Data Sheet

HL63290HD

638nm / 2.2W (CW) / 2.5W (Pulse)
AlGaInP Laser Diode

Outline

Internal Circuit

Absolute Maximum Ratings (Tc=25°C)

Features
- Dual emitters
- Optical output power: 2.2W (CW) 2.5W (Pulse)
- Shorter wavelength: 638nm Typ.
- High heat dissipation φ9mm CAN package
- Multi transverse mode
- TM mode oscillation

Application
- Laser Projector
- Light source of optical equipments
### Optical and Electrical Characteristics (Tc=25°C,CW)

<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>Optical output power</td>
<td>Po</td>
<td>-</td>
<td>2.2</td>
<td>-</td>
<td>W</td>
<td>lop=2.4A</td>
</tr>
<tr>
<td>Pulse optical output power</td>
<td>Po(Pulse)</td>
<td>-</td>
<td>2.5</td>
<td>-</td>
<td>W</td>
<td>lop(Pulse)=2.5A, f=120Hz, duty=30%</td>
</tr>
<tr>
<td>Threshold current</td>
<td>lth</td>
<td>-</td>
<td>600</td>
<td>750</td>
<td>mA</td>
<td></td>
</tr>
<tr>
<td>Operating voltage</td>
<td>Vop</td>
<td>-</td>
<td>2.4</td>
<td>2.8</td>
<td>V</td>
<td>Po=2W</td>
</tr>
<tr>
<td>Beam divergence(^{Note4})</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parallel to the junction</td>
<td>(\theta//)</td>
<td>3</td>
<td>10</td>
<td>20</td>
<td>°</td>
<td>Po=2W, FWHM</td>
</tr>
<tr>
<td>Perpendicular to the junction</td>
<td>(\theta\perp)</td>
<td>23</td>
<td>33</td>
<td>43</td>
<td>°</td>
<td>Po=2W, FWHM</td>
</tr>
<tr>
<td>Lasing Wavelength</td>
<td>(\lambda_p)</td>
<td>632</td>
<td>638</td>
<td>642</td>
<td>nm</td>
<td>Po=2W</td>
</tr>
</tbody>
</table>

Note4) Designed value
Typical Characteristic Curves

Optical output power vs. Forward current

- CW
- Tc=0°C
- Tc=10°C
- Tc=25°C
- Tc=35°C
- Tc=45°C

Forward current I=(mA)

0 0.5 1.0 1.5 2.0 2.5 3.0

Optical output power P(μW)

0 0.5 1.0 1.5 2.0

Pulse optical output power vs. Forward current

- Pulse f=120Hz, duty=30%
- Tc=0°C
- Tc=10°C
- Tc=25°C
- Tc=35°C
- Tc=45°C
- Tc=55°C

Forward current I(A)

0 0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0

Optical output power P(μW)

0 0.5 1.0 1.5 2.0

Typical optical output power at maximum operating current

- Pulse f=120Hz, duty=30%
- CW

Operating temperature, Toper(°C)

-20 -10 0 10 20 30 40 50 60

Typical optical output power P(μW)

0 0.5 1.0 1.5 2.0 2.5 3.0

Far field pattern

- CW, Tc=25°C
- Po=2.2W

Relative intensity

0 0.2 0.4 0.6 0.8 1.0

Angle θ(°)

-50 -40 -30 -20 -10 0 10 20 30 40 50

Perpendicular

Parallel

Lasing wavelength vs. Case temperature

- CW
- Po=2.2W

Lasing wavelength λp(μm)

620 625 630 635 640 645 650 655

Case temperature Tc(°C)

0 10 20 30 40 50

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