

155M BI-Directional Transceiver

Features:

- Widely Operating Temperature
- MQW FP Structure or DFB Laser
- Integrated WDM coupler
- High isolation and Low crosstalk
- Single SC connector
- Single +5V or +3.3V supply & PECL or LVPECL interface
- Class 1 Laser Safety Compliance
- Full Compliant With ITU-T G.957/8 Specification

Applications:

- ATM
- SONT/SDH/PDH
- Data communication
- Telecom system

Function description :

The fiber optical transceivers offer a simple, convenient way to interface PCBs to single -mode fiber optical cables and integrate WDM (Wavelength Division Multiplex) coupler. Many performance versions are available which are fully compliant with SONET/SDH standards from and international IEC-825 standards.

The transmitted and received functions are contained in a single one-row, 9-pin (1x9) package with a Single SC connector interface. The transmitter incorporates a highly reliable 1310 nm or 1550 nm Laser and a driver circuit that converts Pseudo Emitter Coupled Logic (PECL) data to light. The receiver incorporates an efficient InGaAs/InP PIN photodiode converting the light signal into an electrical current that is amplified and regenerated into PECL-compatible data. The transimpedance amplifier IC has internal AGC for wide dynamic range. A Signal Detect status output flag is also provided.

The transceiver operates from a single +5V or +3.3V power supply over an operating temperature range of - 40°C to +85°C. The transceiver package is made of *conductive* plastic (Single-SC) with black color.



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Specifications:

Absolute Maximum Ratings						
Parameter	Symbol	Min	Max	Unit		
Supply Voltage	VCC	0	+6.0	V		
Operating Temperature	T _{OP}	-40	+85			
Recommended Operating Conditions						
Parameter	Symbol	Min	Max	Unit		
Supply Voltage	VCC	+4.75/+3.0	+5.25/+3.6	V		
Operating Temperature	T _{OP}	0	+75			
Optical characteristics						
Parameter	Symbol	Min	Typical	Max	Unit	
Transmitter						
Optical output	P ₀	1	0	+1	+3	dBm
		2	-5	-3	0	
		3	-8	-6	-5	
		4	-15	-10	-8	
Extinction ratio	ER	13	-	-	dB	
Optical wavelength		1	1270	1310	1340	
		2	1530	1550	1570	
Spectral width		1	-	-	4	nm
		2	-	-	3	
Rise time	Tr	-	1	2	ns	
Fall time	Tf	-	1	2	ns	
Transmitter output eye	Compliant with Eye Mask Defined in 802.3z standard					
Receiver						
Sensitivity	Sen	-34	-36	-	dBm	
Saturation	-	-3	-	-	dBm	
Optical wavelength		1	1540	1550	1560	nm
		2	1300	1310	1320	
Signal detect asserted	P _A	-	-	-48	dBm	
Signal detect deasserted	P _D	-34	-	-	dBm	
Isolator	Iso	35	-	-	dB	
Return Loss	RL	-	-	-40	dB	
Electrical characteristics						
Parameter	Symbol	Min	Typical	Max	Unit	



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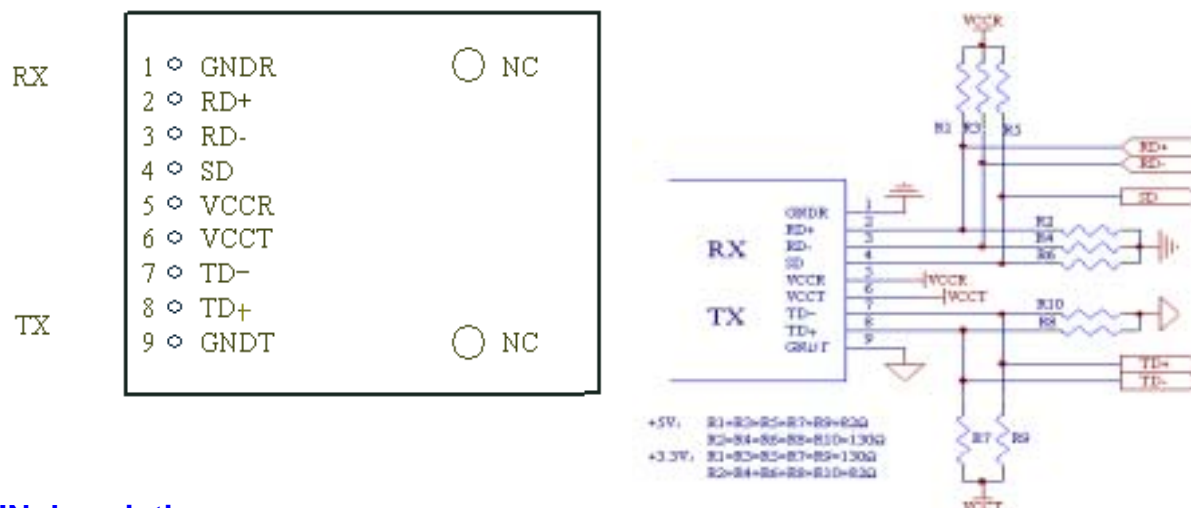
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Transmitter					
Data rate (NRZ)	B	-	155	-	Mb/s
Supply voltage	V_{CCT}	+4.75/+3.1	+5/+3.3	+5.25/+3.6	V
Supply current	I_{CCT}	-	-50	80	mA
Input HIGH Voltage	V_{IH}	$V_{CCT}-1.165$	-	$V_{CCT}-0.700$	V
Input LOW Voltage	V_{IL}	$V_{CCT}-1.890$	-	$V_{CCT}-1.475$	V
Receiver					
Data rate (NRZ)	B	-	155	-	Mb/s
Supply voltage	V_{CCR}	+4.75/+3.1	+5.0/+3.3	+5.25/+3.6	V
Supply current	I_{CCR}	-	80	100	mA
PECL Output High	V_{OH}	$V_{CCR}-1.025$	-	$V_{CCR}-0.880$	V
PECL Output LOW	V_{OL}	$V_{CCR}-1.810$	-	$V_{CCR}-1.620$	V
Signal detect assert level	T_{SDA}	-	-	50	μs
Signal detect deassert level	T_{SDD}	-	-	100	μs

Recommended Circuit :



PIN description :

PIN	Function
1	GNDR Negative power of receiver section, normally grounded
2	RD+ Data output of receiver section
3	RD- Reverse data output of receiver section
4	SD LOS of receiver section. Active high on this PIN indicates a received optical
5	VCCR Positive power of receiver section
6	VCCT Positive power of transmitter section
7	TD- Reverse data input of transmitter section
8	TD+ Data input of transmitter section
9	GNDT Negative power of transmitter section, normally grounded

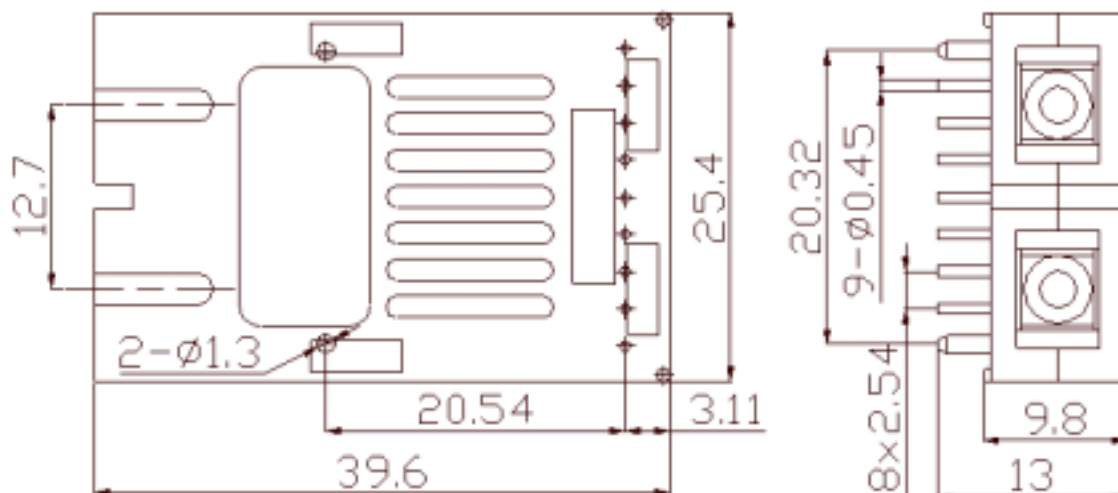


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Dimensions configuration :**Ordering Information :**

Model	Rate	Optical source	Receptacle	Voltage	Distance
T		—	—	—	— ()
T=Transceiver	155=155Mbs	V8=850nm VCSEL	SC=SC	3v=3.3v	550=550m
	125=1.25Gbs	E3=1310nm LED	FC=FC	5v=5v	02=2Km
		F3=1310nmFP LD	ST=ST	XX=3.3v/5v	20=20Km
		F5=1550nmFP LD	BS=SC Bi-Di		40=40Km
		D3=1310nmDFB LD	BL=LC SFP Bi-Di		60=60Km
		D5=1550nmDFB LD	GB=SC GBIC		80=80Km
			LC=SFP LC		100=100Km

For example : T155—F3—BS—5V—20



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