

905nm Pulsed Laser Diode

905nm/75W



GENERAL DESCRIPTION

The LDP905 series pulsed laser diodes feature stripe widths of 30 μ m to 220 μ 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-905075-3S-18 is a 75W infrared high peak power laser diode with 70x10 μ 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 200 ns
- 3 epi-stacked emitters structure for high density emission
- Robust TO-can package for high volume applications
- RoHS compliant

Specifications

Optical & Electrical

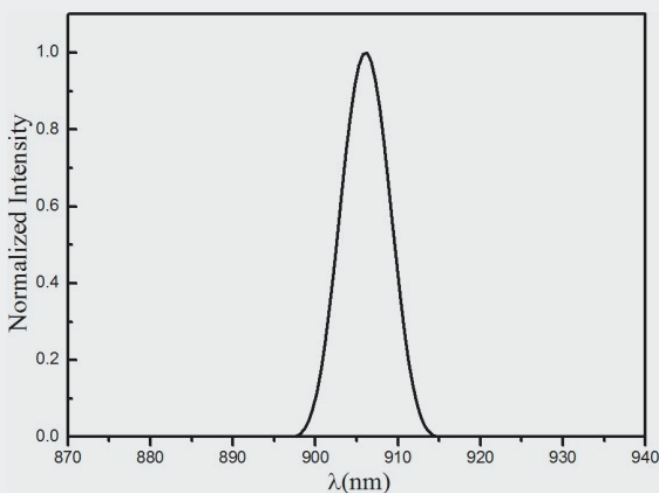
$I_f=30A$; $t_p=100ns$; $D=0.1\%$; $T_s=25^\circ C$

| Parameter | Symbol | Minimum | Typical | Maximum |
|------------------------|-------------------------------------|---------|---------------------------|----------------------------|
| Peak Output power | P_o | 65W | 75W | 90W |
| Peak wavelength | λ_p | 895nm | 905nm | 915nm |
| Spectral width (FWHM) | $d\lambda$ | - | 7nm | -- |
| Beam divergence (FWHM) | $\theta_{ } \times \theta_{\perp}$ | - | $8^\circ \times 25^\circ$ | $10^\circ \times 30^\circ$ |
| Emitting Area | $W \times H$ | - | $190\mu m \times 10\mu m$ | - |
| Threshold current | I_{th} | - | 0.75A | 1.0A |
| Operating current | I_{op} | - | 30A | 40A |
| Operating voltage | V_f | - | 18V | 22V |

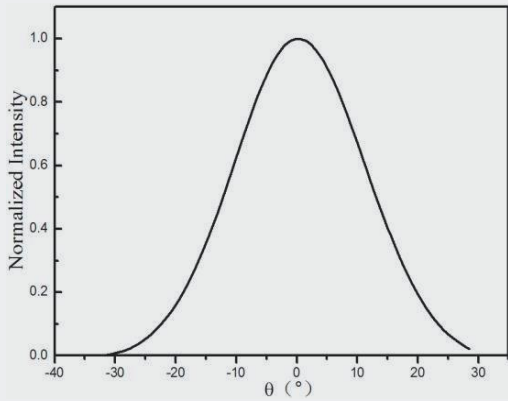
Absolute Maximum

| Parameter | Symbol | Minimum | Maximum | Test Conditions |
|----------------------------|-----------|---------------|---------------|-----------------|
| Reverse voltage | V_r | - | 2V | - |
| Pulse width (FWHM) | t_p | - | 200ns | - |
| Duty cycle | D_c | - | 0.1% | - |
| Operating case temperature | T_{op} | $-40^\circ C$ | $85^\circ C$ | - |
| Storage temperature range | T_{stg} | $-40^\circ C$ | $100^\circ C$ | - |
| Lead soldering time | T_{sol} | - | 3sec. | $260^\circ C$ |

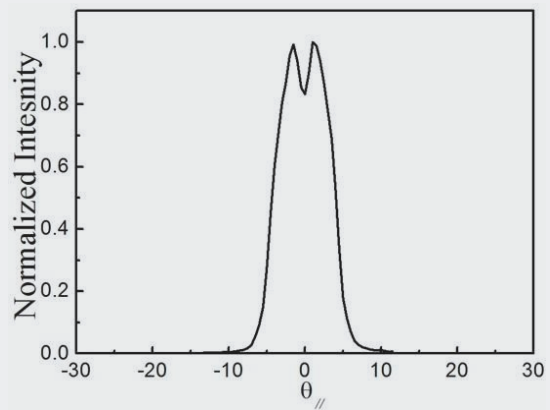
Wavelength spectrum



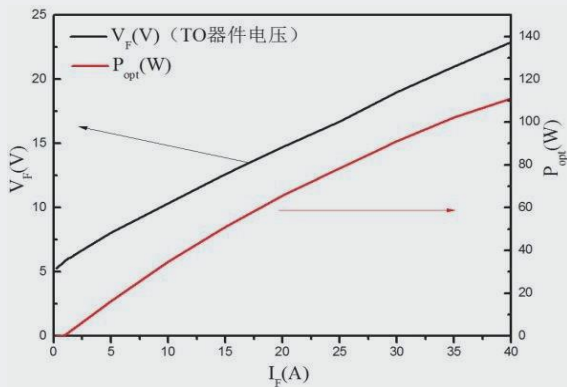
Fast axis far-field patten



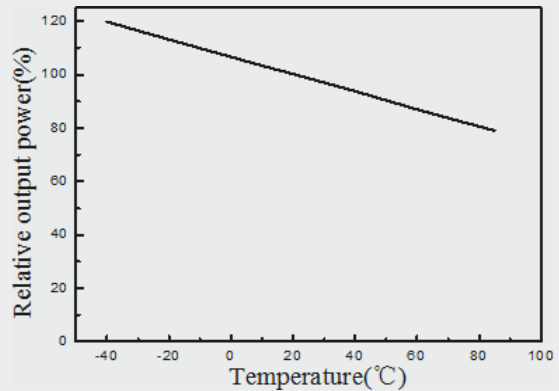
Slow axis far-field patten



Optical power vs current



Optical power vs Temperature



Dimensions

Unit: mm

