

Features:

- 5V DC power supply
- 155Mbps, 40km
- TX: 1310nm FP LD/RX: 1550nm PIN-TIA
- TX: 1550nm FP LD/RX: 1310nm PIN-TIA
- PECL Signal Detection Output
- Standard SC connector
- Standard industrial 1X9 Package
- ROHS compliant
- Compliant with class one laser product EN0825-1



Application:

- SONET OC-3 / SDH STM-1 Equipment
- Fast Ethernet 155Mb/s Links
- Optical access network

Description

Our 1550T/1310R and 1310T/1550R BiDi 1X9 pair is high performance, cost effective transceiver. It is designed to perform point to point FTTX applications at data rate up to 155Mbps for 40km distance transmission. The specifications data is listed as following table.

Absolute Maximum Ratings					
Parameter	Symbol	Min.	Max.	Units	Note
Storage Temperature	Ts	-40	85	°C	
Power Supply Voltage	Vcc	0	6	V	
Soldering Temperature			260	°C	10 seconds on leads only
Input Voltage	Vin	GND	Vcc	V	
Output Current	Iout	0	30	mA	

Recommended Operating Conditions					
Parameter	Symbol	Min.	Typ.	Max.	Units
Power Supply Voltage	Vcc	5.75	5.0	5.25	V
Operating Temperature	Top	0		70	°C
Data Rate			155		Mbps
Power Supply Current	Icc			250	mA

Transmitter Specifications (0°C < Top < 70°C, 4.75V < Vcc < 5.25V)

Parameter	Symbol	Min.	Typ.	Max.	Units
Optical					
Optical Transmit Power	Po(1310TX/1550RX)	-8		0	dBm
	Po(1550TX/1310RX)	-8		0	
Optical Center Wavelength	$\lambda_c(1550TX/1310RX)$	1500	1550	1600	nm
	$\lambda_c(1310TX/1550RX)$	1260	1310	1360	
Output Spectrum Width	$\Delta\lambda(1550TX/1310RX)$		2	4	nm(RMS)
	$\Delta\lambda(1310TX/1550RX)$		2	4	nm(RMS)
Extinction Ratio	E_R	12	-	20	dB
Output Eye	Compliance with ITU-T G.957				
Optical Rise Time	t_r		1	2	ns
Optical Fall Time	t_f		1	2	ns
Relative Intensity Noise	RIN			-116	dB/Hz
Electrical					
Data Input Current – Low		-350			μA
Data Input Current – High				350	μA
Differential Input Voltage	$V_{IH}-V_{IL}$	300		2400	mV

Receiver Specifications (0°C < Top < 70°C, 4.75 V < Vcc < 5.25V)

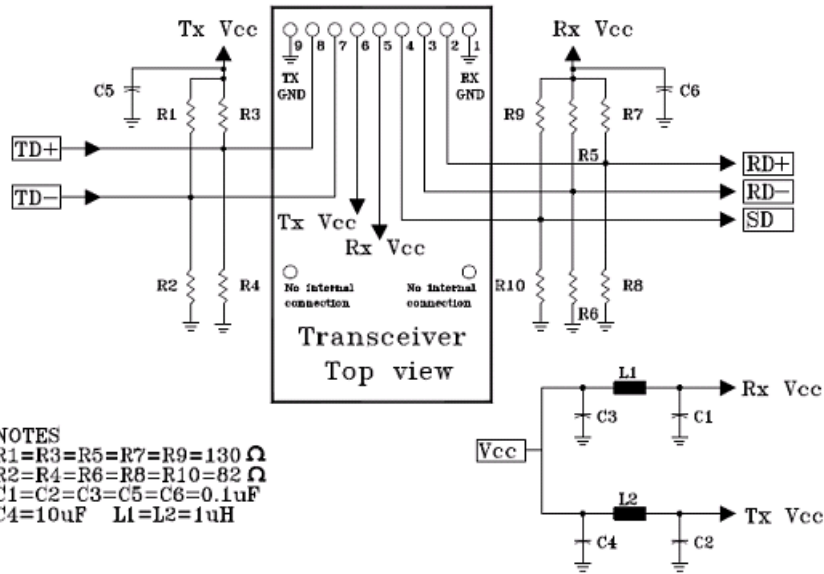
Parameter	Symbol	Min.	Typ.	Max.	Units
Optical					

Sensitivity	Sen			-34	dBm
Maximum Input Power(Saturation)	P _{MAX}	-3			dBm
Signal Detect -- Asserted	P _a			-34	dBm
Signal Detect -- Deasserted	P _d	-47			dBm
Signal Detect -- Hysteresis	P _{hys}	1		5	dB
Wavelength of Operation	$\lambda(1310TX/1550RX)$	1500	1550	1600	nm
	$\lambda(1550TX/1310RX)$	1260	1310	1360	
Electrical					
Data Output Voltage – Low	V _{IL} -V _{CC}	-1830		-1555	mV
Data Output Voltage – High	V _{IH} -V _{CC}	-1085		-880	mV
Signal Detect Output Voltage -- Low	V _{SIL} -V _{CC}	-2.0	-	-1.58	mV
Signal Detect Output Voltage -- High	V _{SIL} -V _{CC}	-1.1	-	-0.74	mV

PIN ASSIGNMENT

1 Receiver Signal Ground	
2 Receiver Data Out	O N.C.
3 Receiver Data Out Bar	
4 Signal Detect	
5 Receiver Power Supply	Top View
6 Transmitter Power Supply	
7 Transmitter Data In Bar	
8 Transmitter Data In	O N.C.
9 Transmitter Signal Ground	

Recommended Application Circuits



PACKAGE DIAGRAM (Units in mm)

SC Type

