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LD780A90C18
780nm 90mW 80°C CW Laser Diode in ⌀5.6mm TO-18 Can Package

Description

The Lasermate LD780A90C18 is a 780nm, 90mW laser diode in a ⌀5.6mm, TO-18 can package and with operating temperature of 80°C. The laser diode is suitable as a compact light source for many applications.

Features

- 780nm Infrared AlGaAs Laser Diode
- Optical output power: 90mW CW
- High operating temperature: +80°C
- Low operating current
- Package: TO-18, ⌀5.6mm

Applications

- Sensing
- Industrial optical module

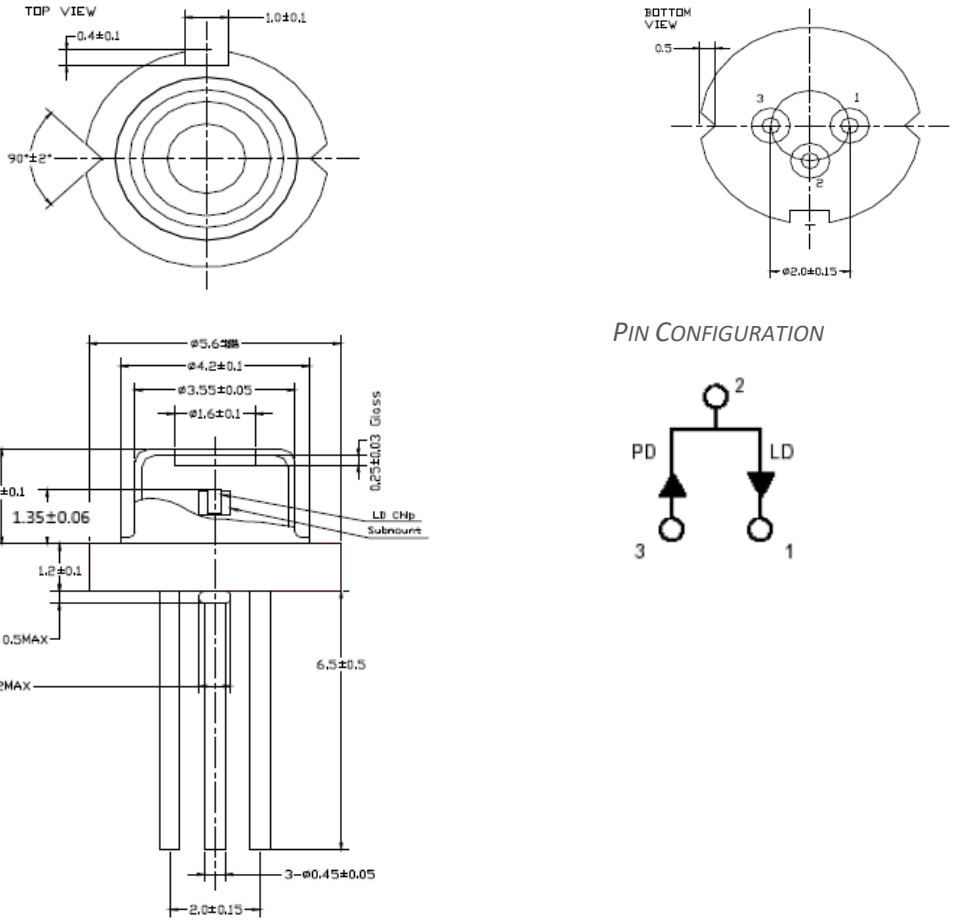
Absolute Maximum Ratings

Parameter	Symbol	Condition	Rating	Unit
Optical output power	P_O	CW	100	mW
Reverse voltage (LD)	V_{RL}	-	2	V
Reverse voltage (PD)	V_{RD}	-	30	V
Operating temperature	T_{opr}	-	-10 to +80	°C
Storage temperature	T_{stg}	-	-40 to +85	°C

Electrical and Optical Characteristics (T_C = 25 °C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Optical output power	P_O		90		mW	
Lasing wavelength	λ_p	770	780	790	nm	P_O = 90mW
Threshold current	I_{th}	-	30	50	mA	
Operating current	I_{op}	-	120	160	mA	P_O = 90mW
Differential Efficiency	η	0.7	1.0	1.3	mW/mA	P_O = 45-90mW
Operating voltage	V_{op}	-	2.0	2.5	V	P_O = 90mW
Monitor current	I_m	0.1	0.3	0.8	mA	P_O = 90mW
Parallel divergence angle	$\Theta_{//}$	7	10	13	deg	P_O = 90mW
Perpendicular divergence angle	$\Theta_{\perp}$	14	17	20	deg	P_O = 90mW
Parallel FFP deviation angle	$\Delta\Theta_{//}$	-2	-	+2	deg	
Perpendicular FFP deviation angle	$\Delta\Theta_{\perp}$	-3	-	+3	deg	
Emission point accuracy	$\Delta x\ \Delta y\ \Delta z$	-60	-	+60	um	

Mechanical Outline (unit: mm)



PIN CONFIGURATION

Additional Notes

- Do not operate the device above maximum ratings. Doing so may cause unexpected and permanent damage to the device.
- Take precautions to avoid electrostatic discharge and/or momentary power spikes. A change in the characteristics of the laser or premature failure may result.
- Proper heat sinking of the device assures stability and lifetime. Always ensure that maximum operating temperatures are not exceeded.
- Observing visible or invisible laser beams with human eye directly, or indirectly, can cause permanent damage. Use a camera to observe the laser.
- No laser device should be used in any application or situation where life or property is at risk in the event of device failure.
- Specifications are subject to change without notice. Ensure that you have the latest specification by contacting us prior to purchase or use of the product.