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T13D-RYZ-W-TI-D
1310nm DFB Laser Diode, TOSA Receptacle

Description

The Lasermate T13D-RYZ-W-TI-D is a 1310nm wavelength, Distributed Feedback (DFB) laser diode in receptacle package with output power up to >2mW, optional isolator, and capable of reaching 2.5Gbps data rate operation. The laser is designed for use in telecommunication applications.

Features

- 1310nm InGaAsP/InP MQW-DFB laser diode (LD)
- Data Rate: 155Mbps up to 2.5Gbps
- Uncooled operation at -40 to 85°C
- Hermetically sealed active component
- High performance, high speed InGaAs monitor PIN photodiode (PD)
- Based on Telcordia reliability
- Optional with single-stage isolator

Packaging

- FC/ST/SC receptacle package with 2-hole flange

Applications

- ATM/SONET OC-3/OC-12/OC-24/OC-48
- SDH STM-1/STM-4/STM-8, ITU-T recommendations
- Stable emitting source at specific wavelength

Ordering Information

Read Model No.	**T13D-RYZ-W-TI-D**
T13D = Laser	1310nm DFB laser
R = Package	Receptacle
Y = Connector	FC **(FC)**; SC **(SC)**; ST **(ST)**
Z = Output power	>0.5mW **(M)**; >1mW **(H)**; >2mW **(2)**
W = Pin configuration	A pinout **(A)**; C pinout **(C)**
T = Operating temperature	-40 to 85°C **(4)**
I = Isolator	Without isolator **(N)**; With isolator **(I)**
D = Data rate	1.25Gbps **(1G)**; 2.5Gbps **(2G)**

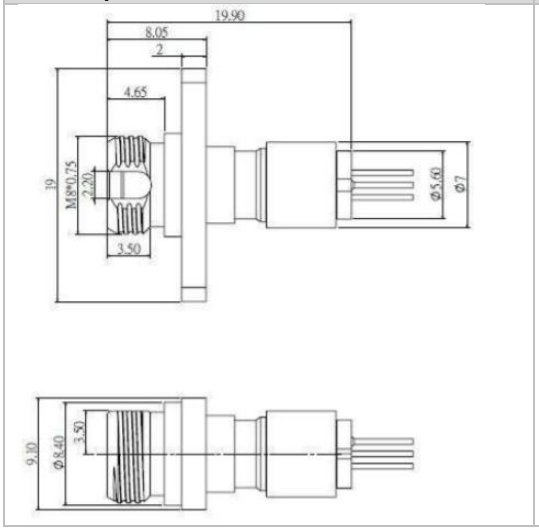
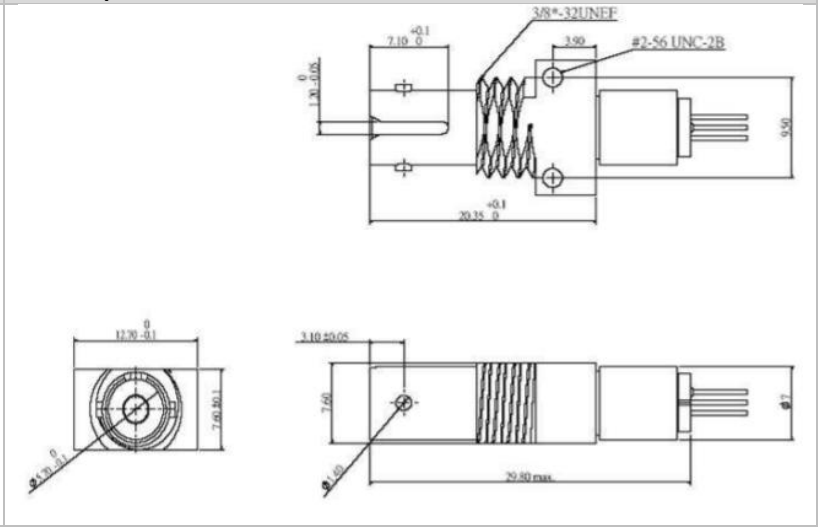
Specifications

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

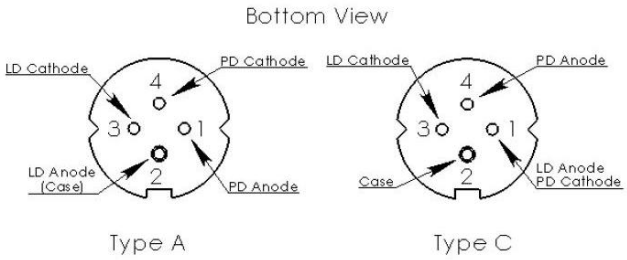
Electro-Optical Characteristics (CW @ T_C = 25°C unless otherwise noted)						
Parameters	Symbol	Min.	Typ.	Max.	Unit	Conditions
Central wavelength	λ_c	1300	1310	1320	nm	CW, Pf
Side mode suppression ratio	SMSR	30	40	-	dB	Pf
Spectral width	$\Delta\lambda$	-	0.2	1	nm	Pf
Threshold current	I_{th}	-	10	15	mA	CW
Fiber output power	Pf	0.5			mW	CW, If=I_{th}+20mA
		1.0				
		2.0				
Operating voltage	Vop	-	1.1	1.5	V	Pf
Rise time / Fall time	t_r/t_f	-	0.1	0.2	nsec	Ib= I_{th}, 20%~80%
Monitor current	Im	100	-	1000	uA	Pf, Vrp=5V
Monitor dark current	Id	-	0.1	100	nA	Vrp=5V
Monitor capacitance	C	-	10	20	pF	Vrp=5V, f=1MHz
Tracking error*	ΔPf/ Pf	-	±1.0	±1.5	dB	APC, Tc=-40~+85°C

*Im=constant @ Pf, Tc=25 °C

Outline Dimensions (unit: mm)

FC Receptacle	ST Receptacle
	

Pin Assignment



Pin Number	Type A	Type C
1	PD Anode	LD Anode, PD Cathode
2	LD Anode (case)	Case
3	LD Cathode	LD Cathode
4	PD Cathode	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.