

Under Development
Preliminary

MITSUBISHI LASER DIODES
ML3XX2 SERIES
FOR OPTICAL INFORMATION SYSTEMS

**TYPE
NAME**

ML320G2 / ML329G2

This type is under development. Therefore, please note that this data sheet may be changed without any notice.

DESCRIPTION

ML3XX2 is a high-power, high-efficient Blue-Violet semiconductor laser which provides a stable, single transverse mode oscillation with emission wavelength of 405nm and standard pulse light output of 250mW.

FEATURES

- High Output Power: 250mW (Pulse)
- High Efficiency: 1.5W/A (typ.)
- Visible Light: 405nm (typ.)
- Package: Φ 5.6mm(ML320G2)
 Φ 3.8mm(ML329G2)

APPLICATION

Re-Writable Blu-ray Disk Drive and HD DVD Drive

ABSOLUTE MAXIMUM RATINGS (Note 1)

Symbol	Parameter	Conditions	Ratings	Unit
Po	Light output power	CW	130	mW
		Pulse(Note 2)	250	
VRL	Reverse voltage	-	2	V
Tc	Case temperature	-	-10 ~ +80	°C
Tstg	Storage temperature	-	-40 ~ +100	°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.

Note2: TARGET SPEC /Condition Duty Cycle: less than 50%, pulse width: less than 50ns


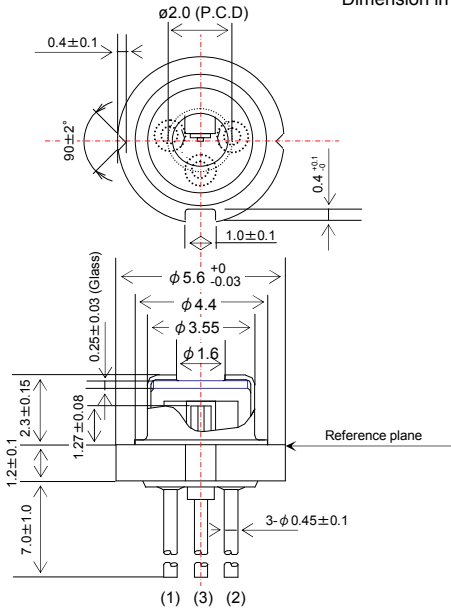
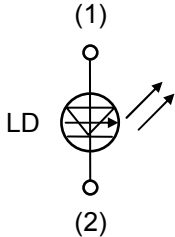

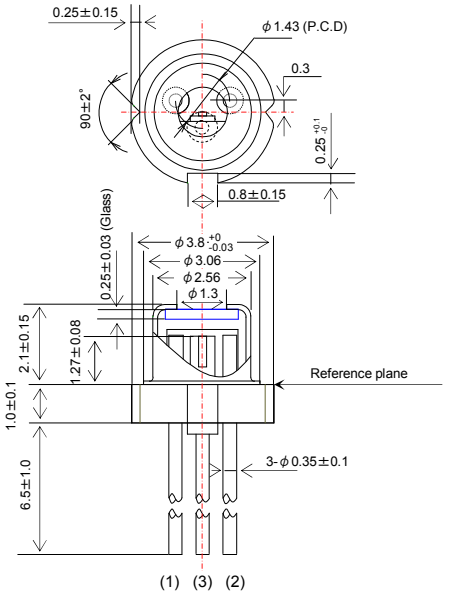
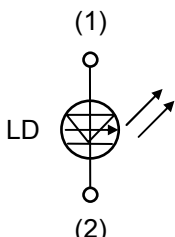
ELECTRICAL/OPTICAL CHARACTERISTICS (Tc=25°C)

Symbol	Parameter	Test conditions	Min.	Typ.	Max	Unit
Ith	Threshold current	CW	-	50	70	mA
Iop	Operating current	CW, Po=120mW	-	130	170	mA
Vop	Operating voltage	CW, Po=120mW	-	4.8	6.0	V
η	Slope efficiency	CW, Po=120mW	1.2	1.5	1.8	mW/mA
λ_p	Peak wavelength	CW, Po=120mW	400	405	410	nm
$\theta_{//}$	Beam divergence angle (parallel)	CW, Po=120mW	7	8.5	12	°
θ_{\perp}	Beam divergence angle (perpendicular)	CW, Po=120mW	16	19	22	°

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OUTLINE DRAWINGS

<p>ML320G2</p>  <p>$\Phi 5.6\text{mm}$</p>	<p>Dimension in mm</p>  <p>Top view dimensions: $\phi 2.0$ (P.C.D.), 0.4 ± 0.1, $90 \pm 2^\circ$, 0.4 ± 0.1, 1.0 ± 0.1.</p> <p>Side view dimensions: $\phi 5.6 \pm 0.03$, $\phi 4.4$, $\phi 3.55$, $\phi 1.6$, 0.25 ± 0.03 (Glass), 2.3 ± 0.15, 1.27 ± 0.08, 1.2 ± 0.1, 7.0 ± 1.0, $3 - \phi 0.45 \pm 0.1$.</p> <p>Reference plane</p> <p>(1) (3) (2)</p>	 <p>(1) LD (2) (3) ● CASE</p> <p>ML320G2</p>
<p>ML329G2</p>  <p>$\Phi 3.8\text{mm}$</p>	 <p>Top view dimensions: 0.25 ± 0.15, $\phi 1.43$ (P.C.D.), 0.3, $90 \pm 2^\circ$, 0.25 ± 0.1, 0.8 ± 0.15.</p> <p>Side view dimensions: $\phi 3.8 \pm 0.03$, $\phi 3.06$, $\phi 2.56$, $\phi 1.3$, 0.25 ± 0.03 (Glass), 2.1 ± 0.15, 1.27 ± 0.08, 1.0 ± 0.1, 6.5 ± 1.0, $3 - \phi 0.35 \pm 0.1$.</p> <p>Reference plane</p> <p>(1) (3) (2)</p>	 <p>(1) LD (2) (3) ● CASE</p> <p>ML329G2</p>

There is no model with a monitor photo diode in ML3XX2 series.