



1x9 Transceiver , 155M, BIDI, FC, 20KM, +3.3V

7113-311-1P-FC

7115-211-1P-FC

1.Feature

- 1×9 package with FC connector
- 1310nm FP Tx/1550nm PIN Rx and 1550nm FP TX/1310nm PIN RX
- 20Km transmission with SMF
- +3.3V single power supply
- PECL compatible data input/output interface
- Low EMI and excellent ESD protection
- laser safety standard IEC-60825 compliant
- Compatible with RoHS



2.Application

- Ethernet
- Telecom

3.Description

The 1×9 transceiver supports 155Mbps and 20km transmission distance with SMF.

The transceiver consists of two sections: The transmitter section incorporates a FP laser. the receiver section consists of a PIN photodiode integrated with a trans-impedance preamplifier (TIA).



4. Performance specifications

4.1 Absolute Maximum Ratings

Parameter	Symbol	Minimum	Maximum	Units
Storage Temperature	Tst	-40	+85	°C
Operating Temperature	Top	-20	+70	°C
Supply Voltage	Vcc	0	+3.5	V
Input voltage	Vin	GND	Vcc	
Lead Soldering Temperature & Time		240/10		°C/s

4.2 Operation Environment

Parameter	Symbol	Minimum	Maximum	Units
Supply Voltage	Vcc	3.1	3.5	V
Ambient operating Temperature	Top	0	+70	°C
Operating Relative Humidity	-	5	95	%

4.3 Transmitter Section

(Ambient Operating Temperature -20°C to +70°C, Vcc =3.3 V)

Parameter		Symbol	Min.	Typ.	Max.	Units
Data rate		-	-	155	-	Mb/s
Center Wavelength	Tx 1310	λ_o	1270	1310	1350	nm
	Tx 1550		1480	1550	1580	
Output Spectral width		$\Delta\lambda$	-	-	4	nm
Average Optical Output Power	Tx 1310	Po	-15	-	-3	dBm
	Tx 1550		-15		-3	
Extinction Ratio	Tx 1310	Er	8	-	18	dB
	Tx 1550					
Rise/Fall Time(20%~80%)		Tr/Tf			0.26	ns
Total jitter		Tj			0.43	UI



Optical Eye Diagram	IEEE 802.3u and ANSI Fibre Channel Compatible				
Input differential impedance	Zdiff		100		Ohm

4.4 Receiver Section

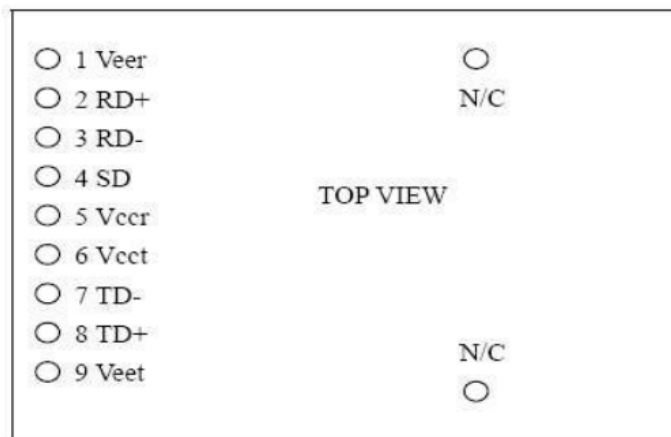
(Ambient Operating Temperature -20 °C to +70°C, Vcc =3.3 V)

Parameter		Symbol	Min.	Typ.	Max.	unit
Data rate				155		Mb/s
Wavelength	1550 Rx	λ	1480	1550	1580	nm
	1310 Rx		1270	1310	1350	
Maximum Input Power		P _{max}	-3	-	-	dBm
Receiver Sensitivity		P _{min}	-		-32	dBm
Output differential impedance		Zdiff		100		Ohm
LOSS Thresholds		LOSS _D	-	-	-34	dBm
		LOSS _A	-45			

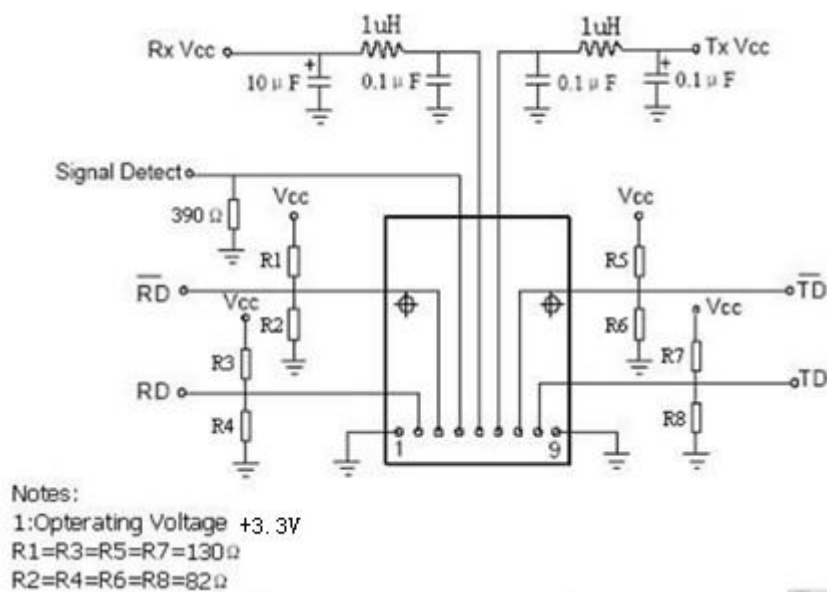
5.Pin Description

Pins	Name	Discription	NOTE
1	VeeR	Receiver Ground	
2	RD+	IReceived Data Output (PECL)	
3	RD-	Inv.ReceivedData Output (PECL)	
4	SD	Signal Detected (PECL)	
5	VccR	Receiver Power	
6	VccT	Transmitter Power	
7	TD-	Inv. Transmit Data Input (PECL)	
8	TD+	Transmit Data Input (PECL)	
9	VeeT	Transmitter Ground	





6.Recommended Circuit





7.Mechanical Dimensions

