrical-Optical Specification

Parameter	Symbol	Min	Typical	Max	Unit	Note
Transmitter						
Center Wavelength	λ	830	850	860	nm	
Spectral Width – RMS	Δλ			0.85	nm	
Average Launch Optical Power	LOP	-9.5		-3	dBm	
Extinction Ratio	ER	9			dB	
Rise/Fall time	Tr/Tf			260	ps	
Differential Input Voltage		500		2400	mV	
Output Optical Eye		IEEE802.3Z Compliant				

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Optical- Electrical Specification

Parameter	Symbol	Min	Typical	Max	Unit	Note
Receiver						
Operate Wavelength	λ	830		860	nm	
Sensitivity	Psen			-18	dBm	
Saturation		0			dBm	1
LOS Assert	LOSA	-40			dBm	
LOS De-assert	LOSD			-18	dBm	
LOS Hysteresis	LOSH	0.5		5	dB	
Diffrential Data Output Voltage		370		2000	mV	
LOS Output Voltage-Low				0.8	V	
LOS Output Voltage-High		2.0			V	

Notes

1. Minimum Sensitivity and saturation levels for an 8B10B 2^7-1 PRBS. BER≤10^{-12},

   1.25Gbps, ER=9dB

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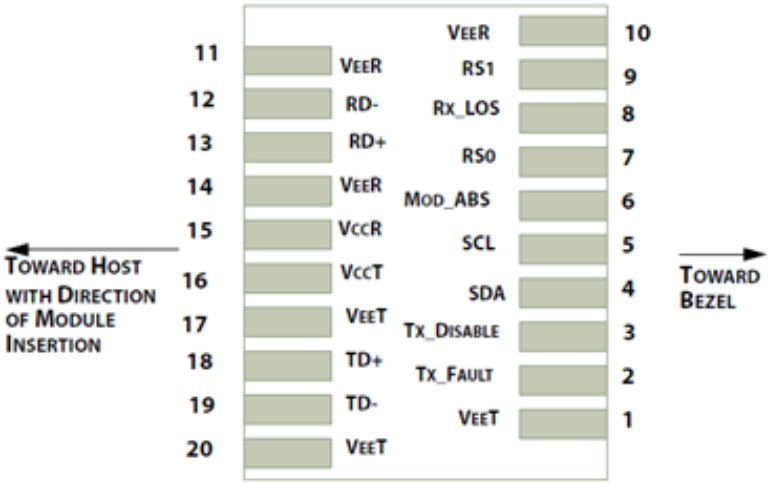
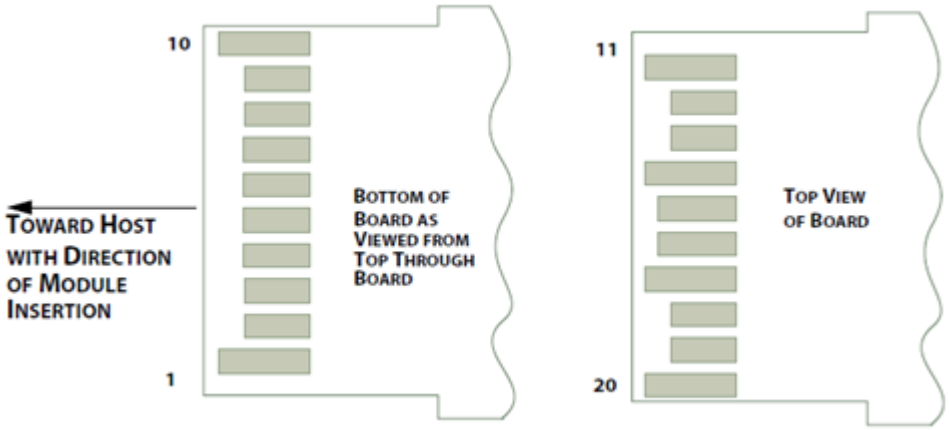
SFP Module Pad Assignments and Descriptions





PIN	Logic	Symbol	Name / Description	Note
1		VeeT	Module Transmitter Ground	
2	LVTTL-O	TX_Fault	Module Transmitter Fault	
3	LVTTL-I	TX_Dis	Transmitter Disable; Turns off transmitter laser output	
4	LVTTL-I/O	SDA	2-Wire Serial Interface Data Line	
5	LVTTL-I	SCL	2-Wire Serial Interface Clock	
6		MOD_DEF0	Module Definition, Grounded in the module	
7	LVTTL-I	RS0	Receiver Rate Select, default is high for 8G/10G application, when set to low by system, transceiver will set the bandwidth to under 4.25G to improve the sensitivity at low data rate	

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8	LVTTL-O	RX_LOS	Receiver Loss of Signal Indication Active LOW	
9	LVTTL-I	RS1	Transmitter Rate Select, default input is high for 8G/10G application, when set to low by system, transceiver will set the TX optical output to be compliant with low data rate fiber channel specifications	
10		VeeR	Module Receiver Ground	
11		VeeR	Module Receiver Ground	
12	CML-O	RD-	Receiver Inverted Data Output	
13	CML-O	RD+	Receiver Data Output	
14		VeeR	Module Receiver Ground	
15		VccR	Module Receiver 3.3 V Supply	
16		VccT	Module Transmitter 3.3 V Supply	
17		VeeT	Module Transmitter Ground	
18	CML-I	TD+	Transmitter Non-Inverted Data Input	
19	CML-I	TD-	Transmitter Inverted Data Input	
20		VeeT	Module Transmitter Ground	

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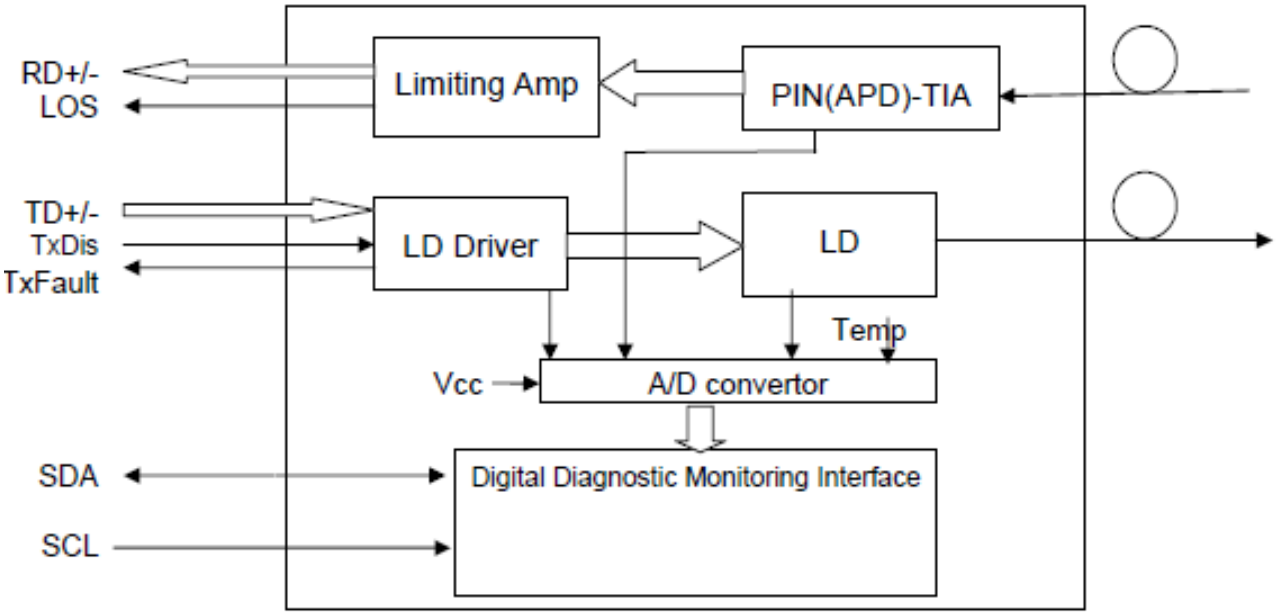
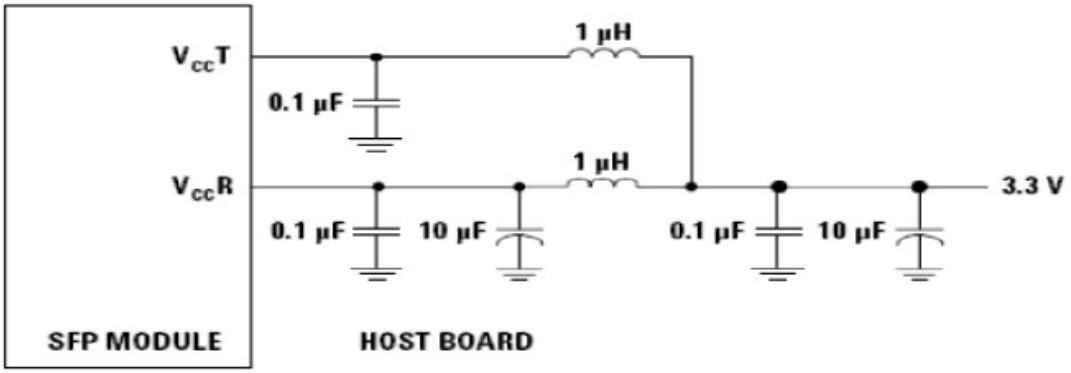
Transceiver Block Diagram



Recommended Host Board Power Supply Circuit



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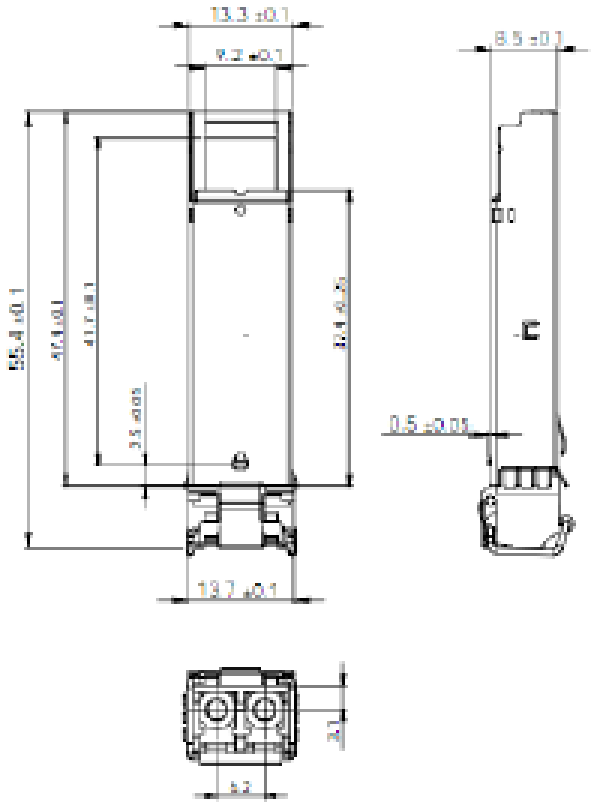
Mechanical Design Diagram

Unit: mm



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