Data Sheet

HL6354MG/55MG
638nm / 7mW AlGaInP Laser Diode

Features

- Optical output power: 5mW(CW)
- Visible light output: 638nm Typ.
- Low operating current: 27mA Typ.
- Low operating voltage: 2.4V Max.
- Operating temperature: 50°C
- TM mode oscillation
- Single transverse mode

Application

- Laser leveler
- Laser pointer
- Distance meter
- Light source of optical equipment

Outline

Internal Circuit
## 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>7</td>
<td>mW</td>
</tr>
<tr>
<td>LD Reverse Voltage</td>
<td>V_{R(LD)}</td>
<td>2</td>
<td>V</td>
</tr>
<tr>
<td>PD Reverse Voltage</td>
<td>V_{R(PD)}</td>
<td>30</td>
<td>V</td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>T_{opr}</td>
<td>-10 ~ +50</td>
<td>°C</td>
</tr>
<tr>
<td>Storage Temperature</td>
<td>T_{stg}</td>
<td>-40 ~ +85</td>
<td>°C</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<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>I_{th}</td>
<td>-</td>
<td>20</td>
<td>27</td>
<td>mA</td>
</tr>
<tr>
<td>Operating current</td>
<td>I_{op}</td>
<td>-</td>
<td>27</td>
<td>36</td>
<td>mA</td>
</tr>
<tr>
<td>Operating voltage</td>
<td>V_{op}</td>
<td>-</td>
<td>2.2</td>
<td>2.4</td>
<td>V</td>
</tr>
<tr>
<td>Lasing Wavelength</td>
<td>\lambda_p</td>
<td>630</td>
<td>638</td>
<td>640</td>
<td>nm</td>
</tr>
<tr>
<td>Beam divergence Parallel to the junction</td>
<td>\theta_//</td>
<td>6</td>
<td>8</td>
<td>10</td>
<td>°</td>
</tr>
<tr>
<td>Beam divergence Perpendicular to the junction</td>
<td>\theta_⊥</td>
<td>20</td>
<td>25</td>
<td>30</td>
<td>°</td>
</tr>
<tr>
<td>Monitor current</td>
<td>I_{s}</td>
<td>0.15</td>
<td>0.40</td>
<td>0.60</td>
<td>mA</td>
</tr>
</tbody>
</table>
Typical Characteristic Curves

Optical Output Power vs. Forward Current

Threshold Current vs. Case Temperature

Slope Efficiency vs. Case Temperature

Monitor Current vs. Case Temperature

Wavelength vs. Case Temperature

Far Field Pattern

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