

Multi-mode 2.5Gbps Bi-Directional Single Fiber 2x5 SFF Optical Transceiver

Features

- Industrial standard 2 x 5 pin footprint
- Single SC/ST/FC connector interface
- Receptacle only with SC
- Transmitter disable function
- Receiver LOS function
- Wide dynamic rang receiver with AGC
- LVPECL logic interface, AC coupling
- Single supply 3.3V
- Low power consumption



Specifications

Parameter	Symbol	Min.	Typ.	Max.	Unit
Transmitter					
Data Rate (NRZ)	B	-	2.5	-	Gb/s
Optical Output Power (avg.) ^{(1) (3)}					
-1	P _o	-9	-	-3	dBm
Extinction Ratio	ER	9	-	-	dB
Optical Wavelength					
TR13R15 (1310nm FP LD)	λ_c	1260	1310	1360	nm
TR15R13 (1550nm FP LD)	λ_c	1490	1550	1610	nm
Spectral Width	$\Delta\lambda$	-	1.0	2.5	nm
Output Rise/Fall Time (10-90%)	t _r / t _f	-	80	120	ps
Data Differential Input Voltage ⁽⁶⁾	V _I	200	-	2400	mV
Tx Disable Input	V _{DIL}	0	-	0.8	V
	V _{DIH}	2	-	V _{CC}	
Supply Voltage	V _{CC}	3.10	3.3	3.50	V
Supply Current	I _{CC}	-	-	110	mA

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Parameter	Symbol	Min.	Typ.	Max.	Unit
Receiver					
Data Rate (NRZ)	B	-	2.5	-	Gb/s
Optical Input (avg.) Sensitivity ⁽¹⁾⁽⁵⁾					
-1	P _{IN}	-	-	-11	dBm
Saturation	P _{SAT}	-3	0	-	dBm
Output Rise/Fall Time (10-90%)	t _r /t _f	-	-	120	ps
Data Differential Output Voltage ⁽⁶⁾	V _O	600	-	1200	mV
LOS Asserted (avg.)	P _A	-25	-	-	dBm
LOS Deasserted (avg.)	P _D	-	-	-15	dBm
LOS Hysteresis	P _{HYS}	-	2	-	dB
LOS Output					
	V _{LOSL}	0	-	0.4	V
	V _{LOSH}	2.4	-	V _{CC}	
Supply Voltage	V _{CC}	3.10	3.3	3.50	V
Supply Current	I _{CC}	-	-	100	mA
Optical Cross Talk	CT	20	-	-	dB

Notes :

- (1) With 62.5/125μm fiber.
- (2) Driven with a differential signal.
- (3) Class 1 eye safe per FDA and IEC.
- (4) Eye mask diagram is compliant to ITU-T G.957 Eye Diagram.
- (5) 2²³ -1 PRBS, BER= 10⁻¹⁰.
- (6) Compatible with LVPECL logic levels.
- (7) The transmitter output should not be viewed directly.

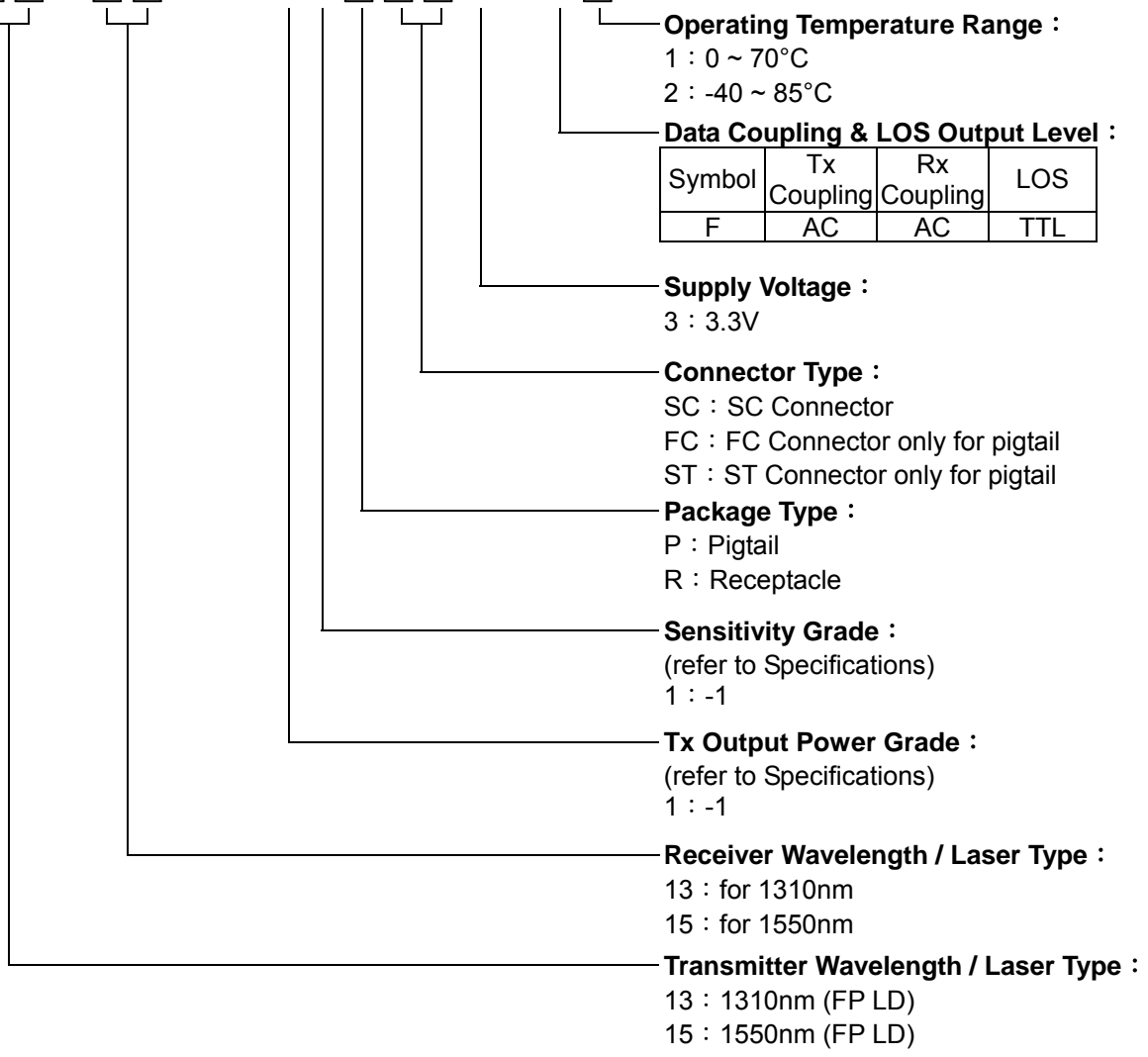
Absolute Maximum Ratings

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	3.3V	-0.2	4	V

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Ordering Information

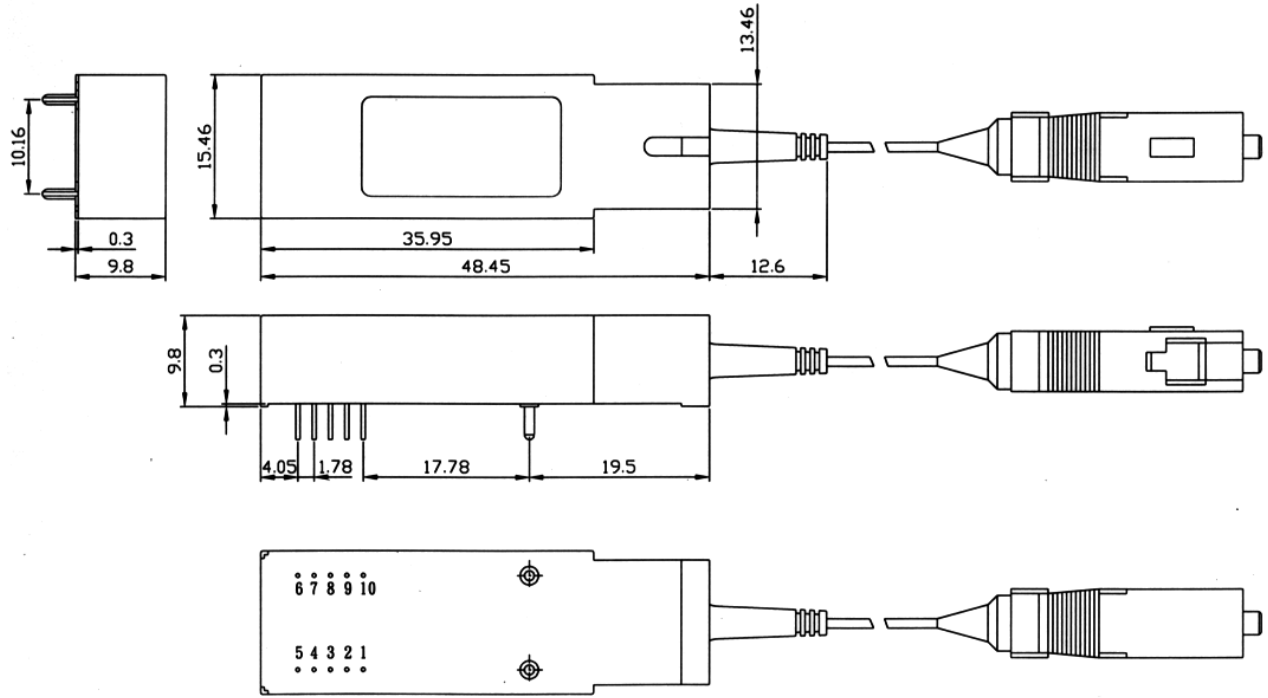
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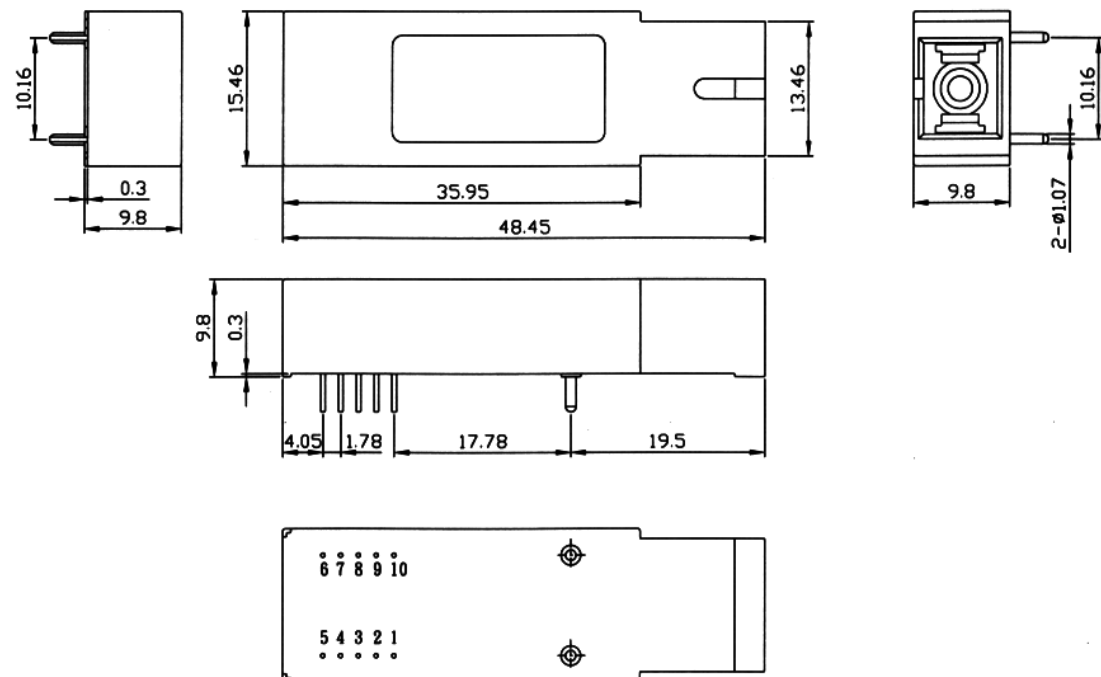
Outline Drawing

Pigtail 2x5 pins SFF



UNIT : mm

Receptacle 2x5 pins SFF



UNIT : mm

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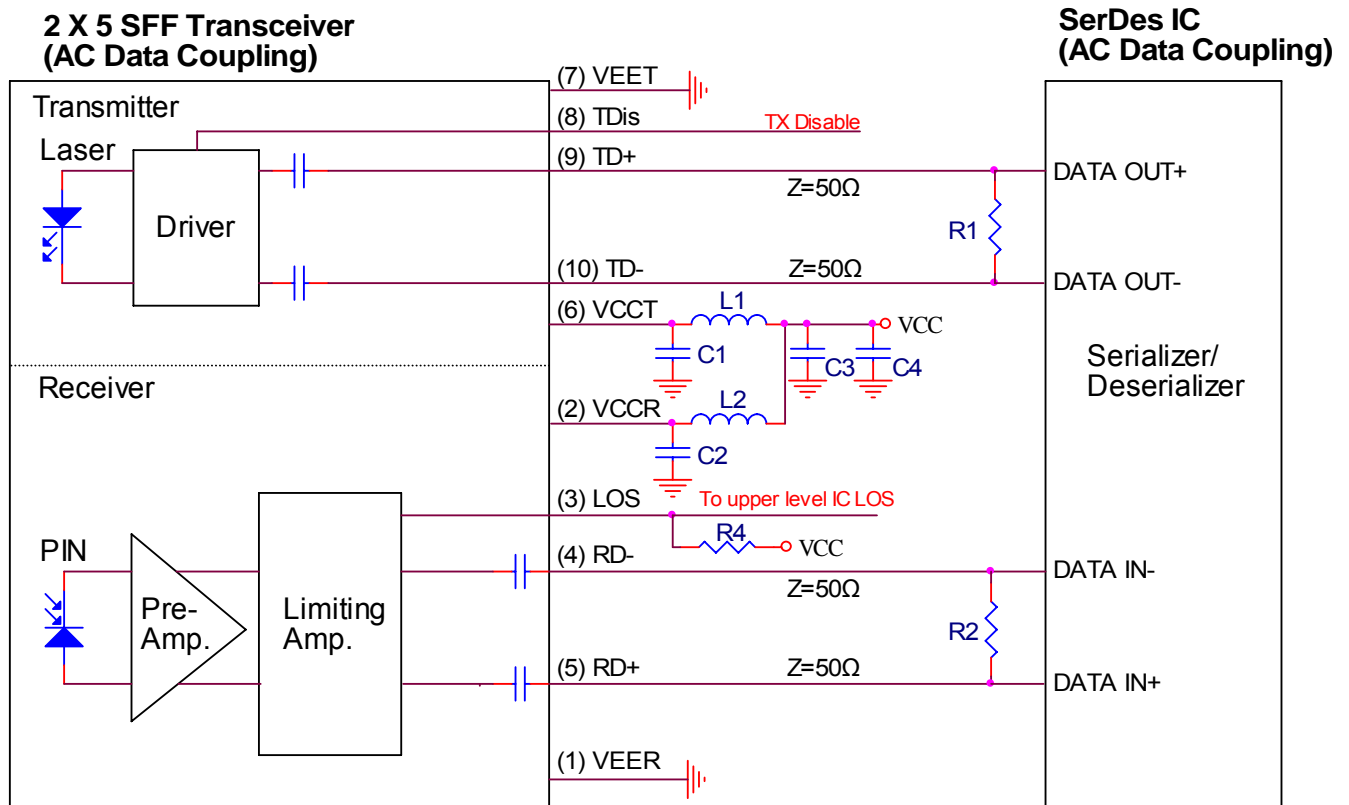
Pinout Description

Pin No.	Symbol	Description
1	V _{EER}	Receiver Ground
2	V _{CCR}	Receiver Power Supply (3.3V)
3	LOS	Loss of Signal
4	RD-	Receiver Data Out (Inverted)
5	RD+	Receiver Data Out
6	V _{CCT}	Transmitter Power Supply (3.3V)
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)

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Application Notes

Recommended AC Coupling Interface Circuit :



L1=L2=1μH or ferrite bead
 C1=C2=C3=0.1μF
 C4=10μF
 R1, R2 depends on SerDes IC specification.
 (Consult the SerDes IC application information)
 R4=10kΩ

NOTE :
 1. Transmission line characteristic impedance Z=50Ω.
 2. R1, R2 as close to SerDes IC as possible.

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