

MITSUBISHI LASER DIODES  
**ML5xx71 LD SERIES**  
 FOR DISPLAY SYSTEM

**TYPE  
NAME**

**ML520G71**

Please note that this data sheet may be changed without any notice.

**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.)
- $\phi$  5.6mm TO-CAN PKG

**APPLICATION**

- Display system, Bio-medical

**ABSOLUTE MAXIMUM RATINGS** (Note 1)

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

Note1: 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.

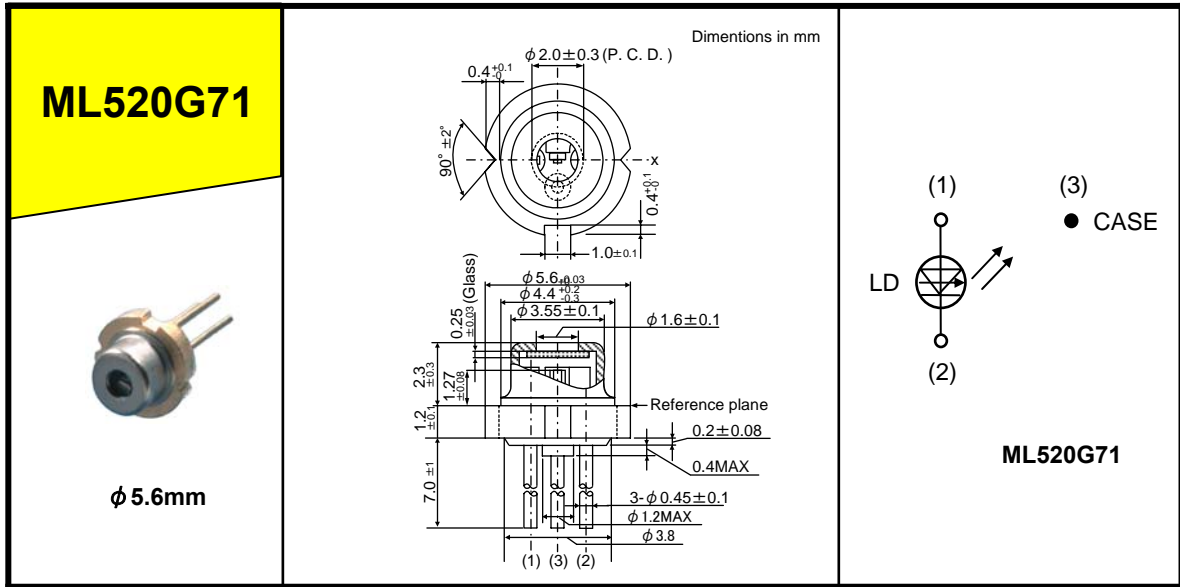
**ELECTRICAL/OPTICAL CHARACTERISTICS** (Tc=25°C)

Symbol	Parameter	Test conditions	Min.	Typ.	Max	Unit
Ith	Threshold current	CW	<b>80</b>	<b>130</b>	<b>180</b>	mA
Iop	Operating current	CW, Po=220mW	<b>230</b>	<b>330</b>	<b>400</b>	mA
Vop	Operating voltage	CW, Po=220mW	<b>1.9</b>	<b>2.3</b>	<b>2.6</b>	V
$\eta$	Slope efficiency	CW, Po=220mW	<b>0.8</b>	<b>1.0</b>	<b>1.3</b>	mW/mA
$\lambda_p$	Peak wavelength	CW, Po=220mW	<b>632</b>	<b>638</b>	<b>644</b>	nm
$\theta_{//}$	Beam divergence angle (parallel)	CW, Po=220mW	<b>1</b>	<b>7</b>	<b>13</b>	°
$\theta_{\perp}$	Beam divergence angle (perpendicular)	CW, Po=220mW	<b>25</b>	<b>35</b>	<b>45</b>	°



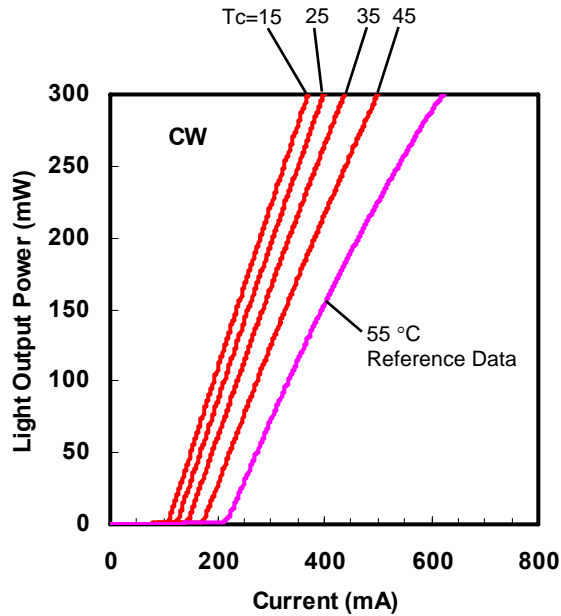
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OUTLINE DRAWINGS

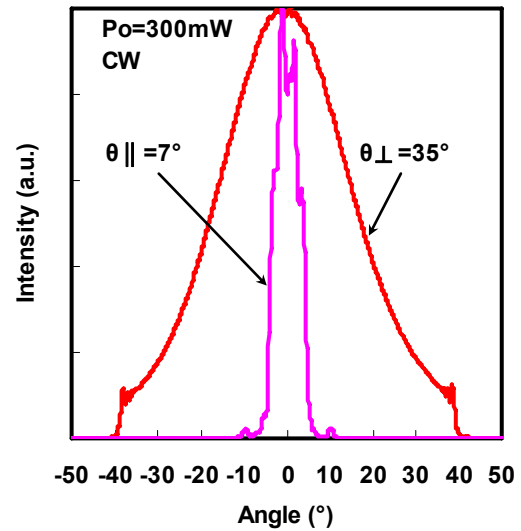


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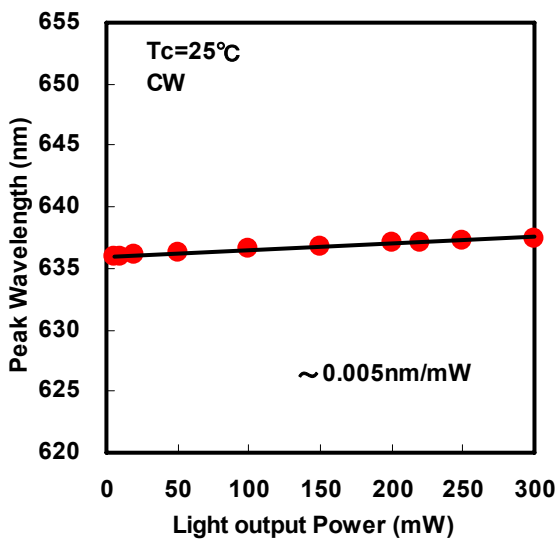
Typical Characteristics of ML520G71



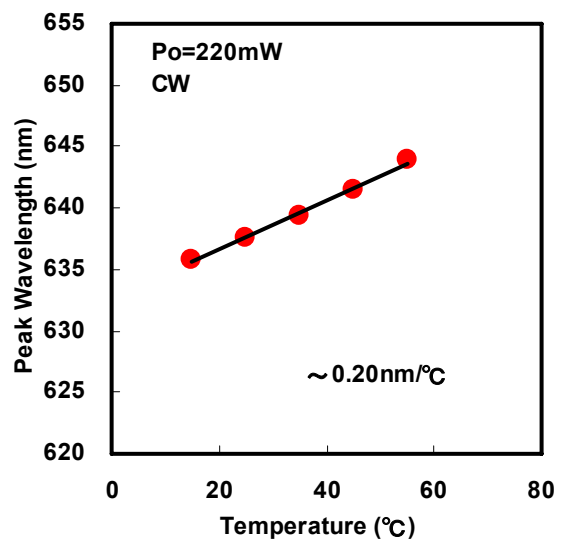
Light Output Power vs. Current (CW)



Far-Field-Patterns



Peak Wavelength vs. Light Output Power



Peak Wavelength vs. Temperature

## Requests Regarding Safety Designs

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