

## Multimode 2.5Gbps 2X5 SFF Optical Transceiver

### Features

- LC duplex receptacle
- Standard 2 x 5 footprint
- 1310 or 1550nm LD transmitter with automatic power control
- AC coupled LVPECL compatible data input and output
- Transmitter disable input
- PECL or TTL LOS output
- Single 3.3V power supply



### Specifications

Parameter	Symbol	Min.	Typ.	Max.	Unit
<b>Transmitter</b>					
Data Rate (NRZ)	B	-	2.5	-	Gb/s
Optical Output Power (avg.) <sup>(1) (2) (3)</sup>	P <sub>o</sub>	-2	-	-	dBm
Extinction Ratio	ER	9	-	-	dB
Optical Wavelength	$\lambda_c$	-	1310/1550	-	nm
Spectral Width (RMS)	$\Delta\lambda$	-	-	2	nm
Output Rise Time (20-80%)	t <sub>r</sub>	-	-	100	ps
Output Fall Time (20-80%)	t <sub>f</sub>	-	-	100	ps
Data Differential Input Voltage	V <sub>i</sub>	500	-	2400	mV <sub>p-p</sub>
Tx Disable Input	V <sub>DIL</sub>	0	-	0.8	V
	V <sub>DIH</sub>	2	-	V <sub>CC</sub>	V
Supply Voltage	V <sub>CC</sub>	2.97	3.3	3.63	V
Supply Current	I <sub>CC</sub>	-	-	110	mA
<b>Receiver</b>					
Data Rate (NRZ)	B	-	2.5	-	Gb/s
Optical Input Sensitivity (avg.) <sup>(1) (5)</sup>	P <sub>IN</sub>	-	-	-15	dBm
Saturation	P <sub>SAT</sub>	-3	-	-	dBm
Optical Wavelength	$\lambda$	1100	-	1600	nm
Output Rise Time (20-80%)	t <sub>r</sub>	-	-	100	ps
Output Fall Time (20-80%)	t <sub>f</sub>	-	-	100	ps
Data Differential Output Voltage	V <sub>o</sub>	600	-	1200	mV <sub>p-p</sub>
LOS Asserted (avg.)	P <sub>A</sub>	-25	-	-	dBm
LOS Deasserted (avg.)	P <sub>D</sub>	-	-	-15	dBm
LOS Hysteresis	P <sub>HYS</sub>	-	2	-	dB
Supply Voltage	V <sub>CC</sub>	2.97	3.3	3.63	V
Supply Current	I <sub>CC</sub>	-	-	100	mA

Notes :

- (1) With 0.275 NA, 50/125 $\mu$ m fiber.
- (2) Driven with a differential signal.
- (3) Class 1 eye safe per FDA and IEC.
- (4) Transmitter eye mask diagram is compliant to FC-PI-2 Eye Diagram.
- (5) 2<sup>7</sup> -1 PRBS, BER= 10<sup>-12</sup>.
- (6) The transmitter output should not be viewed directly.

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## Absolute Maximum Ratings

Parameter		Min.	Max.	Unit
Operating Temperature	-1	0	70	°C
	-2	-40	85	°C
Storage Temperature		-40	100	°C
Lead Soldering Limits		-	240/10	°C /sec
Supply Voltage		-0.2	4	V

## Ordering Information

SNS-T R   M 1 4 - 1 L L C 3 A R 1

Operating Temperature Range :

1 : 0 ~ 70°C

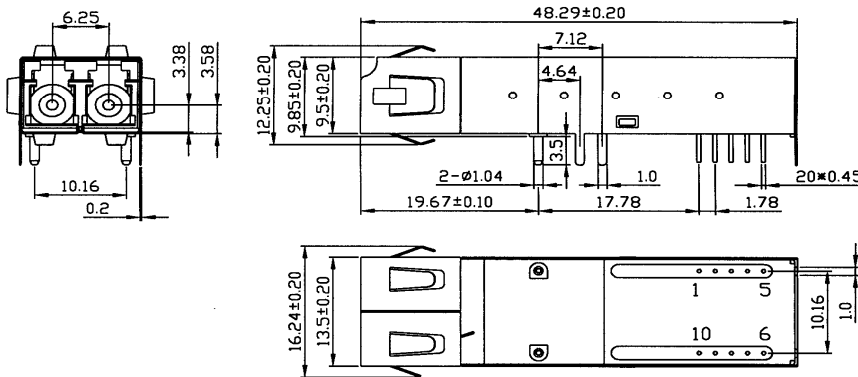
2 : -40 ~ 85°C

Data Coupling & LOS Output Level :

Symbol	Tx Coupling	Rx Coupling	SD
E	AC	AC	PECL
F	AC	AC	TTL

## Outline Drawing

2\*5



UNIT : mm

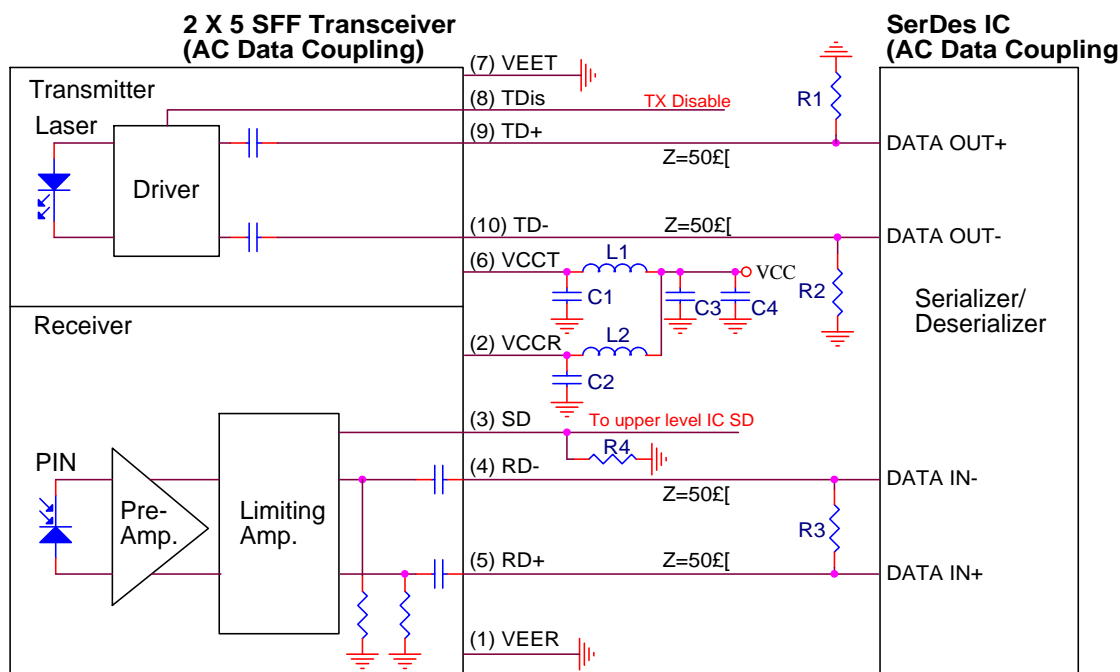
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## Pinout Description

Pin No.	Symbol	Description
1	V <sub>EER</sub>	Receiver Ground
2	V <sub>CCR</sub>	Receiver Power Supply
3	LOS	Receiver Loss of Signal
4	RD-	Receiver Data Out (Inverted)
5	RD+	Receiver Data Out
6	V <sub>CCT</sub>	Transmitter Power Supply
7	V <sub>EET</sub>	Transmitter Ground
8	TDIs	Input Logic Low Level to Switch Laser "ON" Input Logic High Level to Switch Laser "OFF"
9	TD+	Transmitter Data in
10	TD-	Transmitter Data In (Inverted)

## Application Notes

Recommended Interface Circuit :



L1=L2=1£gH or ferrite bead  
 C1=C2=C3=0.1£gF  
 C4=10£gF  
 R1, R2, R3 depends on SerDes IC specification.  
 (Consult the SerDes IC application information)  
 R4=510£[

NOTE;G  
 1. Transmission line characteristic impedance Z=50£[.  
 2. R1, R2, R3 as close to SerDes IC as possible.