

## Laser Diode



### L785P100



### Description

Thorlabs Ø5.6 mm, TO-18 can package discrete laser diode is a compact light source suited to many application. Our lasers are fully compatible with our entire line of Laser Diode and TEC Controllers as well as our selection of Laser Diode Mounts and Collimation Solutions.

### Specifications

( $P_o = 90 \text{ mW}$ ,  $T_c = 25 \text{ }^\circ\text{C}$ )

| Specification                                | Symbol      | Max                                |
|--|-------------|------------------------------------|
| Optical Output Power, mW                     | $P_o$       | 100 CW,<br>220 Pulsed <sup>‡</sup> |
| LD Reverse Voltage, V                        | $V_{R(LD)}$ | 2                                  |
| Operation Case Temperature, $^\circ\text{C}$ | $T_{op}$    | -10 to 60                          |
| Storage Temperature, $^\circ\text{C}$        | $T_{STG}$   | -40 to 85                          |

| Specification                       | Symbol      | Min | Typ | Max |
|-------------------------------------|-------------|-----|-----|-----|
| Lasing Wavelength, nm               | $\lambda_p$ | 775 | 785 | 795 |
| Threshold Current <sup>†</sup> , mA | $I_{th}$    | 25  | 35  | 55  |
| Operation Current, mA               | $I_{op}$    | 90  | 115 | 160 |

| Specification                          | Symbol                         | Min | Typ | Max |
|--|--------------------------------|-----|-----|-----|
| Operating Voltage, V                   | $V_{op}$                       | 1.5 | 2   | 2.2 |
| Monitor Current*, mA                   | $I_m$                          | 0.1 | 0.5 | 0.7 |
| Slope Efficiency, mW/mA                | $\eta$                         | 0.8 | 1.1 | 1.3 |
| Beam Divergence, $^\circ$              | $\theta_{//}$                  | 8   | 9   | 10  |
| Beam Divergence, $^\circ$              | $\theta_{\perp}$               | 15  | 17  | 19  |
| Beam Angle Deviation, $^\circ$         | $\theta_{//}$                  | -2  | 0   | 2   |
| Beam Angle Deviation, $^\circ$         | $\theta_{\perp}$               | -2  | 0   | 2   |
| Emission Point Accuracy, $\mu\text{m}$ | $\Delta X, \Delta Y, \Delta Z$ | -80 |     | 80  |

\*)  $V_R = 5 \text{ V}$

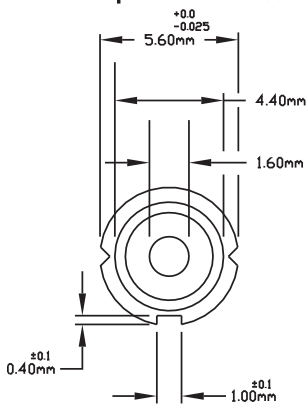
†)  $P_o = 1 - 10 \text{ mW}$

‡)  $0.5 \mu\text{s}$  pulse width, 50% duty cycle

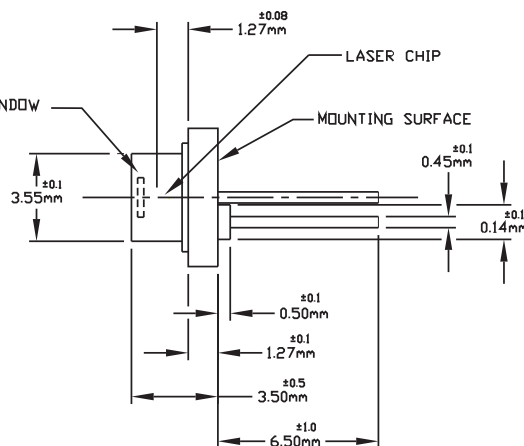
### Drawings



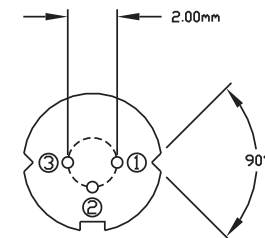
Top View



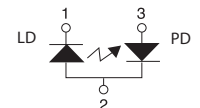
Side View



Bottom View



Pin Code 5A



Pin Description

- 1 Laser Cathode
- 2 Case Common
- 3 Monitor Diode Anode

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