



## TXD-RYZ-W-I

# 1270nm~1610nm Series 18 Channels CWDM DFB Laser Diode, TOSA Receptacle

### Description

The Lasermate TXD-RYZ-W-I laser diode is an 18 channel 1270nm-1610nm wavelength, DFB laser diode designed for use in CWDM applications. The devices are in connector style receptacle packages.



### Features

- Uncooled 1270nm~1610nm MQW-DFB laser diode (LD)
- High temperature operation -20°C to +85°C without active cooling
- Data rate: 155Mbps up to 2.5Gbps
- Hermetically sealed active component
- Optional with single stage isolator
- Built-in high performance, high speed InGaAs monitor PIN photodiode (PD)

### Packaging

- Packaged in FC or ST Receptacle with fiber stub

### Applications

- Design for CWDM fiber optic networks
- ATM/SONET OC-3~OC-24
- SDH STM1~STM-8
- Stable emitting source at specific wavelength

### Ordering Information

Read Model No.	TXD-RYZ-W-I
TXD = CWDM DFB Laser	1270nm <b>(27)</b> , 1290nm <b>(29)</b> , 1310nm <b>(31)</b> , 1330nm <b>(33)</b> , 1350nm <b>(35)</b> , 1370nm <b>(37)</b> , 1390nm <b>(39)</b> , 1410nm <b>(41)</b> , 1430nm <b>(43)</b> , 1450nm <b>(45)</b> , 1470nm <b>(47)</b> , 1490nm <b>(49)</b> , 1510nm <b>(51)</b> , 1530nm <b>(53)</b> , 1550nm <b>(55)</b> , 1570nm <b>(57)</b> , 1590nm <b>(59)</b> , 1610nm <b>(61)</b>
R = Package	Receptacle
Y = Connector	FC <b>(FC)</b> ; ST <b>(ST)</b>
Z= Output power	>0.5mW <b>(L)</b> , >1mW <b>(1)</b> , >2mW <b>(2)</b>
W= Pinout configuration	C pinout <b>(C)</b>
I = Isolator	No <b>(0)</b> ; Yes <b>(I)</b>



## Specifications

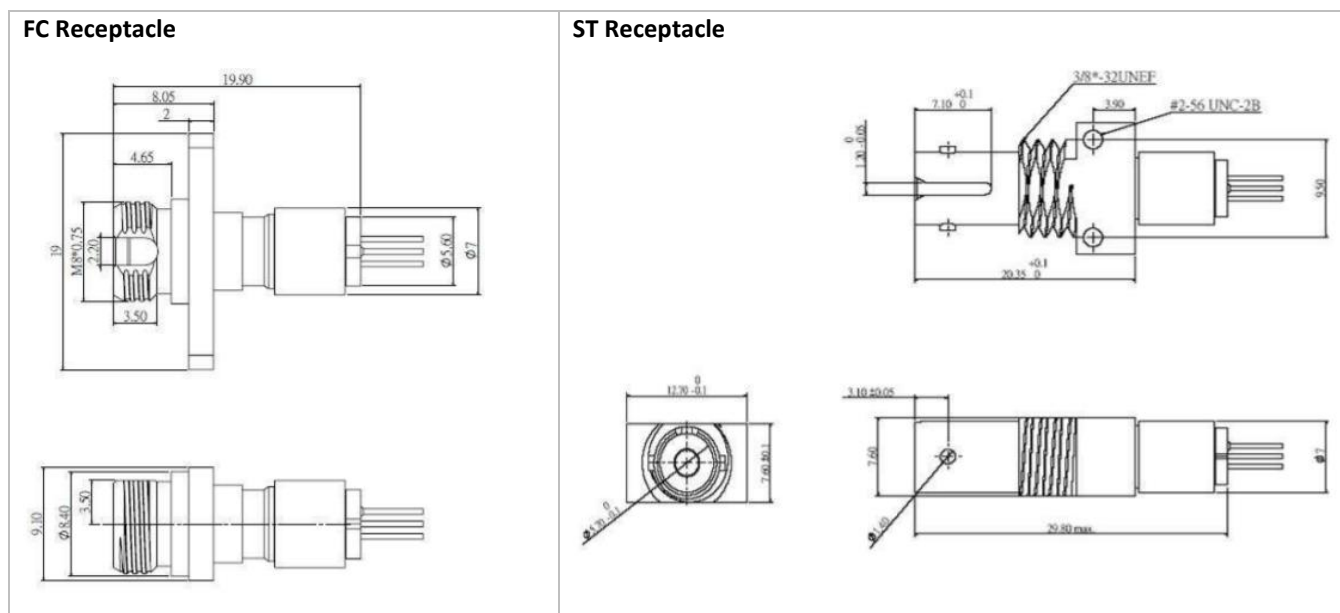
Absolute Maximum Ratings				
Parameters	Symbol	Value	Unit	Conditions
Storage temperature	Tstg	-40 to +85	°C	
Operating case temperature	Top	-20 to +85	°C	
Peak optical output power	Po	5	mW	
Forward current (LD)	I <sub>FLD</sub>	100	mA	
Reverse voltage (LD)	V <sub>RLD</sub>	2	V	
Reverse current (PD)	I <sub>RPD</sub>	5	mA	
Reverse voltage (PD)	V <sub>RPD</sub>	15	V	
Soldering temperature	Stemp	260	°C	10 seconds

Electro-Optical Characteristics (CW @ T <sub>c</sub> = 25°C unless otherwise noted)						
Parameters	Symbol	Min.	Typ.	Max.	Unit	Conditions
Central wavelength	$\lambda_c$	$\lambda_p-3$	$\lambda_p$	$\lambda_p+3$	nm	CW, Pf
Side mode suppression ratio	SMSR	30	40	-	dB	Pf
Spectral width	$\Delta\lambda$	-	0.2	1	nm	Pf
Threshold current	I <sub>th</sub>	-	10	15	mA	CW
Fiber output power	Pf	0.5			mW	CW, I <sub>f</sub> =I <sub>th</sub> +20mA
		1.0				
		2.0				
Operating voltage	V <sub>op</sub>	-	1.1	1.5	V	Pf
Rise time / Fall time	t <sub>r</sub> /t <sub>f</sub>	-	0.1	0.2	nsec	I <sub>b</sub> = I <sub>th</sub> , 20%~80%
Monitor current	I <sub>m</sub>	100	-	1000	uA	Pf, V <sub>rp</sub> =5V
Monitor dark current	I <sub>d</sub>	-	0.1	100	nA	V <sub>rp</sub> =5V
Monitor capacitance	C	-	10	20	pF	V <sub>rp</sub> =5V, f=1MHz
Tracking error*	$\Delta Pf / Pf$	-	±1.0	±1.5	dB	APC, T <sub>c</sub> =-40~+85°C

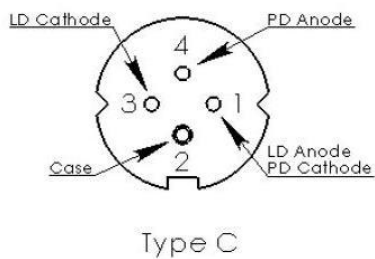
Note:  $\lambda_p$  =1270, 1290, 1310, 1330, 1350, 1370, 1390, 1410, 1430, 1450, 1470, 1490, 1510, 1530, 1550, 1570, 1590, 1610

\*I<sub>m</sub>=constant @ Pf, T<sub>c</sub>=25 °C

## Outline Dimensions (unit: mm)



## Pin Assignment



Pin Number	Type C
1	LD Anode, PD Cathode
2	Case
3	LD Cathode
4	PD Cathode

## Additional Notes

- Avoid eye or skin exposure to laser radiations.
- The device is sensitive to electro-static discharge (ESD). The device should be handled with ESD proof tools. To assemble the device on PCB, proper grounding is required to prevent ESD.
- Specifications are subject to change without notice.