## Data Sheet

**HL65051DG**

660nm / 130mW  AlGaInP Laser Diode

### Features
- Optical output power: 120mW (CW)
- Visible light output: 660nm Typ.
- Low operating current: 175mA Typ.
- Low operating voltage: 2.5V Typ.
- Small package: φ5.6mm
- Built-in monitor photodiode
- Single transverse mode
- TE mode oscillation

### Application
- LIDAR (Laser Imaging Detection and Ranging)
- Laser module
- Sensing
- Medical

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**Outline**

(Unit: mm)

**Internal Circuit**

- HL65051DG
- PD
- LD
- (flange)
### 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>130</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>30</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>60</td>
<td>75</td>
<td>mA</td>
<td>-</td>
</tr>
<tr>
<td>Operating current</td>
<td>Iop</td>
<td>-</td>
<td>175</td>
<td>210</td>
<td>mA</td>
<td>Po=120mW</td>
</tr>
<tr>
<td>Operating voltage</td>
<td>Vop</td>
<td>-</td>
<td>2.5</td>
<td>3.3</td>
<td>V</td>
<td>Po=120mW</td>
</tr>
<tr>
<td>Beam divergence Parallel to the junction</td>
<td>θ//</td>
<td>7</td>
<td>10</td>
<td>13</td>
<td>°</td>
<td>Po=120mW, FWHM</td>
</tr>
<tr>
<td>Beam divergence Perpendicular to the junction</td>
<td>θ⊥</td>
<td>15</td>
<td>17</td>
<td>21</td>
<td>°</td>
<td>Po=120mW, FWHM</td>
</tr>
<tr>
<td>Lasing Wavelength</td>
<td>λp</td>
<td>652</td>
<td>660</td>
<td>665</td>
<td>nm</td>
<td>Po=120mW</td>
</tr>
<tr>
<td>Monitor current</td>
<td>Is</td>
<td>0.1</td>
<td>0.4</td>
<td>0.8</td>
<td>mA</td>
<td>Po=120mW, VR(PD)=5V</td>
</tr>
</tbody>
</table>
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