Fiber Channel 2.125Gbps
Multimode 2X5 SFF Optical Transceiver

Features

- 2.125Gb/s Fiber Channel application
- LC duplex receptacle
- Standard 2 x 5 footprint
- 850nm VCSEL transmitter with automatic power control
- AC coupled LVPECL compatible data input and output
- Transmitter disable input
- PECL or TTL signal detect output
- Single 3.3Vpower supply

Specifications

Parameter	Symbol	Min.	Typ.	Max.	Unit
Transmitter					
Data Rate (NRZ)	B	-	2.125	-	Gb/s
Optical Output Power (avg.) (1) (2) (3)	P_o	-9.5	-	-3	dBm
Extinction Ratio	ER	9	-	-	dB
Optical Wavelength	λ_C	830	850	860	nm
Spectral Width (RMS)	$\Delta\lambda$	-	-	0.85	nm
Output Rise Time (20-80%)	t_r	-	-	150	ps
Output Fall Time (20-80%)	t_f	-	-	150	ps
Data Differential Input Voltage	V_i	500	-	2400	mV_{p-p}
Tx Disable Input	V_{DIL} V_{DIH}	0 2	- -	0.8 V_{CC}	V
Supply Voltage	Vcc	2.97	3.3	3.63	V
Supply Current	I_{CC}	-	-	110	mA
Receiver					
Data Rate (NRZ)	B	-	2.125	-	Gb/s
Optical Input Sensitivity (avg.) (1) (5)	P_{IN}	-	-	-15	dBm
Saturation	P_{SAT}	-3	0	-	dBm
Optical Wavelength	λ	770	850	860	nm
Output Rise Time (20-80%)	t_r	-	-	150	ps
Output Fall Time (20-80%)	t_f	-	-	150	ps
Data Differential Output Voltage	V_o	600	-	1200	mV_{p-p}
Signal Detect Asserted (avg.)	P_A	-	-	-15	dBm
Signal Detect Deasserted (avg.)	P_D	-27	-	-	dBm
Signal Detect Hysteresis	P_{HYS}	0.5	2	-	dB
Supply Voltage	Vcc	2.97	3.3	3.63	V
Supply Current	I_{CC}	-	-	100	mA

Notes :

(1) With 0.275 NA, 62.5/125μm 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) 2^7 -1 PRBS, BER= 10^{-12}.
(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 8 5 M M 4 - 1 V L C 3 A R 1 □ □

Operating Temperature Range：

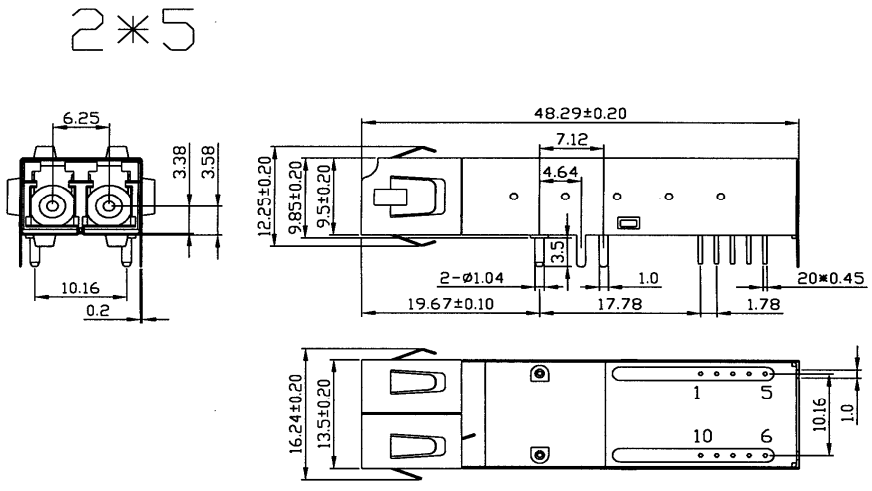
1：0 ~ 70°C

2：-40 ~ 85°C

Data Coupling & SD Output Level：

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

Outline Drawing



UNIT：mm

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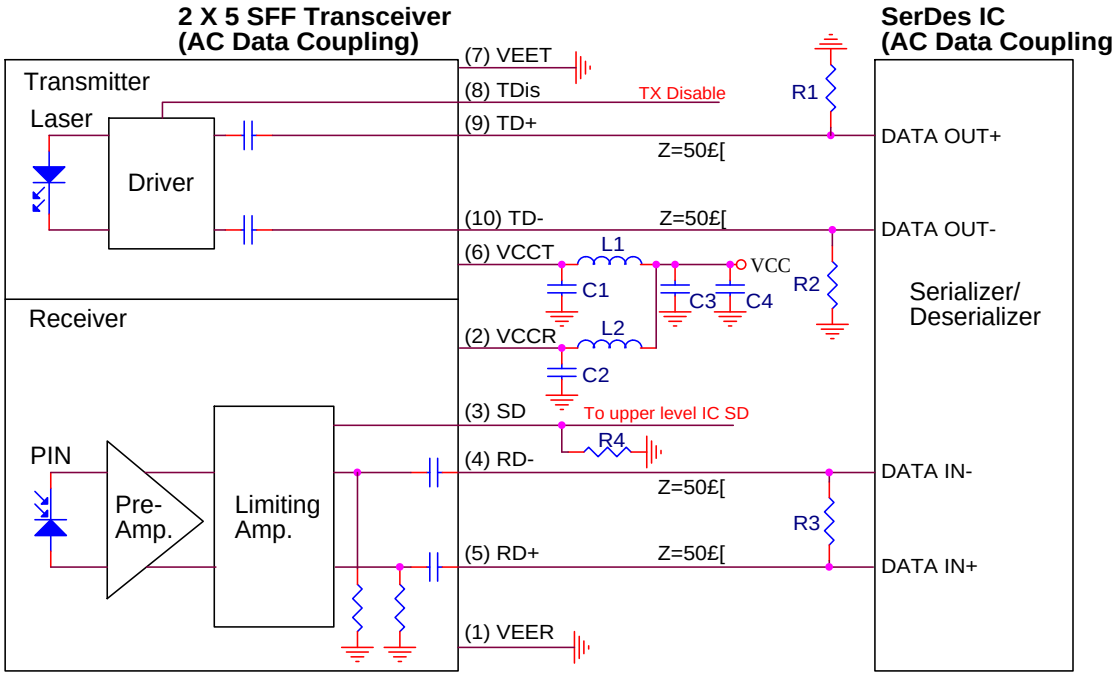
Pinout Description

Pin No.	Symbol	Description
1	V_{EER}	Receiver Ground
2	V_{CCR}	Receiver Power Supply
3	SD	Receiver Signal Detect
4	RD-	Receiver Data Out (Inverted)
5	RD+	Receiver Data Out
6	V_{CCT}	Transmitter Power Supply
7	V_{EET}	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.