HL6544FM
660nm / 130mW AlGaInP Laser Diode

**Features**
- Visible light output: 660nm Typ.
- Optical output power: 50mW (CW)
- Low operating current: 115mA Typ
- Operating temperature: +75°C
- Single transverse mode
- TE mode oscillation

**Application**
- Sensor application
- Light source of optical equipments

(Unit: mm)
### 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>Operating Temperature</td>
<td>Topr</td>
<td>-10 ~ +75</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>115</td>
<td>135</td>
<td>mA</td>
<td>Po=50mW</td>
</tr>
<tr>
<td>Operating voltage</td>
<td>Vop</td>
<td>-</td>
<td>2.3</td>
<td>2.8</td>
<td>V</td>
<td>Po=50mW</td>
</tr>
<tr>
<td>Beam divergence Parallel to the junction</td>
<td>θ//</td>
<td>7</td>
<td>10</td>
<td>12</td>
<td>°</td>
<td>Po=50mW, 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=50mW, FWHM</td>
</tr>
<tr>
<td>Lasing Wavelength</td>
<td>λp</td>
<td>654</td>
<td>660</td>
<td>666</td>
<td>nm</td>
<td>Po=50mW</td>
</tr>
</tbody>
</table>
Typical Characteristic Curves

- **Optical Output Power vs. Forward Current**
  - $T_C = 25^\circ C$
  - $T_C = 0^\circ C$
  - $T_C = 75^\circ C$

- **Threshold Current vs. Case Temperature**

- **Slope Efficiency vs. Case Temperature**

- **Wavelength vs. Case Temperature**
  - $P_O = 50mW$

- **Far Field Pattern**
  - $P_O = 50mW$
  - $T_C = 25^\circ C$
  - Perpendicular
  - Parallel

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