

# 905nm Pulsed Laser Diode

905nm/90W



## GENERAL DESCRIPTION

The LDP905 series pulsed laser diodes feature stripe widths of 30 $\mu$ m to 220 $\mu$ m and can be stacked three or four emitters to realize the output power 15W to 150W. The high optical output and high density emission performance translate to superior beam performance which contributes to higher accuracy and expands longer distances in various LiDAR applications. LDP-905090-4S-18 is a 90W infrared high peak power laser diode with 110x18 $\mu$ m emitting area. The industry TO18 hermetic package ensures high reliability and temperature stability.

## SERVICE

Optionally, we offer the complete value chain:

We design and develop laser products which are optimized to meet the specific requirements of your application. In order to evaluate the performance of the lasers in the design phase we offer the rapid manufacture of prototypes and small series production.

## APPLICATIONS

- Robot vacuum cleaner
- Automatic guided vehicles (AGVs)
- Other security devices

## FEATURES

- Suited for short laser pulses from 1 to 100 ns
- 4 epi-stacked emitters structure for high density emission
- Robust TO-can package for high volume applications
- RoHS compliant

## Specifications

### Optical & Electrical

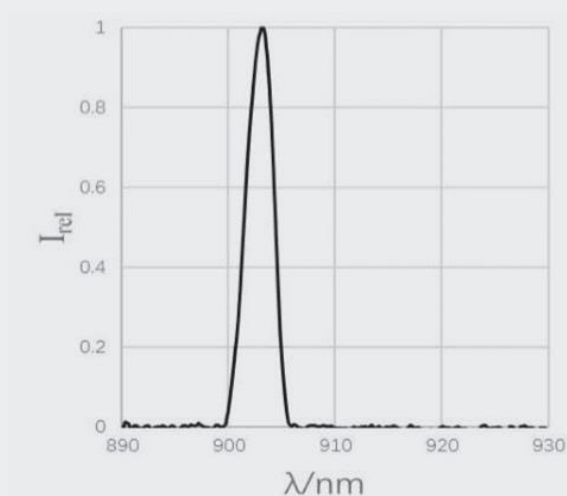
$I_f=30A$ ;  $t_p=100ns$ ;  $D=0.1\%$ ;  $T_s=25^\circ C$

Parameter	Symbol	Minimum	Typical	Maximum
Peak Output power	$P_o$	90W	90W	120W
Peak wavelength	$\lambda_p$	895nm	905nm	915nm
Spectral width (FWHM)	$d\lambda$	-	7nm	-
Beam divergence (FWHM)	$\theta_{  } \times \theta_{\perp}$	-	$10^\circ \times 22^\circ$	-
Emitting Area	$W \times H$	-	$110\mu m \times 18\mu m$	-
Threshold current	$I_{th}$	-	1.0A	-
Operating current	$I_{op}$	-	-	30A
Operating voltage	$V_f$	-	40V	48V

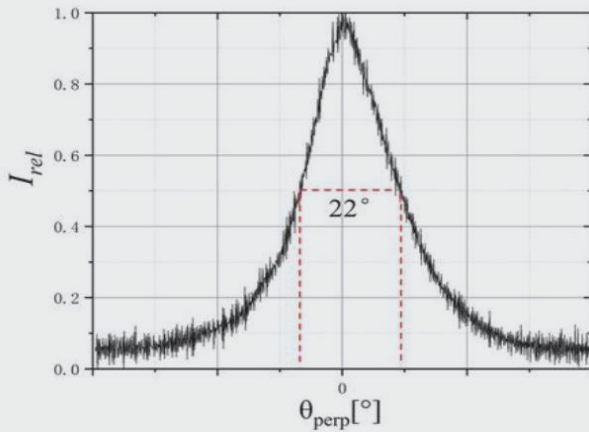
### Absolute Maximum

Parameter	Symbol	Minimum	Maximum	Test Conditions
Reverse voltage	$V_r$	-	2V	-
Pulse width (FWHM)	$t_p$	-	100ns	-
Duty cycle	$D_c$	-	0.1%	-
Operating case temperature	$T_{op}$	$-40^\circ C$	$105^\circ C$	-
Storage temperature range	$T_{stg}$	$-40^\circ C$	$105^\circ C$	-
Lead soldering time	$T_{sol}$	-	3sec.	$260^\circ C$

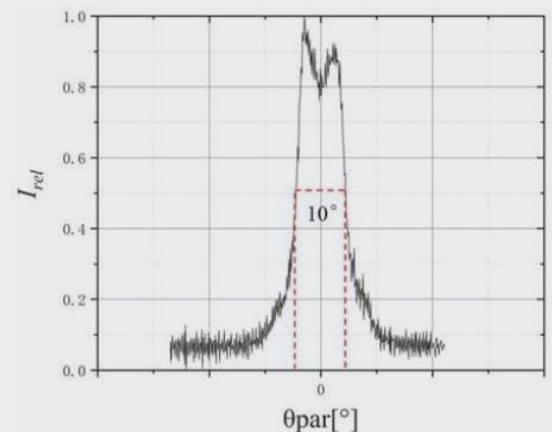
## Wavelength spectrum



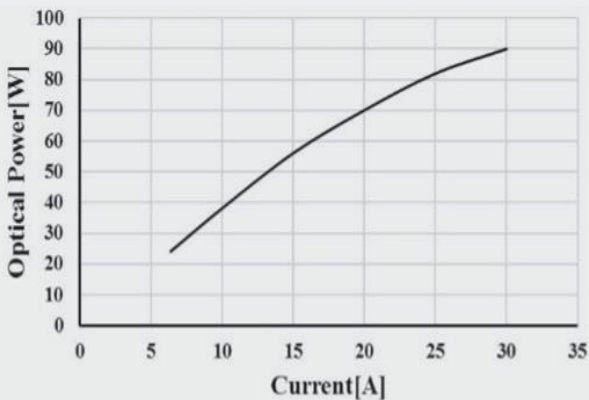
## Fast axis far-field pattern



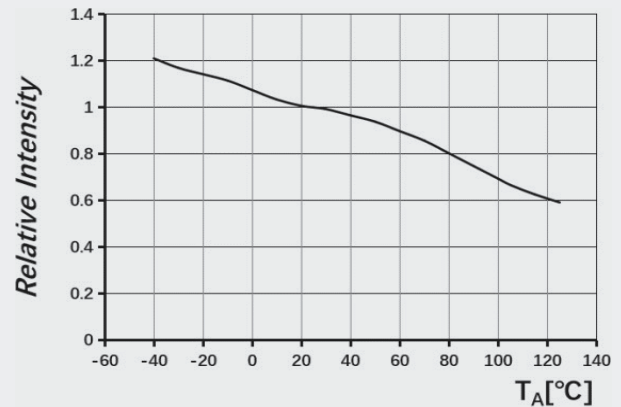
## Slow axis far-field pattern



## Optical power vs current



## Optical power vs Temperature



## Dimensions

Unit: mm

