



LDP905D50WC48

905nm 50W Pulsed Laser Diode in \varnothing 5.6mm TO-18 Can Package

Description

The Lasermate LDP905D50WC48 is a high power 905nm, 50W pulsed laser diode in a \varnothing 5.6mm, TO-can package and with 85°C operation. The laser diode is suitable as compact light source for many applications.

Features

- 905nm Infrared laser diode
- Optical output power: 50W
- Operating temperature: +85°C
- TE mode
- Package: TO-18 (dia. 5.6mm)

Applications

- Laser range finder (LRF)
- Automotive application

Absolute Maximum Ratings

PARAMETER	SYMBOL	RATING	UNIT
Peak output power	P_{peak}	60	W
Forward current	I_f	40	A
Pulse width (FWHM)	t_p	100	ns
Duty ratio	D_r	0.1	%
Reverse voltage	V_R	3	V
Operating temperature	T_{opr}	-40 to +85	°C
Storage temperature	T_{stg}	-40 to +100	°C

Electrical and Optical Characteristics ($T_c = 25^\circ\text{C}$)

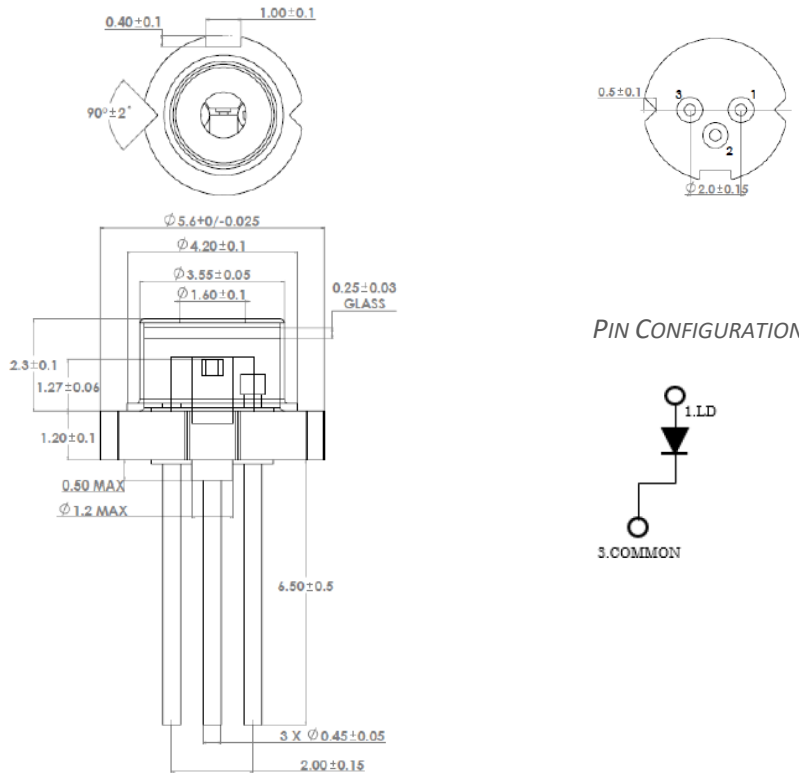
PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT
Lasing wavelength	λ_p	895	905	915	nm
Optical output power	P_o	46	50	-	W
Spectral width (FWHM)	λ_w	-	7	-	nm
Threshold current	I_{th}	-	-	1	A
Operating current	I_{op}	-	30	-	A
Operating voltage	V_{op}	-	-	10.5	V
Parallel divergence angle	$\theta_{//}$	-	10	-	deg
Perpendicular divergence angle	θ_{\perp}	-	28	-	deg
Temperature coefficient of wavelength	$\Delta\lambda/\Delta T$	-	0.28	-	nm/°C
Temperature coefficient of optical power	$\Delta P_o / (\Delta T \times P_o)$	-	-0.3	-	%/°C

Note: Operating condition – Pulse width $t_p = 100\text{nsec}$, Repetition frequency $F_r = 1\text{kHz}$, Duty ratio $D_r = 0.01\%$.

Chip Characteristics

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT
Aperture size	W x H	-	200 x 5	-	μm

Mechanical Outline (unit: mm)



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.