

## 905nm 25000mW 85°C Pulsed Laser Diode in TO-18 $\phi$ 5.6mm Package

Part No. LDP905D25WC48

### FEATURES

- 905nm 25W laser diode
- Package: TO-18 (5.6mm)
- Short pulse operation
- TE mode

### APPLICATIONS

- Laser range finder (LRF)
- Automotive application

### ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Rating	Unit
Peak output power	$P_{peak}$	35	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

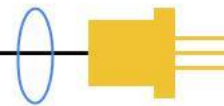
### ELECTRICAL AND OPTICAL CHARACTERISTICS ( $T_c = 25^\circ\text{C}$ )

Parameter	Symbol	Min.	Typ.	Max.	Unit
Lasing wavelength	$\lambda_p$	895	905	915	nm
Optical output power	$P_o$	23	25	-	W
Spectral width (FWHM)	$\lambda_w$	-	7	-	nm
Threshold current	$I_{th}$	-	-	1	A
Operating current	$I_{op}$	-	30	-	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

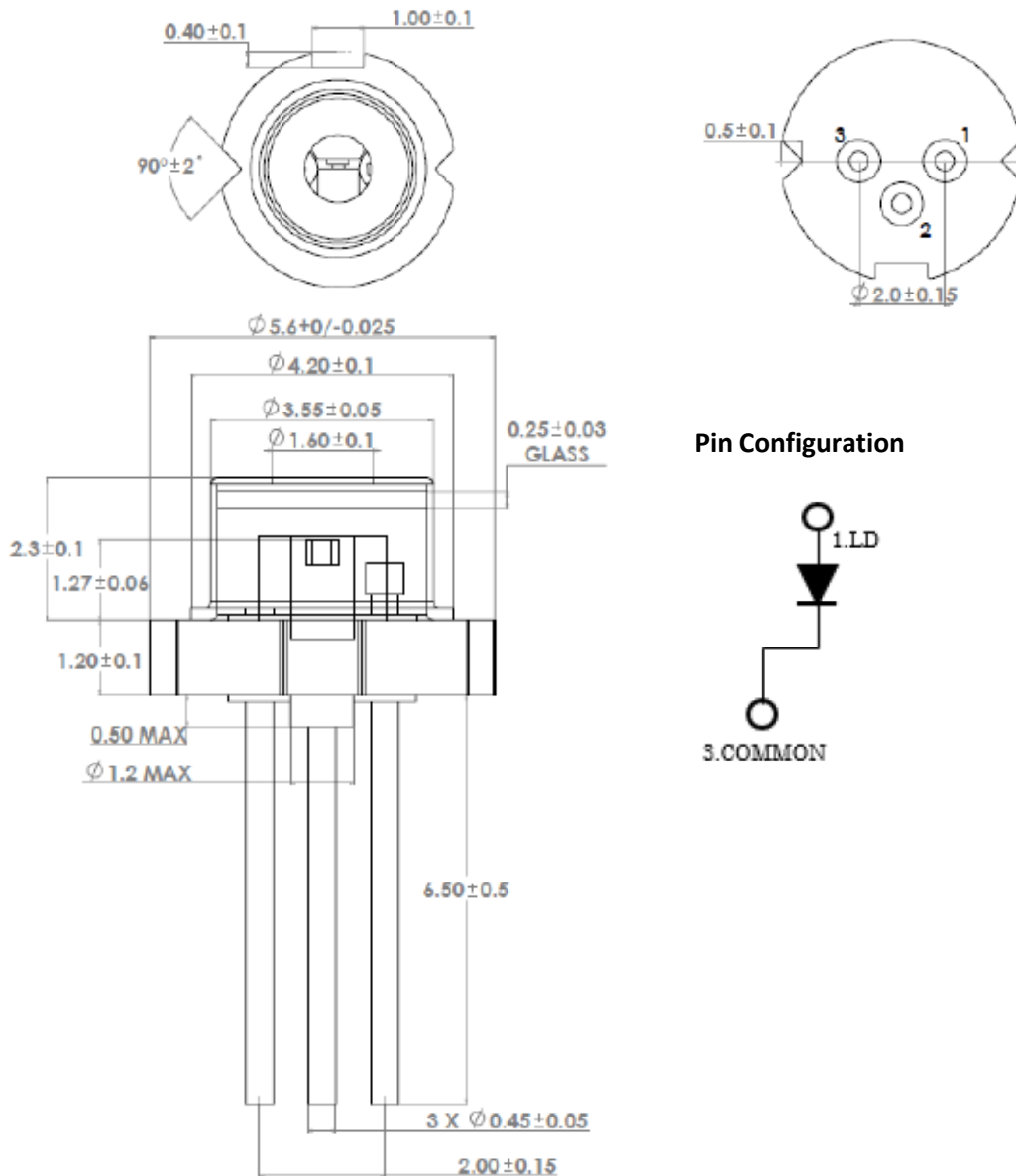
Note: Operating condition – Pulse width  $t_p = 100\text{nsec}$ , Repetition frequency  $F_r = 1\text{kHz}$ , Duty ratio  $D_r = 0.01\%$ .

### CHIP CHARACTERISTICS

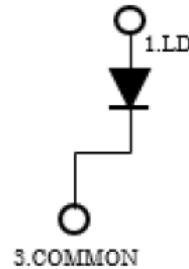
Parameter	Symbol	Min.	Typ.	Max.	Unit
Emitting area size	$W \times H$	-	200 x 1	-	um



**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.