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LDP905D21WC48
905nm 21W Pulsed Laser Diode in ⌀5.6mm TO-18 Can Package

Description

The Lasermate LDP905D21WC48 is a high power 905nm, 21W laser diode in a ⌀5.6mm, TO-can package and with operating temperature of 85°C. The laser diode is suitable as compact light source for many applications.

Features

- 905nm Infrared laser diode
- Optical output power: 21W
- Operating temperature: +85°C
- Short pulse operation
- TE mode
- Package: TO-18 (dia. 5.6mm)

Applications

- Laser range finder (LRF)
- Measuring instruments
- Security

Absolute Maximum Ratings

Parameter	Symbol	Rating	Unit
Peak output power	P_{peak}	30	W
Forward current	I_f	10	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 °C)

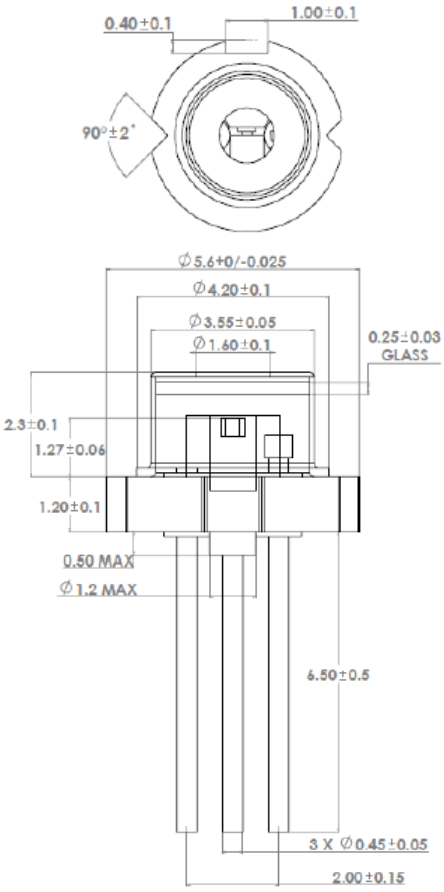
Parameter	Symbol	Min.	Typ.	Max.	Unit
Lasing wavelength	λ_p	895	905	915	nm
Optical output power	P_o	17	21	-	W
Spectral width (FWHM)	λ_W	-	7	-	nm
Threshold current	I_{th}	-	-	0.6	A
Operating current	I_{op}	-	7	-	A
Operating voltage	V_{op}	-	-	9	V
Parallel divergence angle	$\Theta_{//}$	-	10	-	deg
Perpendicular divergence angle	$\Theta_{\perp}$	-	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

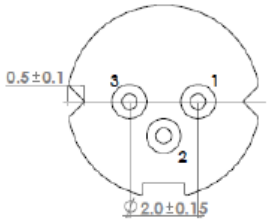
Note: Operating condition – Pulse width tp = 100nsec, Repetition frequency Fr=1kHz, Duty ratio Dr=0.01%.

Chip Characteristics

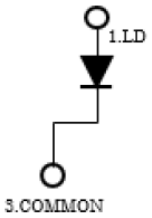
Parameter	Symbol	Min.	Typ.	Max.	Unit
Emitting area size	W x H	-	75 x 10	-	um

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.