HL40071MG
405nm/300mW  Violet Laser Diode

**Features**
- Operation temperature: -0~+70°C
- Optical output power: 300mW (CW)
- Violet Lasing: 405nm Typ.
- Low operating voltage: 6.0V Typ.
- Package: 5.6mm
- Single transverse mode
- TE mode oscillation

**Application**
- Bio & Medical
- Measurement
- 3D Printer

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* Monitor PD for initial checking purpose only

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**Outline**

**Internal Circuit**

- HL40071MG

PD  

LD  

(2) (flange)

(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 (Refer to Fig.1)</td>
<td>Po</td>
<td>360</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>20</td>
<td>V</td>
</tr>
<tr>
<td>Operating Temperature (Refer to Fig.1)</td>
<td>T_{op}</td>
<td>0 ~ +70</td>
<td>°C</td>
</tr>
<tr>
<td>Storage Temperature</td>
<td>T_{stg}</td>
<td>-40 ~ +85</td>
<td>°C</td>
</tr>
</tbody>
</table>

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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>I_{th}</td>
<td>-</td>
<td>50</td>
<td>80</td>
<td>mA</td>
<td>-</td>
</tr>
<tr>
<td>Operating current</td>
<td>I_{op}</td>
<td>-</td>
<td>280</td>
<td>350</td>
<td>mA</td>
<td>Po=300mW</td>
</tr>
<tr>
<td>Operating voltage</td>
<td>V_{op}</td>
<td>-</td>
<td>6.0</td>
<td>7.0</td>
<td>V</td>
<td>Po=300mW</td>
</tr>
<tr>
<td>Beam divergence Parallel to the junction</td>
<td>θ_{//}</td>
<td>3</td>
<td>6</td>
<td>9</td>
<td>°</td>
<td>Po=300mW, FWHM</td>
</tr>
<tr>
<td>Beam divergence Perpendicular to the junction</td>
<td>θ_{⊥}</td>
<td>11</td>
<td>15</td>
<td>19</td>
<td>°</td>
<td>Po=300mW, FWHM</td>
</tr>
<tr>
<td>Lasing Wavelength</td>
<td>λ_{p}</td>
<td>400</td>
<td>405</td>
<td>410</td>
<td>nm</td>
<td>Po=300mW</td>
</tr>
<tr>
<td>Monitor Current *</td>
<td>I_{s}</td>
<td>0.02</td>
<td>0.09</td>
<td>0.16</td>
<td>mA</td>
<td>Po=300mW, VR(PD)=5V</td>
</tr>
</tbody>
</table>

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