

Specification

1x9 Form Factor

Duplex ST Receptacle

Optical Transceivers

STM-1 / OC-3 / 100BASE

155.52Mbit/s



Ordering Information

TSP-DxAA6-D2T

Voltage / Temperature

3 : 5.0V / 0 ~ +70 °C

4 : 5.0V / -40 ~ +85 °C

Model Name	Voltage	Device type	Interface	SD	Temperature	Distance
TSP-D3AA6-D2T	5.0V	FP / PIN	DC / DC Coupling	PECL	+0 ~ +70°C	2km
TSP-D4AA6-D2T					-40 ~ +85°C	

Features

- ST Duplex Transceiver
- Industry Standard 1x9 Footprint
- Laser wavelength 1310nm FP LD
- Single 5.0V Power Supply
- PECL Signal Detection Output
- Wave Solder able and Aqueous Washable
- Uncooled Laser Diode with MQW structure
- Complies with Telcordia (Bellcore) GR – 468 - CORE
- ROHS Compliant

Applications

- ATM 155M Links
- SONET/SDH Equipment Interconnect

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	4.75	5.0	5.25	V
Operating Case temperature (TSP-D3AA6-D2T)	Top	0	--	70	°C
Operating Case temperature (TSP-D4AA6-D2T)		-40	--	85	
Data Rate		--	155	--	Mbps
Power Supply Current	Icc	--	150	250	mA

Transmitter Specifications (VCC = 4.75 ~ 5.25V ; Top = 0 ~ 70°C / Top = -40 ~ 85°C)

Parameter	Symbol	Min	Typ	Max	Unit
Optical Characteristics					
Optical Transmit Power	P _o	-20	--	-10	dBm
Optical Center Wavelength	λ	1260	1310	1360	nm
Output Spectrum Width (RMS)	σλ	--	2	4	nm
Extinction Ratio	E _R	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
Output Eye	Compliance with ITU-T G.957				
Electrical Characteristics					
Data Input Current – Low		-350	--	--	μA
Data Input Current – High		--	--	350	μA
Differential Input Voltage	V _{IH} -I _L	300	--	2400	mV

Receiver Specifications (VCC = 4.75 ~ 5.25V ; Top = 0 ~ 70°C / Top = -40 ~ 85°C)

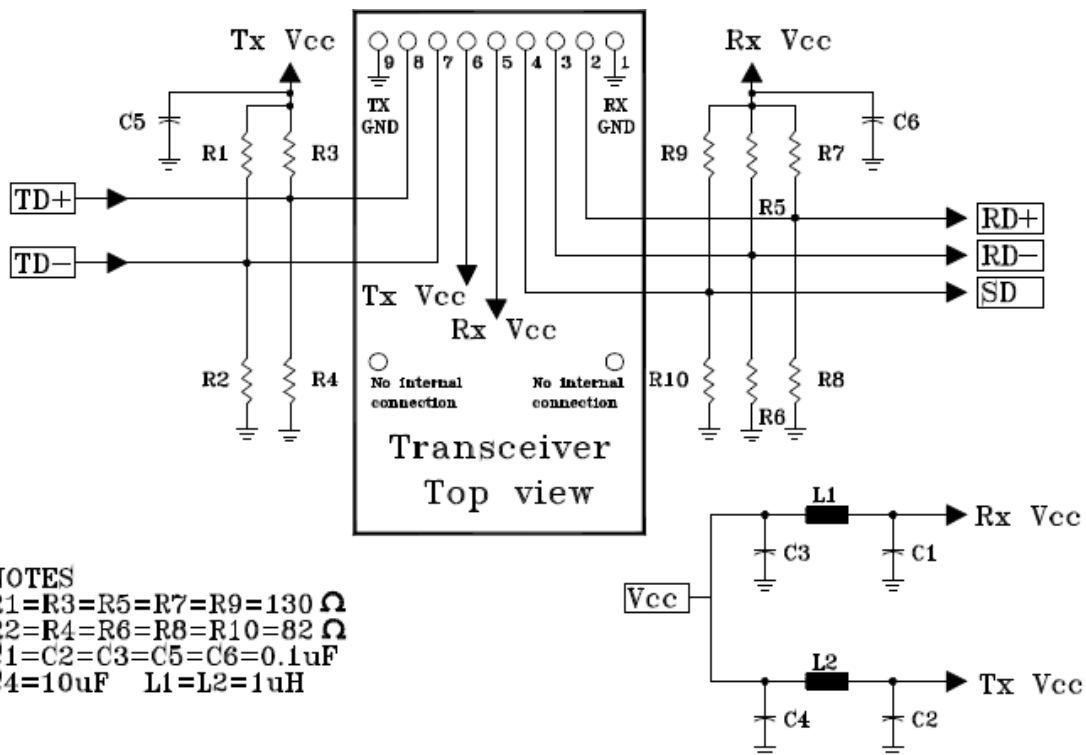
Parameter	Symbol	Min	Typ	Max	Unit
Optical Characteristics					
Maximum Input Power (Sensitivity)	Sen	--	--	-30	dBm
Saturation Power (PRBS=2 ²³ -1 ; BER ≤ 10 ⁻¹⁰)	Pmax	-3	--	--	dBm
Operating Center Wavelength	λ _c	1100	--	1610	nm
Signal Detect – Asserted	P _A	--	--	-30	dBm
Signal Detect – De-asserted	P _D	-45	--	--	dBm
Signal Detect - Hysteresis	PHYS	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	VSIL -VCC	-2.0	--	-1.58	mV
Signal Detect Output Voltage-- High	VSIL -VCC	-1.1	--	-0.74	mV

Pin Definition and Descriptions

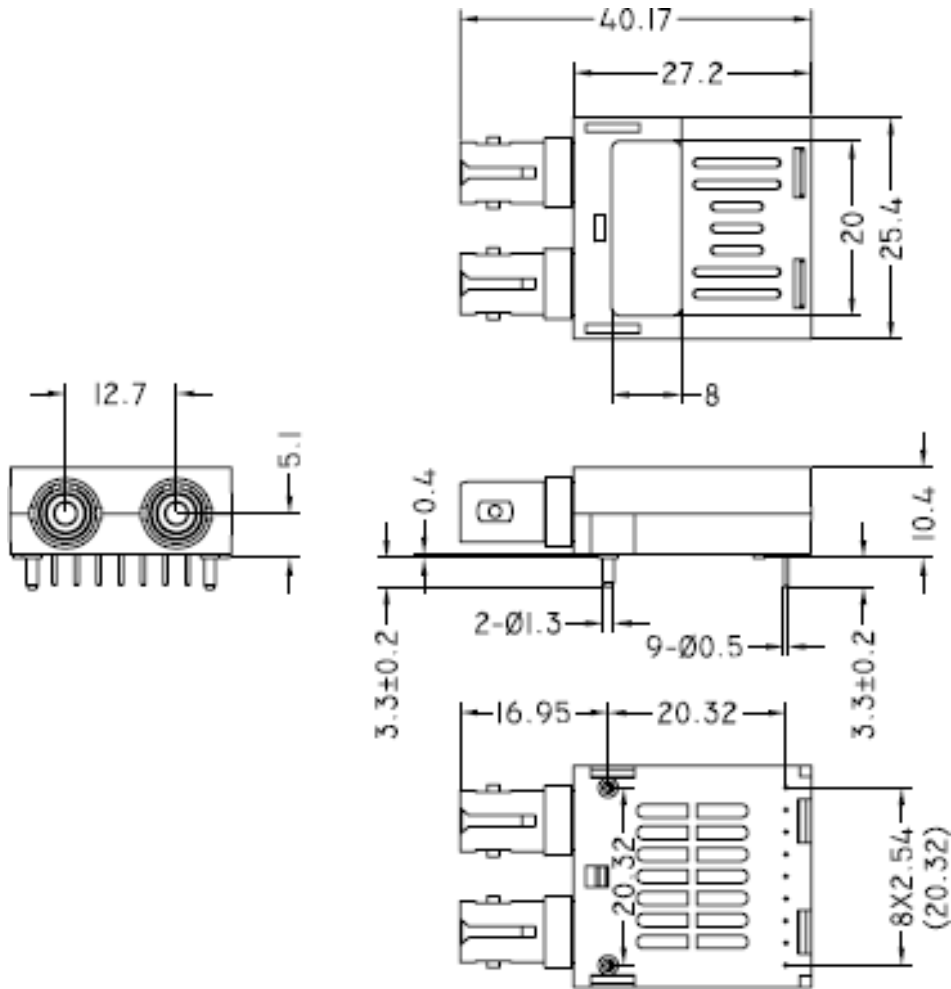
1 Receiver Signal Ground	
2 Receiver Data Out	O N.C.
3 Receiver Data Out Bar	
4 Signal Detect	
5 Receiver Power Supply	Top View
6 Transmitter Power Supply	
7 Transmitter Data In Bar	
8 Transmitter Data In	O N.C.
9 Transmitter Signal Ground	

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

Formerica OptoElectronics Inc.

5F-11, No.38, Taiyuan St., Zhubei City,
Hsinchu County 30265, Taiwan
Tel: +886-3-5600286
Fax: +886-3-5600239

San Diego, CA

Tel: 1-949-466-8069

inquiry@formericaoe.com
www.formericaoe.com