

## Specification

### 1x9 Form Factor

Duplex ST Receptacle

### Optical Transceivers

STM-1 / OC-3 / 100BASE

155.52Mbit/s



## Ordering Information

**TSP—D<sub>x</sub>AA6—G2T**



Voltage / Temperature

1 : 3.3V / +0 ~ +70°C

2 : 3.3V / -40 ~ +85°C

Model Name	Voltage	Device type	Interface	SD/LOS	Temperature	Distance
TSP-D1AA6-G2T	3.3V	FP / PIN	DC / DC	PECL	+0 ~ +70°C	20Km
TSP-D2AA6-G2T			Coupling		-40 ~ +85°C	

## Features

- Differential LVPECL Inputs & Outputs
- Single 3.3V Power Supply
- LVPECL Signal Detection Output
- Industry Standard 1x9 Package

## Applications

- SONET/SDH E Equipment
- Fast Ethernet 100 Mb/s Links
- ATM

## Absolute Maximum Ratings

Parameter	Symbol	Min	Typ	Max	Unit
Storage Temperature	Ts	-40		85	°C
Power Supply Voltage	Vcc	0		6	V
Soldering Temperature (10 seconds on leads only)	Tsold	--		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	3.15	3.3	3.45	V
Operating Case temperature ( TSP-D1AA6-G2T )	Top	0	--	70	°C
Operating Case temperature ( TSP-D2AA6-G2T )		-40	--	85	
Data Rate		--	155	--	Mbps
Power Supply Current	Icc	--	--	250	mA

## Transmitter Specifications ( VCC = 3.15 ~ 3.45V ; Top= 0 ~ 70°C / Top= -40 ~ 85°C )

Parameter	Symbol	Min	Typ	Max	Unit
<b>Optical Characteristics</b>					
Optical Transmit Power	Po	-14	--	-7	dBm
Optical Center Wavelength	$\lambda$	1260	1310	1360	nm
Output Spectrum Width (RMS)	$\sigma\lambda$	--	2	4	nm
Extinction Ratio	ER	10	--	--	dB
Optical Rise Time	T <sub>r</sub>	--	1	2	ns
Optical Fall Time	T <sub>f</sub>	--	1	2	ns
Relative Intensity Noise	RIN	--	--	-116	dB/Hz
Output Eye	Compliant with ITU-T G.957				
<b>Electrical Characteristics</b>					

Data Input Current – Low		-350	--	--	μA
Data Input Current – High		--	--	350	μA
Differential Input Voltage	VIH -VIL	300	--	2400	mV

**Receiver Specifications** ( VCC = 3.15 ~ 3.45V ; Top= 0 ~ 70°C / Top= -40 ~85°C )

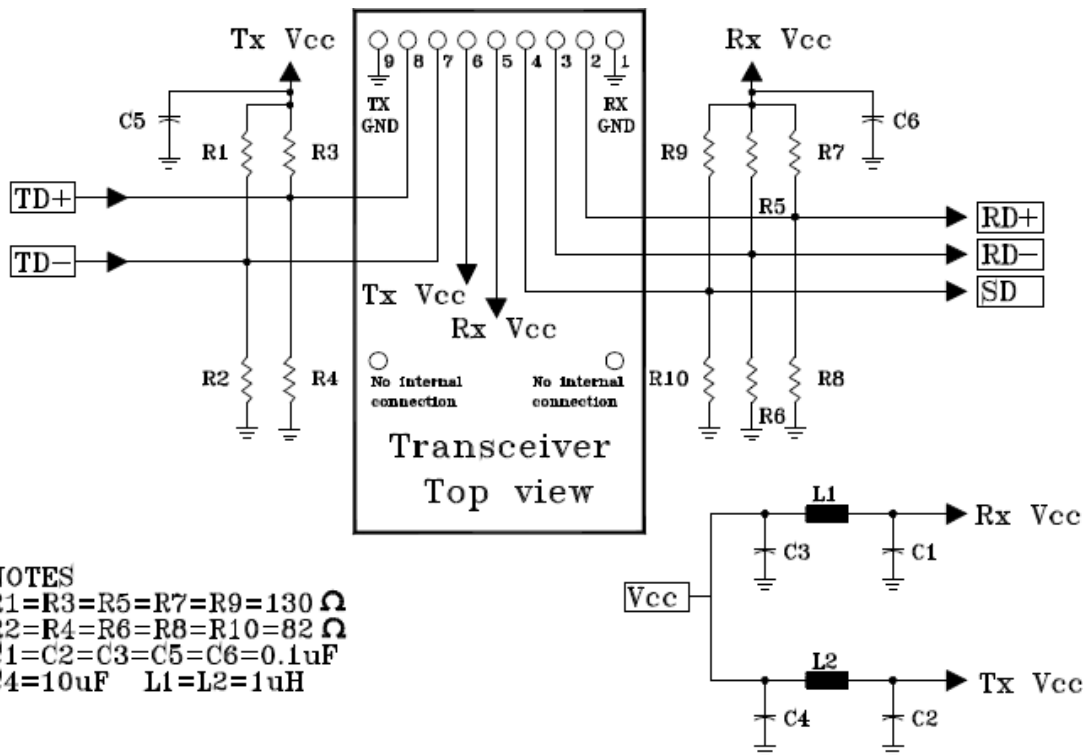
Parameter	Symbol	Min	Typ	Max	Unit
<b>Optical Characteristics</b>					
Maximum Input Power (Sensitivity)	Sen	--	--	-34	dBm
Maximum Input Power(Saturation) ( PRBS=2 <sup>7</sup> -1 ; BER ≤ 10 <sup>-12</sup> )	P <sub>MAX</sub>	-3	--	--	dBm
Operating Center Wavelength	λ <sub>c</sub>	1100	--	1600	nm
Signal Detect – Asserted	PA	--	--	-34	dBm
Signal Detect – De-asserted	PD	-45	--	--	dBm
Signal Detect - Hysteresis	PHYS	1	--	5	dB
<b>Electrical Characteristics</b>					
Data Output Voltage – Low	VIL - VCC	-1830	--	-1555	mV
Data Output Voltage – High	VIH - VCC	-1085	--	-880	mV
Signal Detect Output Voltage-- Low	VSDL -VCC	-2.0	--	-1.58	V
Signal Detect Output Voltage-- High	VSDH -VCC	-1.1	--	-0.74	V

### Pin Definition and Descriptions

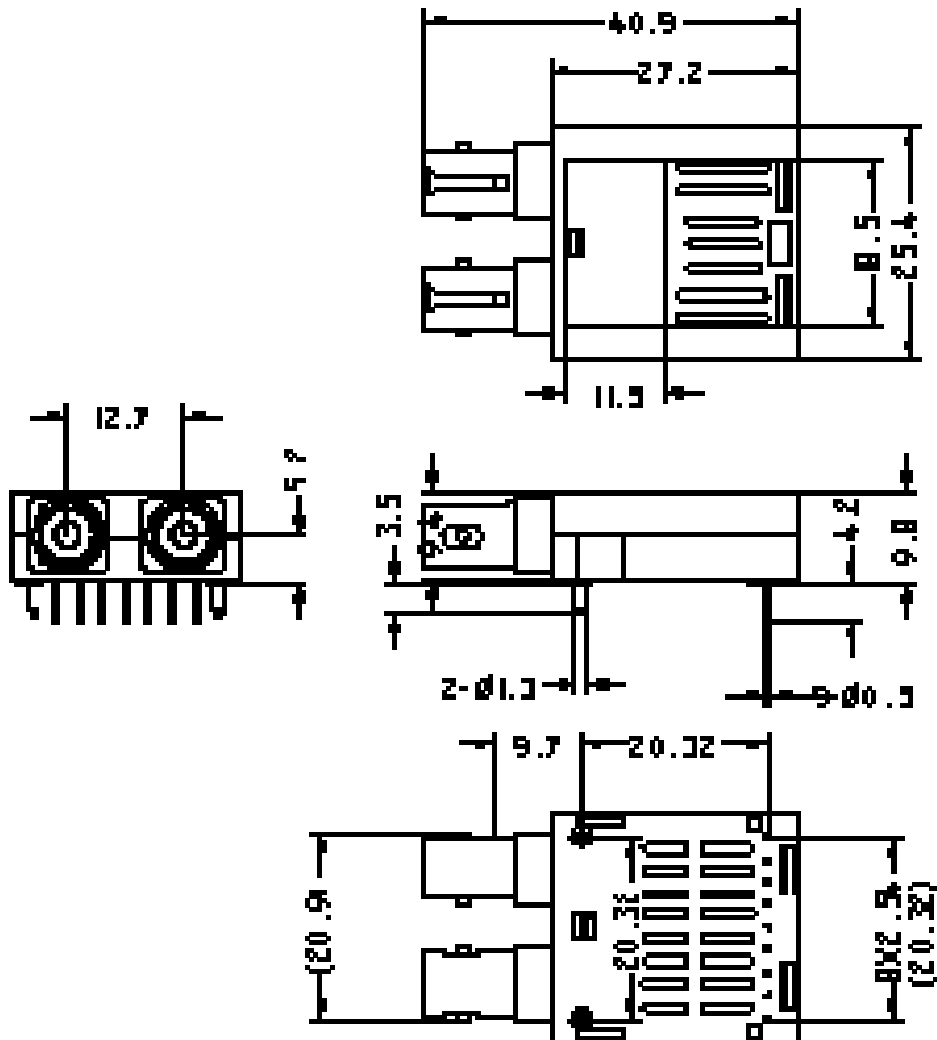
1 Receiver Signal Ground	
2 Receiver Data Out	O N.C.
3 Receiver Data Out Bar	
4 Signal Detect	
5 Receiver Power Supply	Top View
6 Transmitter Power Supply	
7 Transmitter Data In Bar	
8 Transmitter Data In	O N.C.
9 Transmitter Signal Ground	

Top View

### Recommended Circuit Diagram



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.

## Contact Information

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