# KTTIC http://www.kttic.com Under Development Preliminary

MITSUBISHI LASER DIODES

FOR OPTICAL INFORMATION SYSTEMS



# ML101J27

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

### DESCRIPTION

ML1XX27 is a high-power, high-efficient AlGaInP semiconductor laser which provides a stable, single transverse mode oscillation with emission wavelength of 658nm and standard pulse light output of 350mW.

ML1XX27 has a real-index-waveguide which improves the slope efficiency (reduction of the operating current) and the astigmatic distance.

Also, ML1XX27 has a window-mirror-facet which improves the maximum output power. That leads to highly reliable and high-power operation at 75  $^{\circ}$ C.

### **FEATURES**

•High Output Power: 350mW (Pulse)

- High Efficiency: 0.95W/A (typ.)
- Visible Light: 659nm (typ.)
- Low Aspect Ratio ( $\theta \perp / \theta / /$ ): 1.7 (typ.)
- Low Astigmatic Distance: 1μm (typ.)

### APPLICATION

Portable High-Density Optical Disc Drives Re-Writable DVD Drives

Symbol	Parameter	Conditions	Ratings	Unit
Po	Light output power		130	- mW
		Pulse(Note 2)	350	
VRL	Reverse voltage	-	2	V
Тс	Case temperature	-	-10 ~ +75	°C
Tstg	Storage temperature	-	-40 ~ +100	°C

### ABSOLUTE MAXIMUM RATINGS (Note 1)

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 35%, pulse width: less than 30ns

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

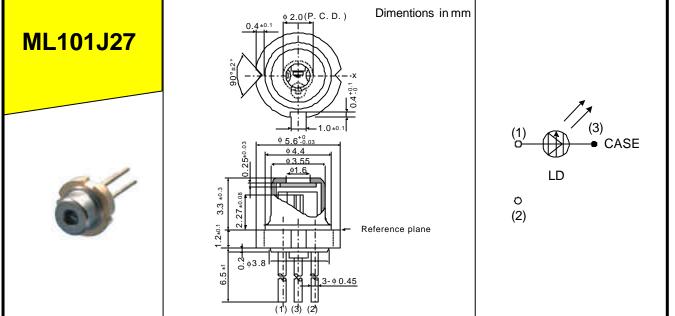
Symbol	Parameter	Test conditions	Min.	Тур.	Max	Unit
lth	Threshold current	CW	-	80	-	mA
Іор	Operating current	CW, Po=120mW	-	200	-	mA
Vop	Operating voltage	CW, Po=120mW	-	2.5	3.0	V
η	Slope efficiency	CW, Po=120mW	-	0.95	-	mW/mA
λρ	Peak wavelength	CW, Po=120mW	654	659	664	nm
θ//	Beam divergence angle (parallel)	CW, Po=120mW	7	10	12	0
θ⊥	Beam divergence angle (perpendicular)	CW, Po=120mW	14	17	20	o



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There is no model with a monitor photo diode in ML1XX27 series.

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ML1XX27 SERIES

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