

FOCUS-1503-80 1550nm

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
- 1000 Differential AC coupled PECL Outputs
- Single 3.3V Power supply and TTL Logic Interface
- Up to 155Mb/s bi-directional data links
- 1550nm Uncooled DFB Laser Transmitter
- Up to 80Km Transmission distance
- 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

- ◆ 100Base Fast Ethernet
- ◆ SDH/STM-1, SONET/OC-3

Product Description

The FOCUS-1503-80 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

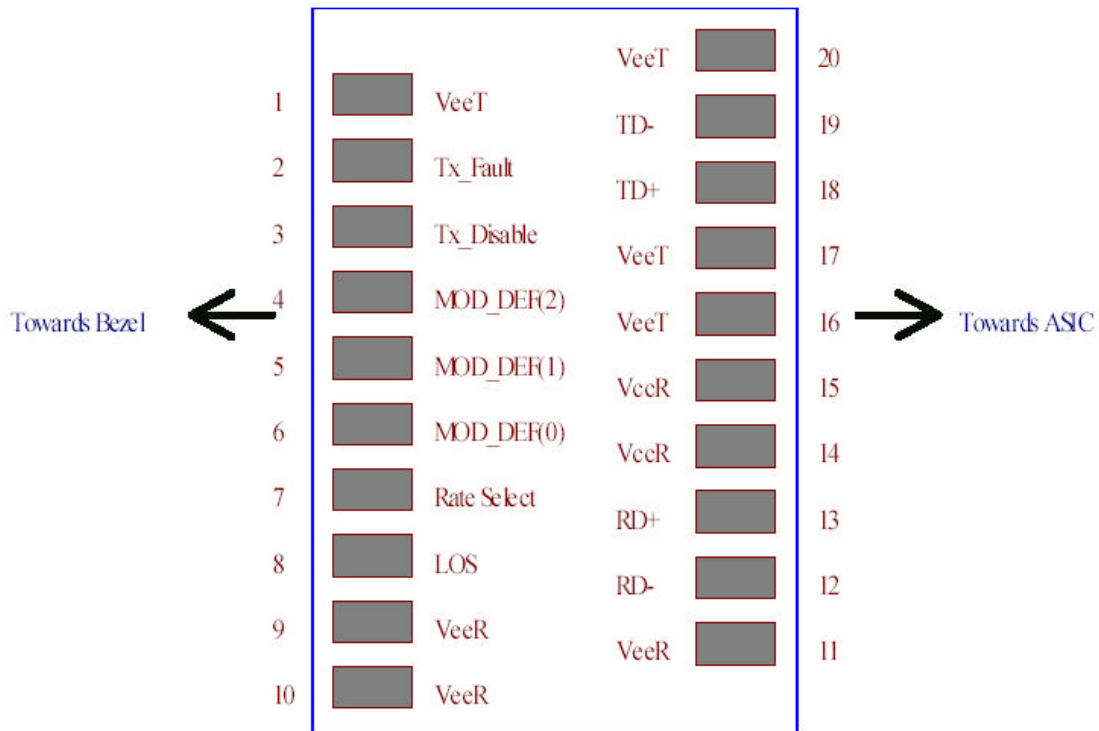
Recommended Operating Conditions

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 9/125 μ m SMF	L			80	Km
Data Rate		100	155		Mbps
Transmitter					
Centre Wavelength	λ_c	1480		1580	nm
Spectral Width (RMS)				1	nm
Average Output Power	P_{out}	-5		0	dBm
Extinction Ratio	EX	10			dB
Rise/Fall Time(20% ~ 80%)	tr/tf			1.5	ns
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	λ_c	1260		1580	nm
Receiver Sensitivity	P_{IN}			-34	dBm
Output Differential Impedance	P_{IN}	90	100	110	
Data Output Swing Differential	V_{OUT}	370		1800	mV
LOS De-Assert	LOS_D			-37	dBm
LOS Assert	LOS_A	-45			dBm
LOS	High		2.0	$V_{CC}+0.3$	V
	Low		0	0.8	

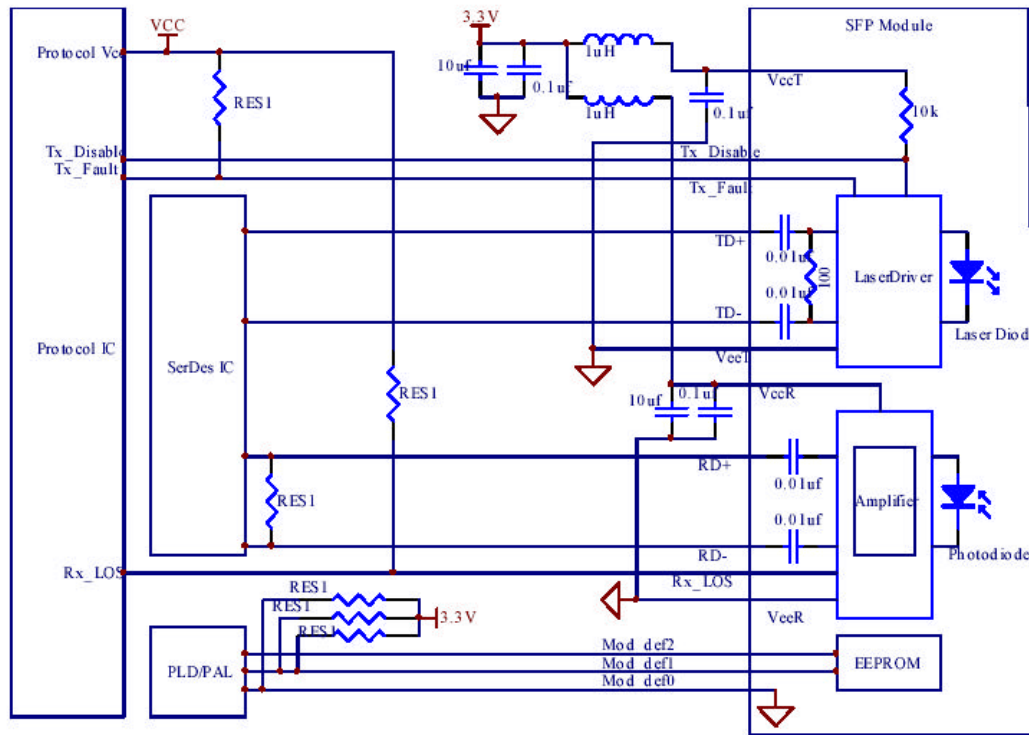
SFP Transceiver Electrical Pad Layout



Pin Function Definitions

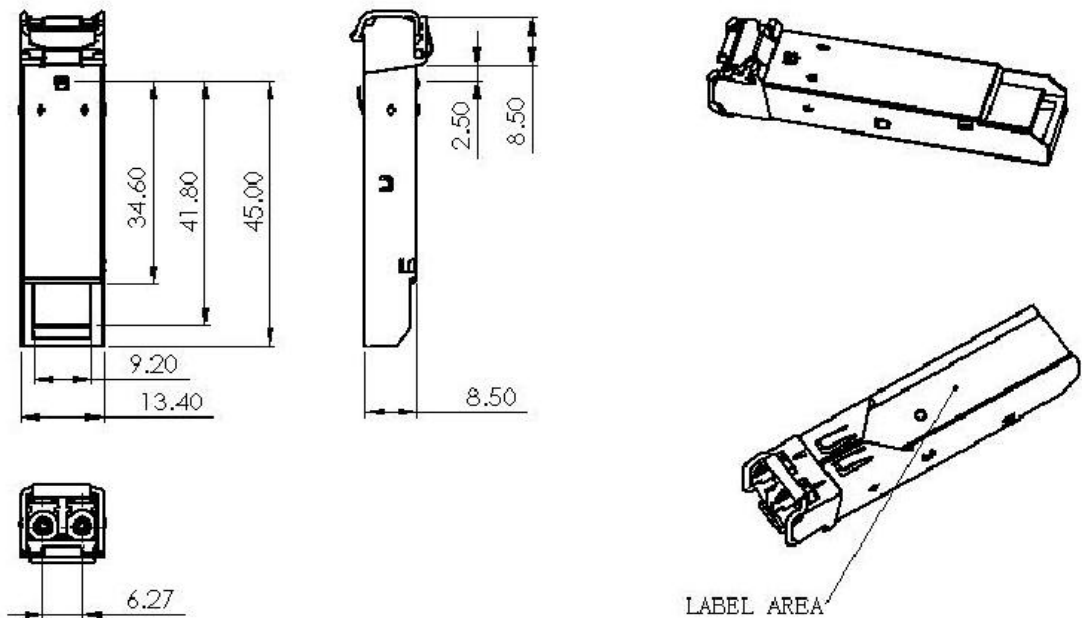
Pin No.	Name	Function	Plug Seq.
1	VeeT	Transmitter Ground	1
2	TX Fault	Transmitter Fault Indication	3
3	TX Disable	Transmitter Disable	3
4	MOD-DEF2	Module Definition 2	3
5	MOD-DEF1	Module Definition 1	3
6	MOD-DEF0	Module Definition 0	3
7	Rate Select	Not Connected	3
8	LOS	Loss of Signal	3
9	VeeR	Receiver 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-1503-80	100Mbps/155Mbps	1550nm DFB	SMF	80Km	LC