



T13D-PYZ-WM-TI-D

1310nm Coaxial DFB Pigtail Laser Diode with Optional Isolator

Description

The Lasermate T13D-PYZ-WM-TI-D is a 1310nm wavelength, Distributed Feedback (DFB) laser diode in pigtailed 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

- Single-mode Fiber pigtailed with optional FC/ST/SC/LC connector

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-PYZ-WM-TI-D
T13D = Laser	1310nm DFB laser
P = Package	Pigtailed with 9/125um SM fiber
Y = Connector	None (NO) ; FC/PC (FC) ; SC/PC (SC) ; ST/PC (ST) ; LC/PC (LC) ; FC/APC (FA) ; SC/APC (CA) ; ST/APC (TA)
Z = Output power	>0.5mW (M) ; >1mW (H) ; >2mW (2)
W = Pin configuration	A pinout (A) ; C pinout (C)
M = Mount	No flange (0) ; Horizontal mount (1)
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

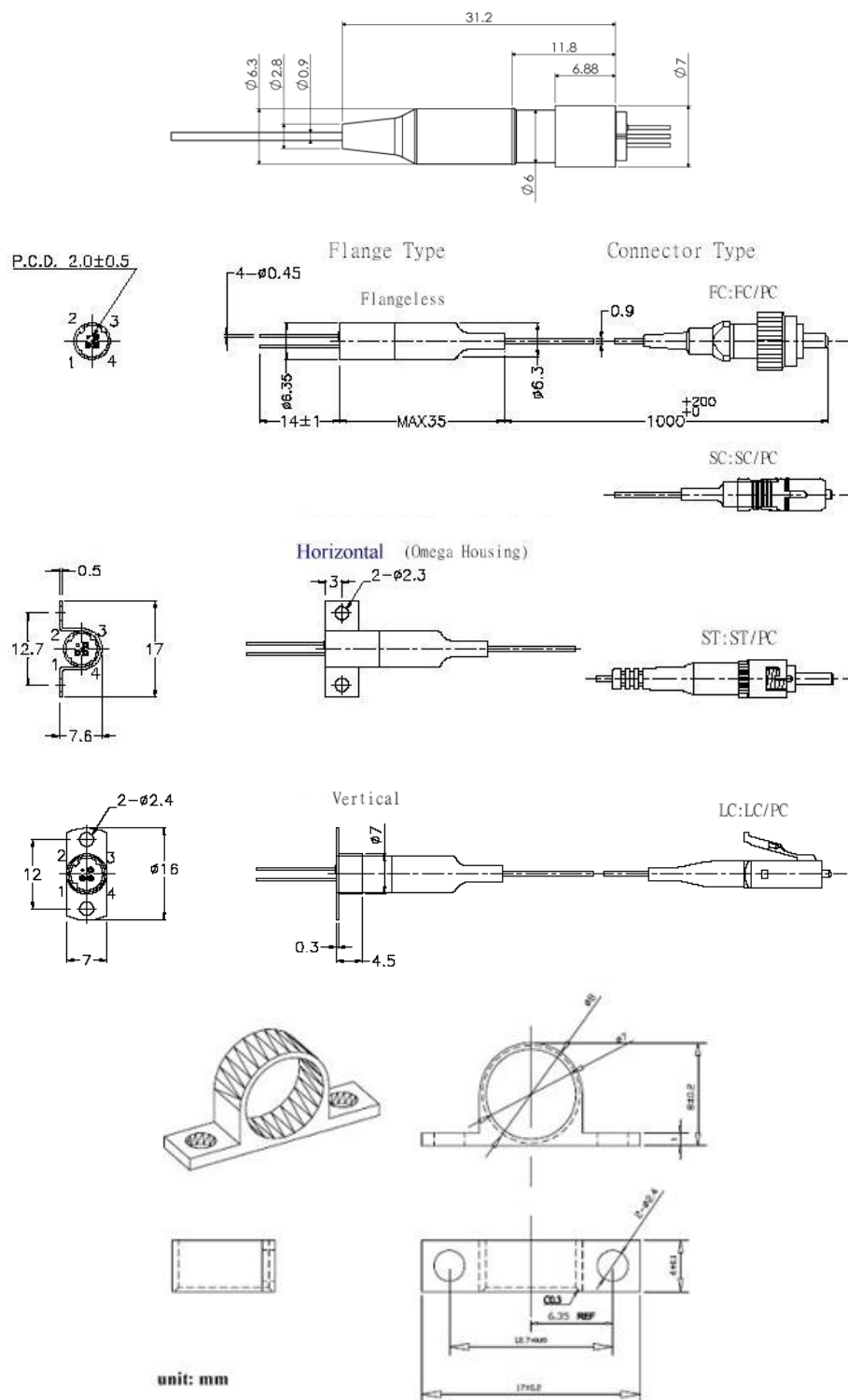
Absolute Maximum Ratings				
Parameters	Symbol	Value	Unit	Conditions
Storage temperature	Tstg	-40 to +85	°C	
Operating case temperature	Top	-40 to +85	°C	
Peak optical output power	Po	5	mW	
Forward current (LD)	I _{FLD}	100	mA	
Reverse voltage (LD)	V _{RLD}	2	V	
Reverse current (PD)	I _{RPD}	5	mA	
Reverse 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, I _f =I _{th} +20mA
		1.0				
		2.0				
Operating voltage	V _{op}	-	1.1	1.5	V	Pf
Rise time / Fall time	t _r /t _f	-	0.1	0.2	nsec	I _b = I _{th} , 20%~80%
Monitor current	I _m	100	-	1000	uA	Pf, V _{rp} =5V
Monitor dark current	I _d	-	0.1	100	nA	V _{rp} =5V
Monitor capacitance	C	-	10	20	pF	V _{rp} =5V, f=1MHz
Tracking error*	Δ Pf/ Pf	-	±1.0	±1.5	dB	APC, T _c =-40~+85°C

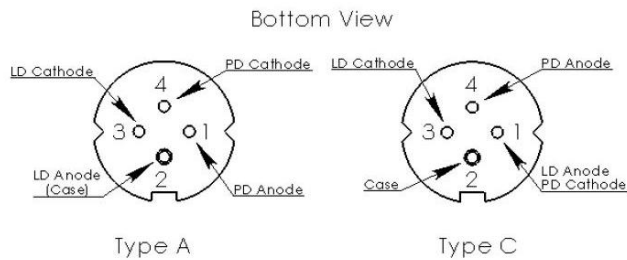
*I_m=constant @ Pf, T_c=25 °C

Fiber Pigtail Specifications					
Parameters	Symbol	Min.	Typ.	Max.	Unit
Fiber type	Single Mode Fiber (Flame Retardant Hytrel Coating)				
Cladding diameter	Dcl	122	125	128	um
Mode field diameter	Dmf	-	10	-	um
Coating diameter	Dbc	-	0.9	1	mm
Pigtail length*	L	0.9	1.0	1.1	m
Bending radius	Rb	30	-	-	mm
Connector	TBD				
*From the ferrule-end to the bottom of TO-header.					

Outline Dimensions (unit: mm)



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.