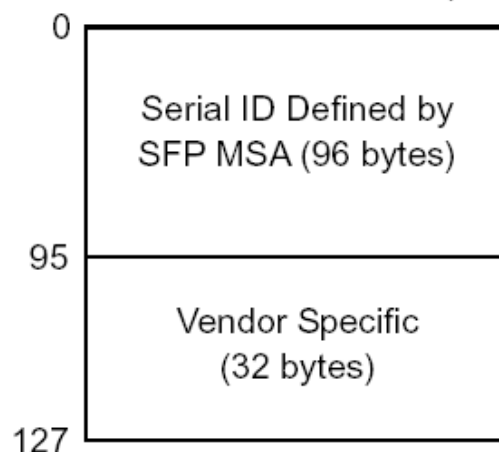


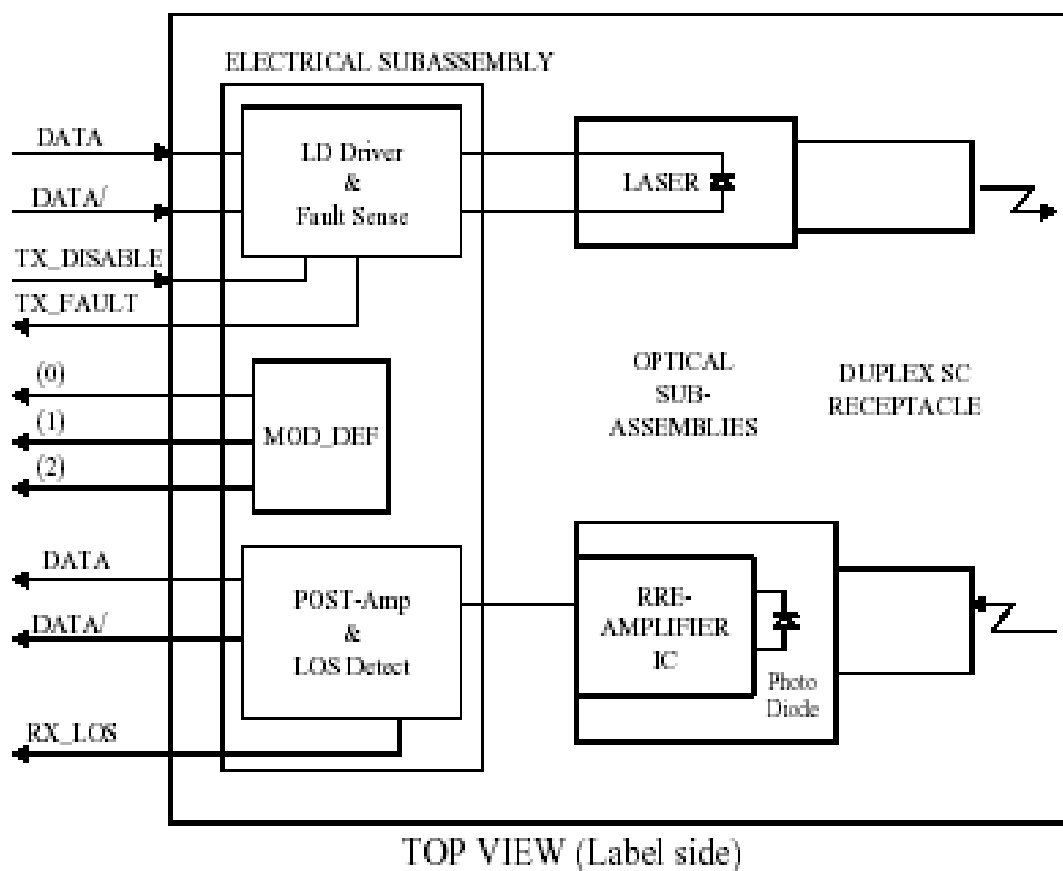
Features

- Up to 155.52Mbps data links
- 850nm VCSEL laser
- Industry standard small form pluggable (SFP) package
- Duplex LC connector
- Differential LVPECL inputs and outputs
- Single power supply +3.3V
- Operating temperature: 0 to +70°C
- 2km transmission distance with 50/125µm MMF or 1km with 62.5/125µm MMF
- LVTTTL signal detect indicator
- Hot Pluggable
- Low EMI and excellent ESD protection
- Class 1 laser product complies with EN 60825-1
- Compliant ROHS and lead free
- With pull de-latch

Application

- Distributed multi-processing
- Switch to switch interface
- SDH/STM-1, SONET/OC-3, ATM
- 100Base Fast Ethernet
- Other optical links
- High speed I/O for file server
- Bus extension application

Memory Map:**2 wire address 1010000x (A0h)**

Block Diagram of Transceiver**Transmitter Section**

The transmitter section consists of a 850 nm VCSEL in an eye safe optical subassembly (OSA) which mates to the fiber cable. The laser OSA is driven by a LD driver IC which converts differential input LVPECL logic signals into an analog laser driving current.

TX_DISABLE

The TX_DISABLE signal is high (TTL logic "1") to turn off the laser output. The laser will turn on when TX_DISABLE is low (TTL logic "0").

Receiver Section

The receiver utilizes a MSM detector integrated with a trans-impedance preamplifier in an OSA. This OSA is connected to a circuit providing post-amplification quantization, and optical signal detection.

Receive Loss (RX_LOS)

The RX_LOS is high (logic "1") when there is no incoming light from the companion transceiver. This signal is normally used by the system for the diagnostic purpose. The signal is operated in TTL level.

Performance Specifications**Table1. Absolute Maximum Ratings**

Parameter	Symbol	Min	Max	Unit
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Storage Temperature	Tst	-40	+85	℃
Operating Temperature	To	0	70	℃
Input Voltage	-	GND	Vcc	V
Power Supply Voltage	Vcc-Vee	-0.5	+3.6	V

Note: Stress in excess of maximum absolute ratings can cause permanent damage to the module

Table2. Operating Environment

Parameter	Symbol	Min	Max	Unit
Power Supply Voltage	Vcc	+3.1	+3.5	V
Ambient Operating Temperature	TA	0	+70	℃

Table3. Transmitter electrical and optical Characteristics

Parameter		Symbol	Min	Typ	Max	Unit	Note
Center Wavelength		λ_p	830	850	860	nm	-
Spectral Width (RMS)		$\Delta\lambda$	-	-	0.85	nm	-
Average Optical Output Power		Po	-15	-	-8	dBm	1
Extinction Ratio		EXT	9	-	-	dB	-
P0ut@TX Disable Asserted			-	-	-30	dBm	-
Rise/Fall Time, (20~80%)		Tr, f	-	-	2.5	ns	-
Total Jitter		TJ	-	-	227	ps	-
Differential		Input	0.4	-	2.0	V	-
TX-Disable	Disable	-	2.0	-	Vcc+0.3	V	-
	Enable	-	0	-	0.8	V	-
TX Fault	Fault	-	2.0	-	Vcc+0.3	V	-
	Normal	-	0	-	0.8	V	-
Output Optical Eye		ITU-T G.957 compliant					2

Table 4.Receiver optical-electrical characteristics

Parameter	Symbol	Min	Typ	Max	Unit	Note
Operate Wavelength	-	770	-	860	nm	
Sensitivity	Pr	-	-	-25	dBm	3
Saturation	Ps	0	-	-	dBm	
LOS Asserted	-	-40	-	-	dBm	
LOS De-Assert	-	-	-	-25	dBm	
LOS Hysteresis	0.5	-	-	4	dB	
Optical Return Loss	ORL	12	-	-	dB	
Differential Output Voltage	VDIFF	0.5	-	1.2	V	
Data Output Rise, Fall Time (20%~80%)	T r, f	-	-	2.2	ns	
Receiver Loss of Signal low Output	RX_LOSL	0	-	0.8	V	
Receiver Loss of Signal high Output	RX_LOSH	2.0	-	Vcc+0.3	V	

Note:

1. The optical power is launched into MMF.
2. Measured with a PRBS 2²³⁻¹ test pattern @155.52Mbps.

3. Measured with a PRBS 2^{23-1} test pattern @155.52Mbps, BER better than or equal to 1×10^{-10}

Pin Definition

Pin Out Diagram

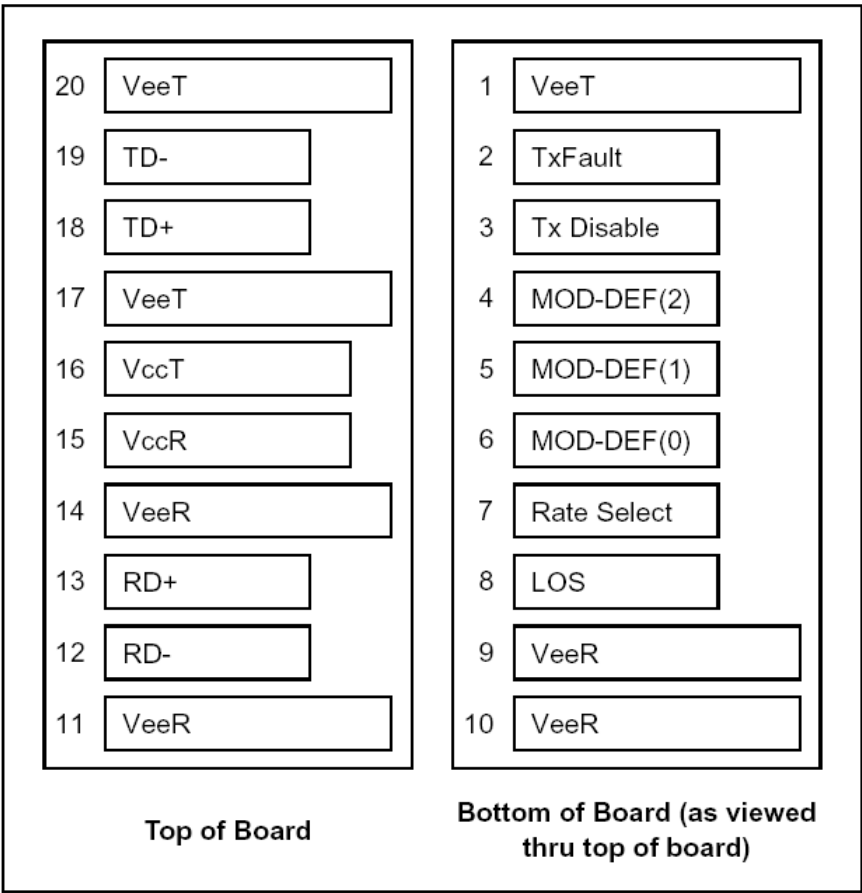
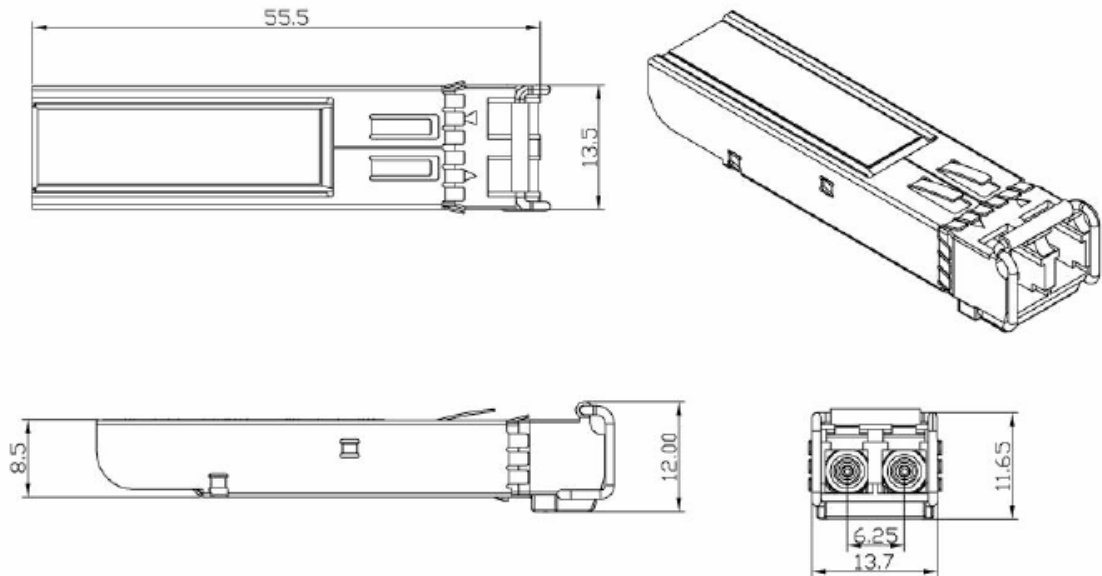


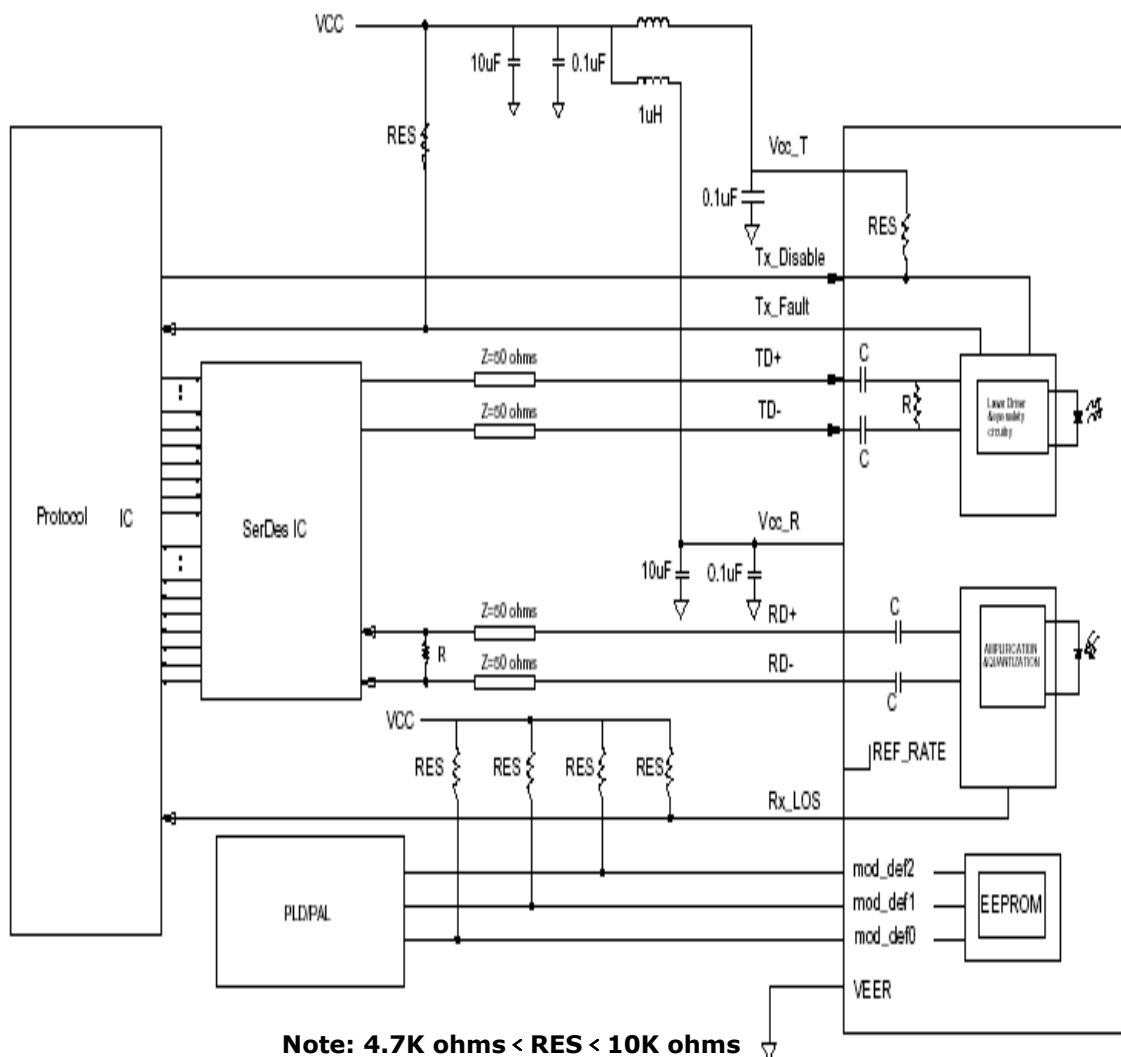
Table 5.Pin Function Definitions

Pin#	Name	Description
1	VeeT	Transmitter Ground
2	TX Fault	Transmitter Fault Indication
3	TX Disable	Transmitter Disable
4	MOD-DEF2	Module Definition 2
5	MOD-DEF1	Module Definition 1
6	MOD-DEF0	Module Definition 0
7	Rate Select	Not use
8	LOS	Loss of Signal
9	VeeR	Receiver Ground
10	VeeR	Receiver Ground
11	VeeR	Receiver Ground
12	RD-	Inv. Received Data Out
13	RD+	Receiver Data out
14	VeeR	Receiver Ground
15	VccR	Receiver Power
16	VccT	Transmitter Power
17	VeeT	Transmitter Ground
18	TD+	Transmit Data In
19	TD-	Inv. Transmit Data In
20	VeeT	Transmitter Ground

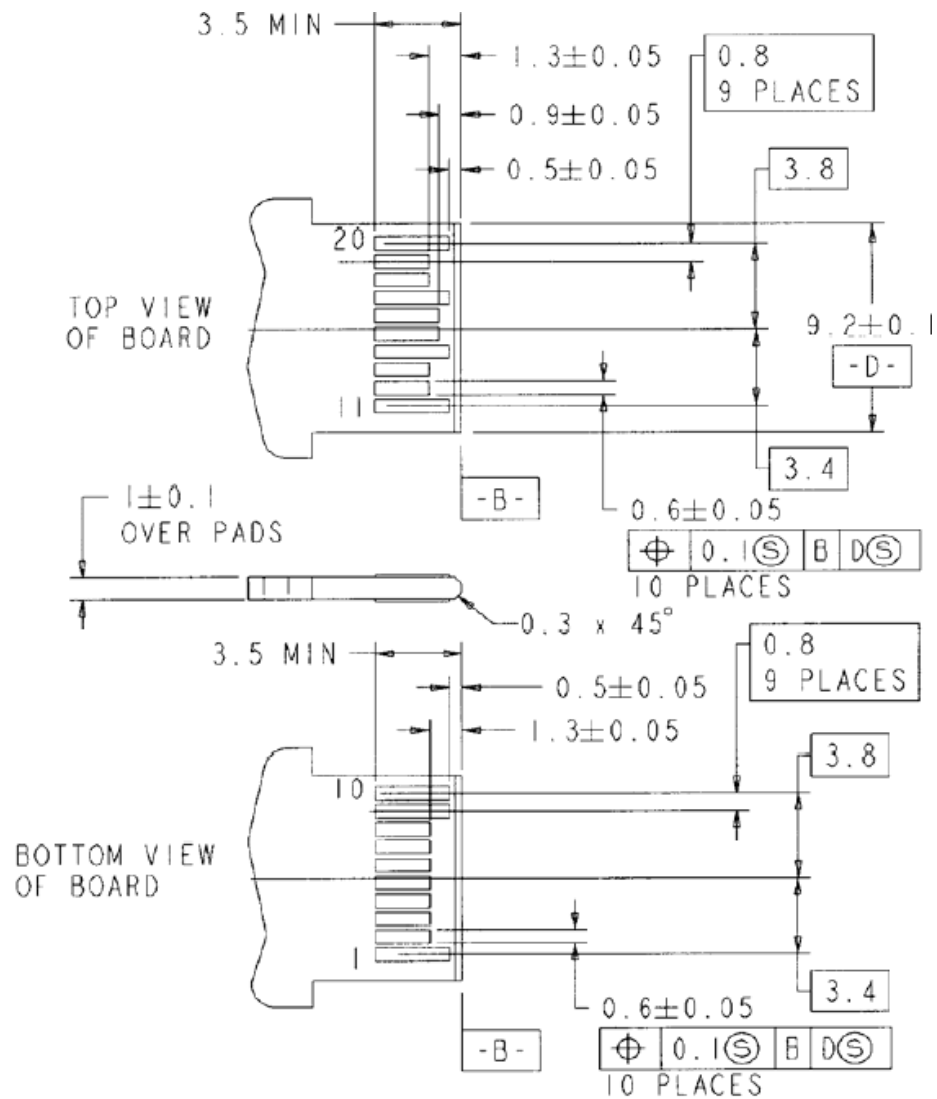
Package information



Recommended Circuit



Recommended Board Layout Hole Pattern



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