DESCRIPTION
Mitsubishi ML520G71 is a high-power, high-efficient semiconductor laser diode which provides emission wavelength of 638 nm and standard light output of 300mW.
This LD has broad-stripe structure which enables high output power.

FEATURES
• High Output Power: 300mW (CW)
• High Efficiency: 1.0mW/mA (typ.)
• Visible Light: 638nm (typ.)
• φ 5.6mm TO-CAN PKG

APPLICATION
• Display system, Bio-medical

ABSOLUTE MAXIMUM RATINGS (Note 1)

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Parameter</th>
<th>Conditions</th>
<th>Ratings</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Po</td>
<td>Light output power</td>
<td>CW</td>
<td>300(Tc ≤ 45 °C), 220(45 °C &lt; Tc ≤ 55 °C)</td>
<td>mW</td>
</tr>
<tr>
<td>VRL</td>
<td>Reverse voltage</td>
<td>-</td>
<td>2</td>
<td>V</td>
</tr>
<tr>
<td>Tc</td>
<td>Case temperature</td>
<td>-</td>
<td>-5 ~ +55</td>
<td>°C</td>
</tr>
<tr>
<td>Tstg</td>
<td>Storage temperature</td>
<td>-</td>
<td>-40 ~ +100</td>
<td>°C</td>
</tr>
</tbody>
</table>

Note 1: The maximum rating means the limitation over which the laser should not be operated even instant time. This does not mean the guarantee of its lifetime. As for the reliability, please refer to the reliability report issued by Quality Assurance Section, HF & Optical Semiconductor Division, Mitsubishi Electric Corporation.

ELECTRICAL/OPTICAL CHARACTERISTICS (Tc=25°C)

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Parameter</th>
<th>Test conditions</th>
<th>Min.</th>
<th>Typ.</th>
<th>Max</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Itth</td>
<td>Threshold current</td>
<td>CW</td>
<td>80</td>
<td>130</td>
<td>180</td>
<td>mA</td>
</tr>
<tr>
<td>Iop</td>
<td>Operating current</td>
<td>CW, Po=220mW</td>
<td>230</td>
<td>330</td>
<td>400</td>
<td>mA</td>
</tr>
<tr>
<td>Vop</td>
<td>Operating voltage</td>
<td>CW, Po=220mW</td>
<td>1.9</td>
<td>2.3</td>
<td>2.6</td>
<td>V</td>
</tr>
<tr>
<td>ηp</td>
<td>Slope efficiency</td>
<td>CW, Po=220mW</td>
<td>0.8</td>
<td>1.0</td>
<td>1.3</td>
<td>mW/mA</td>
</tr>
<tr>
<td>λp</td>
<td>Peak wavelength</td>
<td>CW, Po=220mW</td>
<td>632</td>
<td>638</td>
<td>644</td>
<td>nm</td>
</tr>
<tr>
<td>θ//</td>
<td>Beam divergence angle (parallel)</td>
<td>CW, Po=220mW</td>
<td>1</td>
<td>7</td>
<td>13</td>
<td>°</td>
</tr>
<tr>
<td>θ⊥</td>
<td>Beam divergence angle (perpendicular)</td>
<td>CW, Po=220mW</td>
<td>25</td>
<td>35</td>
<td>45</td>
<td>°</td>
</tr>
</tbody>
</table>
ML5xx71 LD SERIES
FOR DISPLAY SYSTEM

OUTLINE DRAWINGS

ML520G71

Dimensions in mm

ML520G71
Typical Characteristics of ML520G71

- Light Output Power vs. Current (CW)
- Far-Field-Patterns

- Peak Wavelength vs. Light Output Power
- Peak Wavelength vs. Temperature
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