



## AlGaInP Visible Laser Diode

## ADL-65052TL

DATE : 2005/10/18 Ver 1.0

### ★650nm 5mW 50°C Low Current Operation

#### • Features

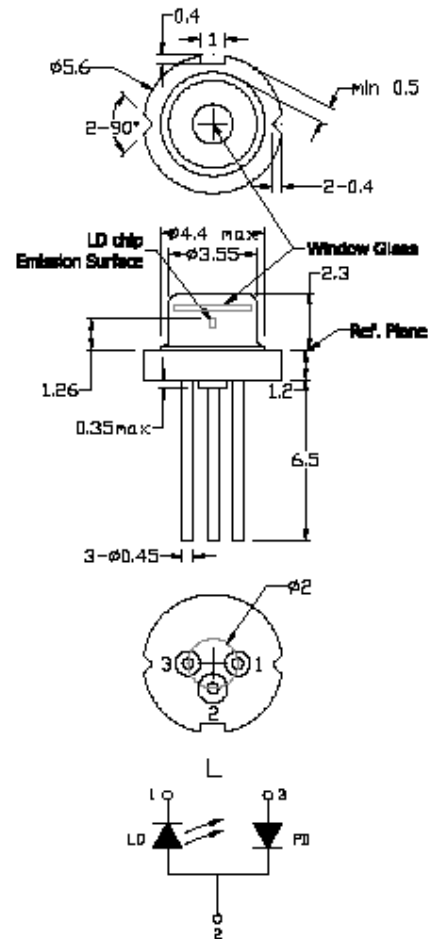
1. Low operating current
2. High efficiency
3. FFP single lateral mode

#### • Applications

1. Laser pointers
2. Industrial laser markers / measuring instruments
3. Bar code readers

#### • Absolute maximum ratings

| Parameter            | Symbol   | Condition | Rating  | Unit |
|----------------------|----------|-----------|---------|------|
| Light output power   | $P_O$    | CW        | 7       | mW   |
| Reverse voltage (LD) | $V_{RL}$ | -         | 2       | V    |
| Reverse voltage (PD) | $V_{RD}$ | -         | 30      | V    |
| Forward current (PD) | $I_{FD}$ | -         | 10      | mA   |
| Case temperature     | $T_C$    | -         | -10~+50 | °C   |
| Storage temperature  | $T_S$    | -         | -40~+85 | °C   |



#### • Electrical and optical characteristics ( $T_C=25^\circ\text{C}$ )

| Parameter                         | Symbol                       | Min. | Typ. | Max. | Unit  | Conditions                         |
|-----------------------------------|------------------------------|------|------|------|-------|------------------------------------|
| Peak wavelength                   | $\lambda$                    | 645  | 655  | 660  | nm    | $P_o=5\text{mW}$                   |
| Threshold current                 | $I_{th}$                     | -    | 15   | 20   | mA    |                                    |
| Operating current                 | $I_{op}$                     | -    | 20   | 22   | mA    | $P_o=5\text{mW}$                   |
| Operating voltage                 | $V_{op}$                     | -    | 2.2  | 2.5  | V     | $P_o=5\text{mW}$                   |
| Differential efficiency           | $\eta$                       | 0.5  | 1.0  | 1.4  | mW/mA | $P_o=3\text{--}5\text{mW}$         |
| Monitor current                   | $I_m$                        | 0.05 | 0.1  | 0.3  | mA    | $P_o=5\text{mW}, V_{RD}=5\text{V}$ |
| Parallel divergence angle         | $\theta_{\parallel}$         | 6    | 8    | 12   | deg   | $P_o=5\text{mW}$                   |
| Perpendicular divergence angle    | $\theta_{\perp}$             | 24   | 27   | 32   | deg   |                                    |
| Parallel FFP deviation angle      | $\Delta\theta_{\parallel}$   | -3   | 0    | +3   | deg   |                                    |
| Perpendicular FFP deviation angle | $\Delta\theta_{\perp}$       | -3   | 0    | +3   | deg   |                                    |
| Emission point accuracy           | $\Delta x \Delta y \Delta z$ | -80  | 0    | +80  | um    |                                    |

#### • Precautions

- 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 the 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 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.



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