

Specification

1x9 Form Factor

Duplex SC Receptacle

Optical Transceivers

STM-1 / OC-3 / 100BASE
155Mbit/s



Ordering Information

TSP-D3AA2-G2T

Model Name	Voltage	Category	Device type	Interface	Temperature	Distance	Latch Color
TSP-D3AA2-G2T	5.0V	N/A	FP / PIN	DC-DC/ PECL	+0°C ~+70°C	20Km	N/A

Features

- ROHS Compliant
- SC Duplex Transceiver
- Industry Standard 1X9 Footprint
- Laser Wavelength 1310nm FP
- Single 5V power Supply
- LVPECL / PECL signal Detection Output
- Wave Solderable and Aqueous Washable
- Uncooled Laser Diode with MQW Structure
- Complies with Telcordia (Bellcore) GR-468-CORE

Applications

- ATM 155M Links
- SONET / SDH Equipment Interconnect

Absolute Maximum Ratings

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

Operating Conditions

Parameter	Symbol	Min	Typ	Max	Unit
Supply Voltage	VCC	4.75	5	5.25	V
Operating Case temperature (TSP-D3AA2-G2T)	Top	0	--	70	°C
Data Rate		--	155	--	Mbps
Power Supply Current	Icc	--	150	250	mA

Transmitter Specifications

Parameter	Symbol	Min	Typ	Max	Unit
Optical Characteristics					
Optical Transmit Power	Po	-15	--	-8	dBm
Optical Center Wavelength	λ	1260	1310	1360	nm
Output Spectrum Width (RMS)	$\sigma\lambda$	--	2	4	nm
Extinction Ratio	ER	10	--	--	dB
Optical Rise Time	T _r	--	1	2	ns
Optical Fall Time	T _f	--	1	2	ns
Relative Intensity Noise	RIN	--	--	-116	dB/Hz
Electrical Characteristics					
Data Input Current – Low		-350	--	--	μA
Data Input Current – High		--	--	350	μA
Differential Input Voltage	VIH -VIL	300	--	2400	mV

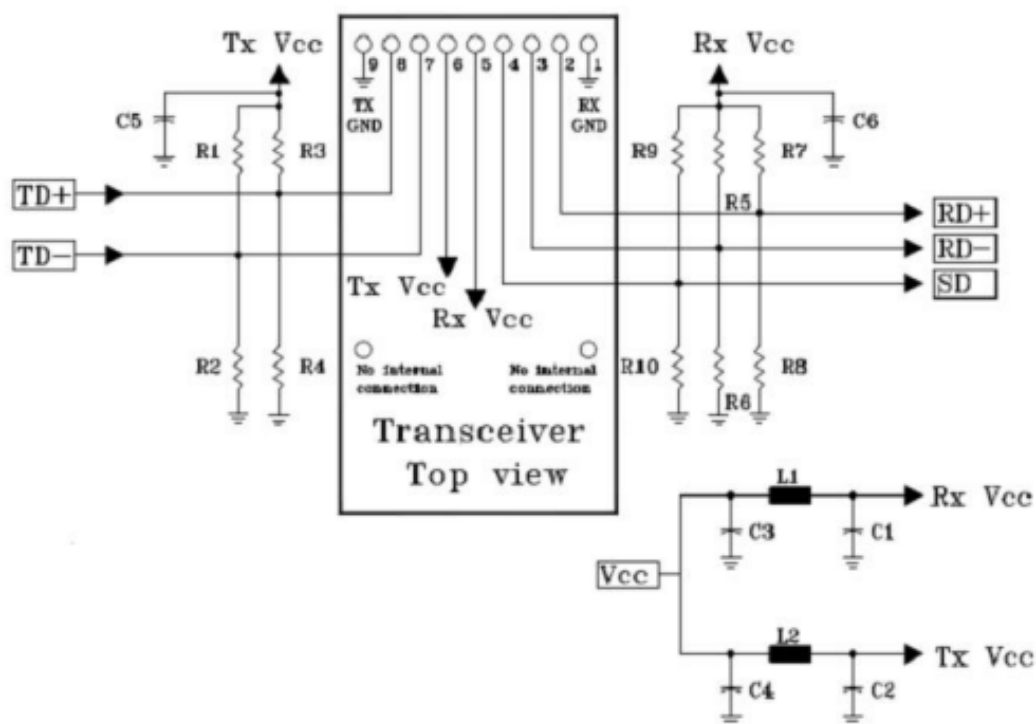
Receiver Specifications

Parameter	Symbol	Min	Typ	Max	Unit
Optical Characteristics					
Sensitivity	Sens	--	--	-34	dBm
Saturation Power (PRBS=2 ²³ -1 ; BER ≤ 10 ⁻¹⁰)	P _{MAX}	-3	--	--	dBm
Operating Center Wavelength	λ	1100	--	1610	nm
Signal Detect – Asserted	P _{SA}	--	--	-34	dBm
Signal Detect – De-asserted	P _{SD}	-45	--	--	dBm
Signal Detect - Hysteresis	P _{SH}	1	--	5	dB
Electrical Characteristics					
Data Output Voltage – Low	V _{IL} –VCC	-1830	--	-1555	mV
Data Output Voltage – High	V _{IH} –VCC	-1085	--	-880	mV
Signal Detect Output Voltage-- Low	V _{SIL} –VCC	-2.0	--	-1.58	mV
Signal Detect Output Voltage-- High	V _{SIL} –VCC	-1.1	--	-0.74	mV

Pin Definition and Descriptions

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 Circuit Diagram



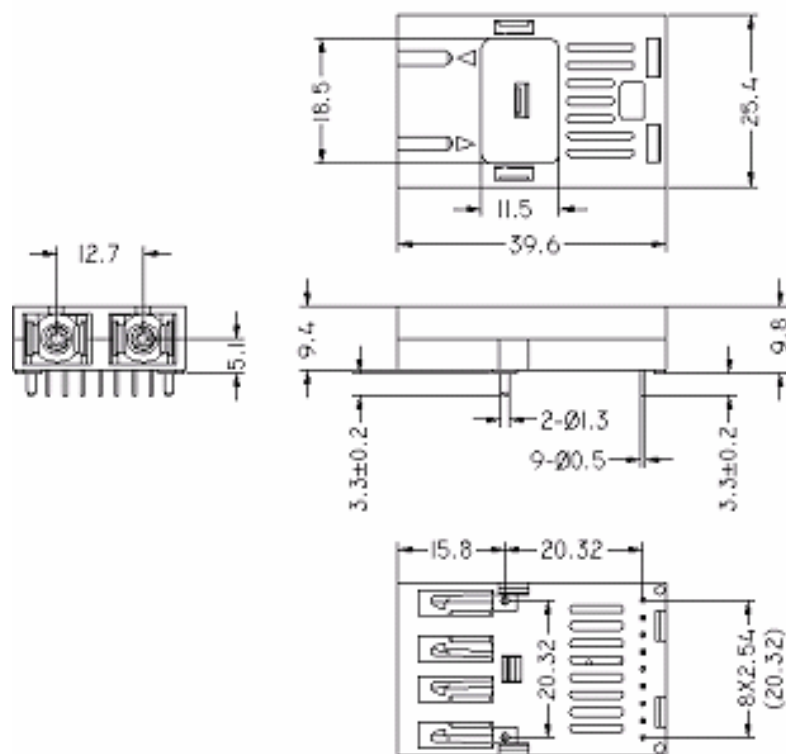
Notes(5V)

$$R_1=R_3=R_5=R_7=R_9=82\ \Omega$$
$$R_2=R_4=R_6=R_8=R_{10}=130\ \Omega$$
$$C1=C2=C3=C5=C6=0.1\mu F$$

C4=10uF L1=L2=1uH

Mechanical Outlines

(Unit : mm)



ESD

Normal ESD precautions are required during the handling of this module. This transceiver is shipped in ESD protective packaging. It should be removed from the packaging and handled only in an ESD protected environment.

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