**Data Sheet**

**HL6756MG**

670nm / 15mW AlGaInP Laser Diode

### Features

- Operation temperature: -10~+60°C
- Optical output power: 15mW (CW)
- Visible lasing: 670nm Typ.
- Low operating voltage: 2.7V Max.
- Package: ø5.6mm
- Single transverse mode
- TE mode oscillation

### Application

- Laser beam printer
- Measurement
- Sensing

### Outline

![Outline Diagram](image)

(Unit: mm)

### Internal Circuit

![Internal Circuit Diagram](image)
### Absolute Maximum Ratings (Tc=25°C)

<table>
<thead>
<tr>
<th>Item</th>
<th>Symbol</th>
<th>Ratings</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Optical output power</td>
<td>Po</td>
<td>15</td>
<td>mW</td>
</tr>
<tr>
<td>LD Reverse Voltage</td>
<td>VR(LD)</td>
<td>2</td>
<td>V</td>
</tr>
<tr>
<td>PD Reverse Voltage</td>
<td>VR(PD)</td>
<td>20</td>
<td>V</td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>Topr</td>
<td>-10 ~ +60</td>
<td>°C</td>
</tr>
<tr>
<td>Storage Temperature</td>
<td>Tstg</td>
<td>-40 ~ +85</td>
<td>°C</td>
</tr>
</tbody>
</table>

### Optical and Electrical Characteristics (Tc=25°C)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Symbol</th>
<th>Min</th>
<th>Typ</th>
<th>Max</th>
<th>Unit</th>
<th>Test Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Threshold current</td>
<td>Ith</td>
<td>-</td>
<td>20</td>
<td>30</td>
<td>mA</td>
<td>-</td>
</tr>
<tr>
<td>Operating current</td>
<td>Iop</td>
<td>-</td>
<td>35</td>
<td>45</td>
<td>mA</td>
<td>Po=15mW</td>
</tr>
<tr>
<td>Operating voltage</td>
<td>Vop</td>
<td>-</td>
<td>2.3</td>
<td>2.7</td>
<td>V</td>
<td>Po=15mW</td>
</tr>
<tr>
<td>Beam divergence Parallel to the junction</td>
<td>θ/</td>
<td>5</td>
<td>8</td>
<td>11</td>
<td>°</td>
<td>Po=15mW, FWHM</td>
</tr>
<tr>
<td>Beam divergence Perpendicular to the junction</td>
<td>θ⊥</td>
<td>20</td>
<td>24</td>
<td>28</td>
<td>°</td>
<td>Po=15mW, FWHM</td>
</tr>
<tr>
<td>Lasing Wavelength</td>
<td>λp</td>
<td>660</td>
<td>670</td>
<td>680</td>
<td>nm</td>
<td>Po=15mW</td>
</tr>
<tr>
<td>Monitor Current</td>
<td>Is</td>
<td>0.5</td>
<td>1.5</td>
<td>2.5</td>
<td>mA</td>
<td>Po=15mW, VR(PD)=5V</td>
</tr>
</tbody>
</table>
Typical Characteristic Curves

- Optical Output Power vs. Forward Current
  - $T_C = 0^\circ C$
  - $T_C = 25^\circ C$
  - $T_C = 60^\circ C$

- Threshold Current vs. Case Temperature

- Slope Efficiency vs. Case Temperature

- Monitor Current vs. Case Temperature
  - $P_O = 15 \text{ mW}$
  - $V_{PD} = 5 \text{ V}$

- Lasing Wavelength vs. Case Temperature
  - $P_O = 15 \text{ mW}$

- Far Field Pattern
  - Perpendicular
  - Parallel
  - $T_C = 25^\circ C$
  - $P_O = 15 \text{ mW}$
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