

FOCUS-1306-XX 1310nm

Single-mode SFP Transceiver

Features

- Compliant with SFP MSA
- Compliant with IUT-T G.957 and G.958
- Compliant with Industry Standard RFT Electrical Connector and Cage
- 100 Differential AC coupled PECL Outputs
- Single 3.3V Power supply and TTL Logic Interface
- Up to 622Mb/s bi-directional data links
- 1310nm FP Laser for 15Km and 40Km Transmission
- Extended Operating Temperature Range(0 ~ 70)
- Hot Pluggable
- EEPROM with Serial ID functionality
- Duplex LC Connector Interface
- Low EMI and Low power dissipation
- Class 1 Laser Product Compliant with the Requirements of IEC 60825-1 and IEC 60825-2

Applications

- ◆ SDH/STM-4
- ◆ SONET/OC-12

Product Description

The FOCUS-1306-XX pluggable transceiver module is a high performance integrated duplex data link for bi-directional communication over single mode optical fiber. It is compliant with the MSA Small Form Factor Pluggable (SFP) specification.

Absolute Maximum Ratings

Parameter	Symbol	Min.	Max.	Unit
Storage Temperature	T _S	-40	+85	°C
Supply Voltage	V _{CC}	-0.5	3.6	V

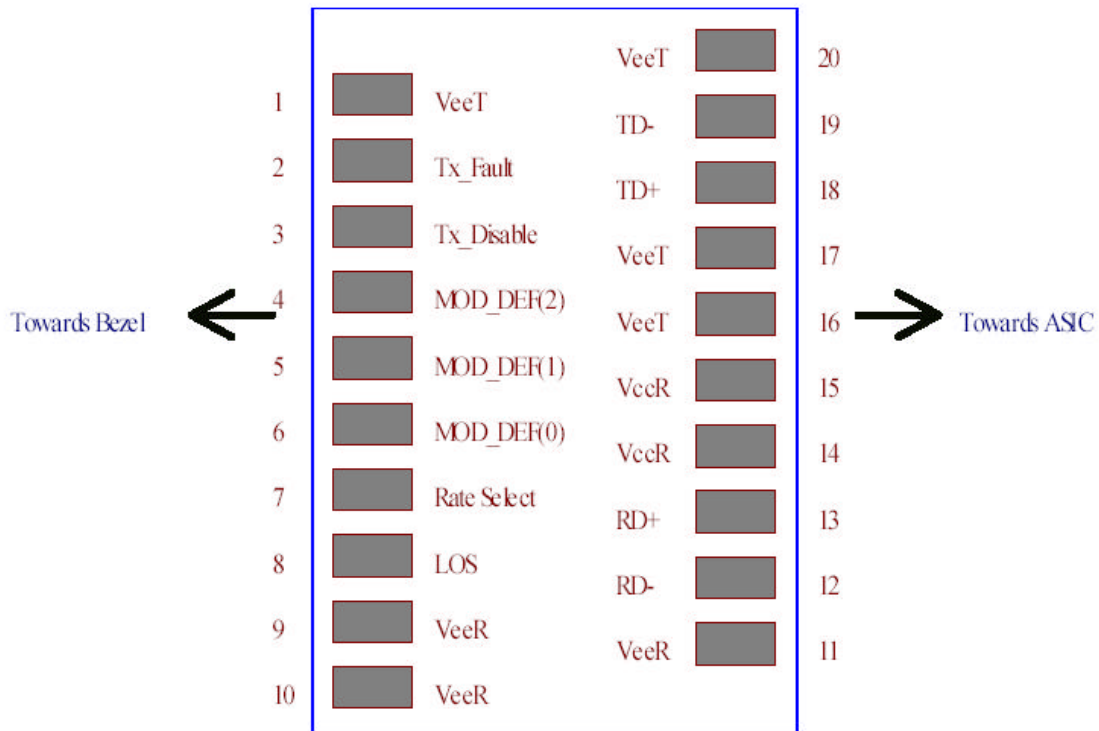
Recommended Operating Conditions

Parameter	Symbol	Min.	Typical	Max.	Unit
Operating Ambient Temperature	T _A	0		+70	°C
Power Supply Voltage	V _{CC}	3.15	3.3	3.45	V
Power Supply Current	I _{CC}			300	mA
Surge Current	I _{Surge}			+30	mA

Optical and Electrical Characteristics

Parameter	Symbol	Min.	Typical	Max.	Unit
Fiber Length on 9/125μmSMF	FOCUS-1306-15	L		15	Km
	FOCUS-1306-40			40	
Data Rate			622		Mbps
Transmitter					
Centre Wavelength	c	1270		1360	nm
Spectral Width (RMS)				2.5	nm
Average Output Power	FOCUS-1306-15	P _{out}	-15	-8	dBm
	FOCUS-1306-40		-3	+2	
Extinction Ratio	FOCUS-1306-15	EX	8.2		dB
	FOCUS-1306-40		10		
Rise/Fall Time(20% ~ 80%)	tr/tf			300	ps
Output Optical Eye	Compatible with Telcordia GR-253-CORE and IUT-T G.957				
Data Input Swing Differential	V _{IN}	300		1860	mV
Input Differential Impedance	Z _{IN}	90	100	110	
TX Disable	Disable		2.0	V _{CC}	V
	Enable		0	0.8	
TX_Fault	Fault		2.0	V _{CC} +0.3	V
	Normal		0	0.8	
Receiver					
Centre Wavelength	c	1260		1580	nm
Receiver Sensitivity	P _{IN}			-28	dBm
Output Differential Impedance	P _{IN}	90	100	110	
Data Output Swing Differential	V _{OUT}	370		1800	mV
LOS De-Assert	LOS _D			-31	dBm
LOS Assert	LOS _A	-42			dBm
LOS	High		2.0	V _{CC} +0.3	V
	Low		0	0.8	

SFP Transceiver Electrical Pad Layout

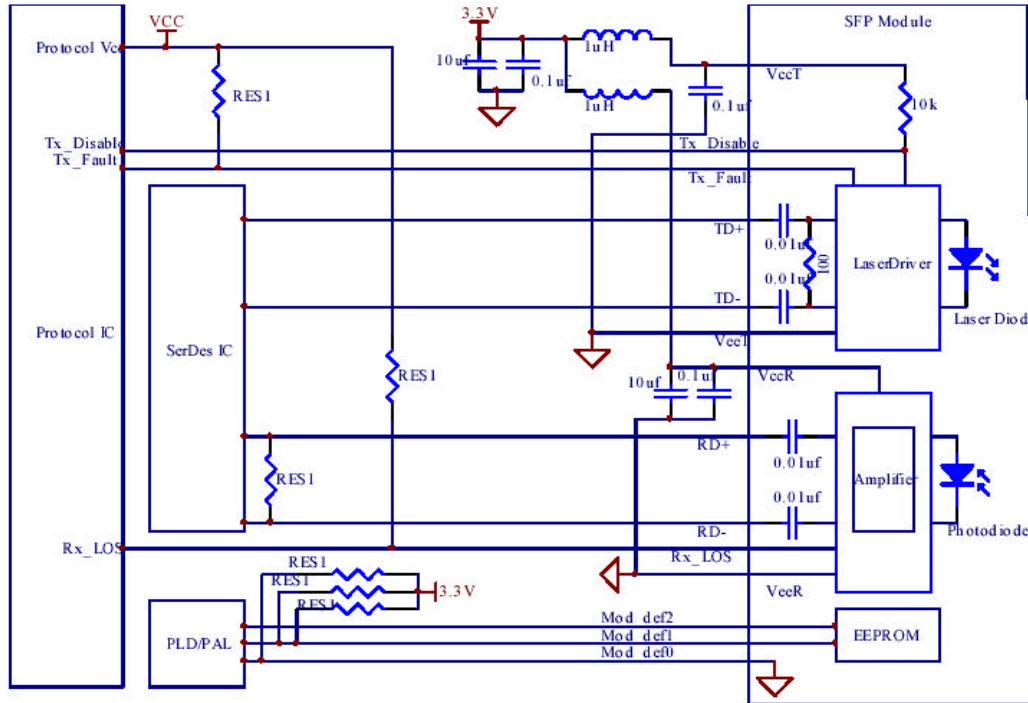


Pin Function Definitions

Pin No.	Name	Function	Plug Seq.
1	VeeT	Transmitter Ground	1
2	TX Fault	Transmitter Fault Indication	3
3	TX Disable	Transmitter Disable	3
4	MOD-DEF2	Module Definition 2	3
5	MOD-DEF1	Module Definition 1	3
6	MOD-DEF0	Module Definition 0	3
7	Rate Select	Not Connected	3
8	LOS	Loss of Signal	3
9	VeeR	Receiver Ground	1
10	VeeR	Receiver Ground	1
11	VeeR	Receiver Ground	1
12	RD-	Inv. Received Data Out	3
13	RD+	Received Data Out	3
14	VeeR	Receiver Ground	1
15	VccR	Receiver Power	2
16	VccT	Transmitter Power	2
17	VeeT	Transmitter Ground	1
18	TD+	Transmit Data In	3

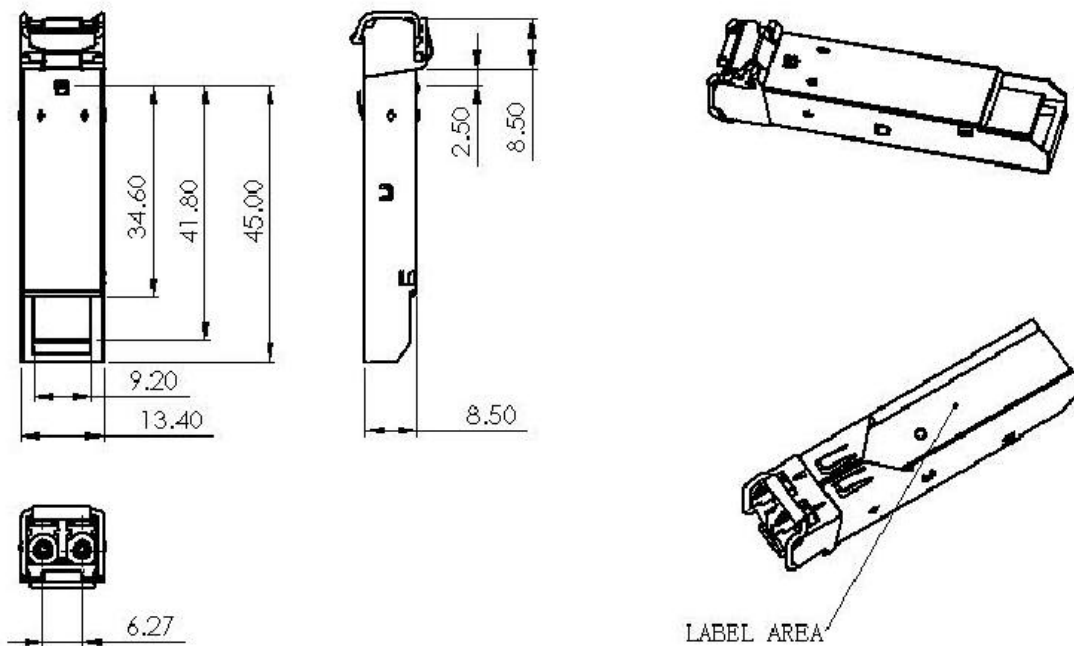
19	TD-	Inv. Transmit Data In	3
20	VeeT	Transmitter Ground	1

Recommend Circuit Schematic



RES1 = 4.7k to 10k

Mechanical Specifications



DIMENSIONS IN MILLIMETERS

Figure 1: Mechanical Design Diagram

Ordering information

Part No.	Data Rate	Laser	Fibre Type	Distance	Optical Interface
FOCUS-1306-15	622Mbps	1310nm FP	SMF	15Km	LC
FOCUS-1306-40	622Mbps	1310nm FP	SMF	40Km	LC