

MITSUBISHI LASER DIODES  
**ML5xx12 LD SERIES**  
 FOR PUMPING, COSMETIC

**TYPE  
NAME**

**ML520G12**

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

**DESCRIPTION**

ML520G12 is a high-power, high-efficient semiconductor laser diode which provides a stable oscillation with emission wavelength of 805nm and standard CW light output of 0.5 W.

**FEATURES**

- High Output Power: 0.5W (CW)
- Lasing wavelength: 805nm (typ.)
- $\phi$  5.6mm TO-CAN PKG

**APPLICATION**

- Nd:YAG laser pumping, cosmetic treatment

**ABSOLUTE MAXIMUM RATINGS** (Note 1)

Symbol	Parameter	Conditions	Ratings	Unit
Po	Light output power	CW	<b>0.5</b>	W
VRL	Reverse voltage	-	<b>2</b>	V
Tc	Case temperature	-	<b>-5 ~ +60</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.

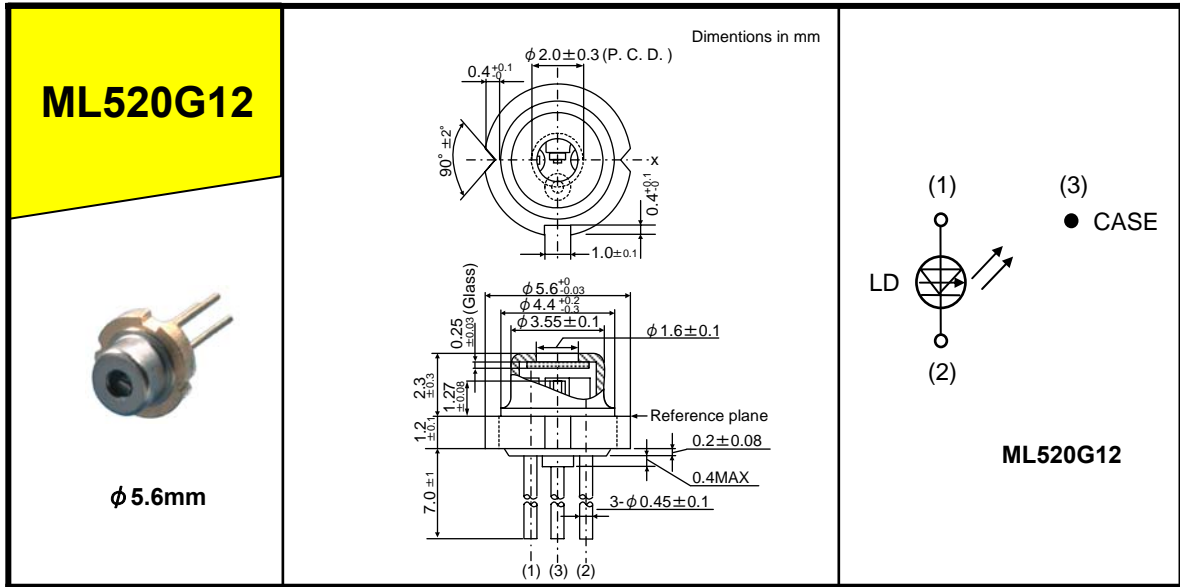
**ELECTRICAL/OPTICAL CHARACTERISTICS** (Tc=25°C)

Symbol	Parameter	Test conditions	Min.	Typ.	Max	Unit
Ith	Threshold current	CW	<b>150</b>	<b>200</b>	<b>350</b>	mA
Iop	Operating current	CW, Po=0.5W	<b>650</b>	<b>710</b>	<b>900</b>	mA
Vop	Operating voltage	CW, Po=0.5W	<b>1.6</b>	<b>1.8</b>	<b>2.2</b>	V
$\eta$	Slope efficiency	CW, Po=0.5W	<b>0.8</b>	<b>1.1</b>	-	W/A
$\lambda_p$	Peak wavelength	CW, Po=0.5W	<b>795</b>	<b>805</b>	<b>815</b>	nm
$\theta_{//}$	Beam divergence angle (parallel)	CW, Po=0.5W	<b>1</b>	<b>6</b>	<b>15</b>	°
$\theta_{\perp}$	Beam divergence angle (perpendicular)	CW, Po=0.5W	<b>24</b>	<b>34</b>	<b>40</b>	°



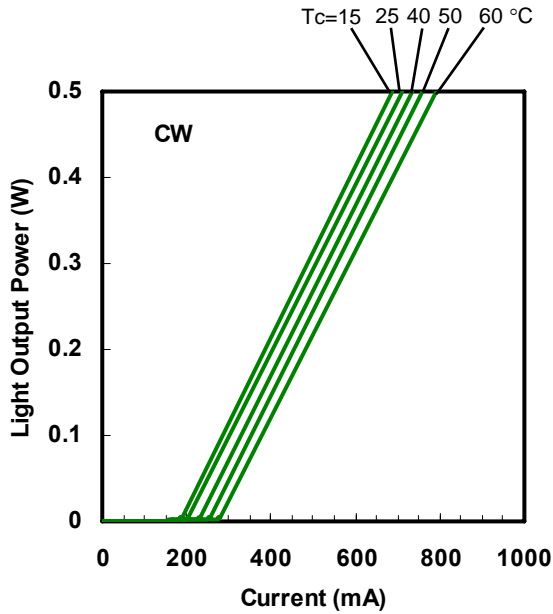
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OUTLINE DRAWINGS

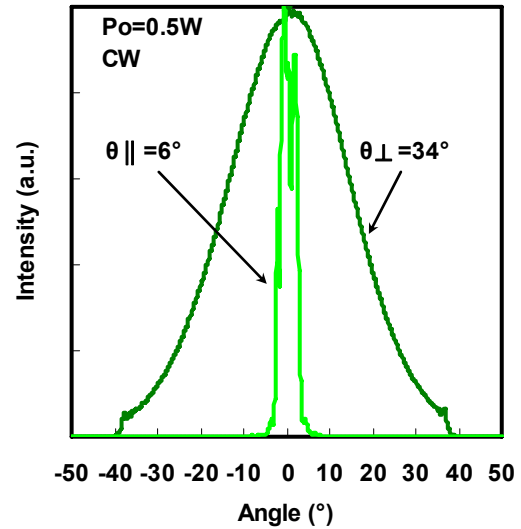


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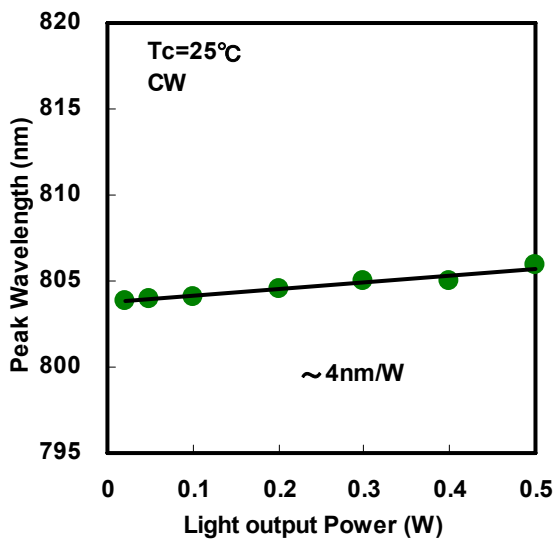
**Typical Characteristics of ML520G12**



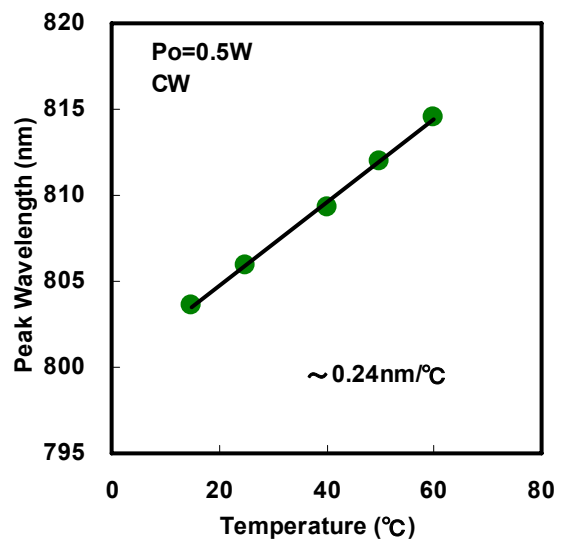
Light Output Power vs. Current (CW)



Far-Field-Patterns



Peak Wavelength vs. Light Output Power



Peak Wavelength vs. Temperature

## Requests Regarding Safety Designs

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