



## T15DD-P-LA2A0-I

1550nm DFB Pigtail Laser Diode LC/APC, >2mW, 9/125um SMF



### Overview

The Lasermate T15DD-P-LA2A0-I is a 1550nm Distributed Feedback (DFB) laser diode in a pigtailed configuration with 9/125 $\mu$ m single-mode fiber and LC/APC connector. Delivering output power above 2mW and featuring a built-in single-stage isolator, this device is ideal for telecom, Ethernet, and distributed antenna systems (DAS). Its hermetically sealed MQW structure and high-speed InGaAs monitor photodiode ensure reliable, stable optical performance over a wide operating temperature range.

### Features

- 1550nm wavelength InGaAsP / InP MQW-DFB laser diode (LD)
- High performance/speed InGaAs monitor PIN photodiode (PD)
- Uncooled operation at -20 to 85°C
- Hermetically sealed
- Low threshold current
- Single-mode fiber pigtailed with LC/APC connector
- With single-stage isolator

### Applications

- SONET OC-12/OC-48 / SDH STM-4/STM-16
- Gigabit Ethernet
- Stable light source
- DAS Systems



## Specifications

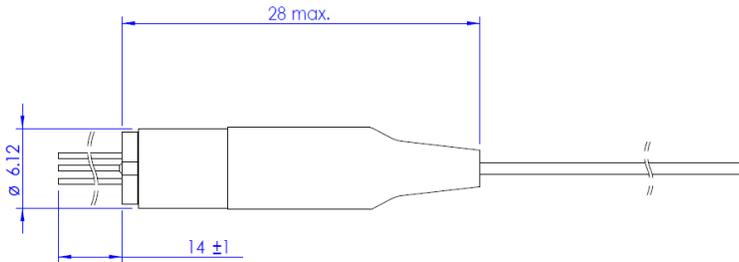
Absolute Maximum Ratings				
Parameters	Symbol	Value	Unit	Conditions
Storage temperature	Tstg	-40 to +85	°C	
Operating case temperature	Top	-20 to +85	°C	
Peak optical output power	Pf	8	mW	
Forward current (LD)	I <sub>FLD</sub>	120	mA	
Reverse voltage (LD)	V <sub>RLD</sub>	2	V	
Reverse current (PD)	I <sub>RPD</sub>	2	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
Peak wavelength	$\lambda_p$	1540	-	1560	nm	CW, Pf
Side mode suppression ratio	SMSR	35	40	-	dB	CW, Pf
Threshold current	I <sub>th</sub>	-	6	14	mA	CW
Operating voltage	V <sub>op</sub>	-	0.95	1.5	V	CW, Pf
Output power	Pf	2.76	-	-	mW	Pf=I <sub>th</sub> +30mA
Optical isolation	OS	30	35	-	dB	@1550nm, Pf
Rise time/Fall time	t <sub>r</sub> /t <sub>f</sub>	-	-	0.2	ns	I <sub>b</sub> = I <sub>th</sub> , 20%~80%
Monitor current	I <sub>m</sub>	0.1	-	1.0	mA	Pf, V <sub>rp</sub> =5V
Monitor dark current	I <sub>d</sub>	-	0.005	100	nA	V <sub>rp</sub> =5V
Monitor capacitance	C	-	-	10	pF	V <sub>rp</sub> =5V, f=1MHz
Tracking error	$\Delta$ Pf/ Pf	-	±0.7	±1.5	dB	APC, T <sub>c</sub> =-20°C~+85°C

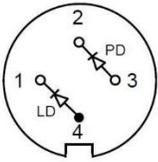
Fiber Pigtail Specifications					
Parameters	Symbol	Min.	Typ.	Max.	Unit
Fiber type	Single Mode Fiber (Flame Retardant Hytrel Coating)				
Cladding diameter	D <sub>cl</sub>	122	125	128	um
Mode field diameter	D <sub>mf</sub>	-	10	-	um
Coating diameter	D <sub>bc</sub>	-	0.9	1	mm
Pigtail length*	L	15	25	35	cm
Bending radius	R <sub>b</sub>	30	-	-	mm
Connector	LC/APC				

\*From the ferrule-end to the bottom of TO-header.

## Outline Dimensions (unit: mm)



## Pin Assignment



Pin Number	Type A
1	LD Cathode
2	PD Cathode
3	PD Anode
4	LD Anode

## Additional Notes

- Avoid eye or skin exposure to laser radiation.
- 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.