MITSUBISHI LASER DIODES

# **ML1XX24 SERIES**

FOR OPTICAL INFORMATION SYSTEMS

TYPE NAME

# ML101J24

## **DESCRIPTION**

ML1XX24 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 230mW.

ML1XX24 has a real-index-waveguide which improves the slope efficiency (reduction of the operating current) and the astigmatic distance.

Also, ML1XX24 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: 230mW (Pulse)
High Efficiency: 0.95W/A (typ.)
Visible Light: 658nm (typ.)

Low Aspect Ratio (θ±/θ//): 1.8 (typ.)
Low Astigmatic Distance: 1μm (typ.)

#### **APPLICATION**

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

## ABSOLUTE MAXIMUM RATINGS (Note 1)

Symbol	Parameter	Conditions	Ratings	Unit	
Ро	Light output power	CW	100	- mW	
		Pulse(Note 2)	230		
VRL	Reverse voltage	-	2	V	
Tc	Case temperature	-	-10 ~ +75	°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 35%, pulse width: less than 30ns

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

Symbol	Parameter	Test conditions	Min.	Тур.	Max	Unit
lth	Threshold current	CW	-	65	-	mA
lop	Operating current	CW, Po=80mW	-	150	-	mA
Vop	Operating voltage	CW, Po=80mW		2.4	3.0	V
η	Slope efficiency	CW, Po=80mW	-	0.95	-	mW/mA
λр	Peak wavelength	CW, Po=80mW	654	658	662	nm
θ//	Beam divergence angle (parallel)	CW, Po=80mW	7	9.5	12	0
$\theta \bot$	Beam divergence angle (perpendicular)	CW, Po=80mW	14	17	20	0



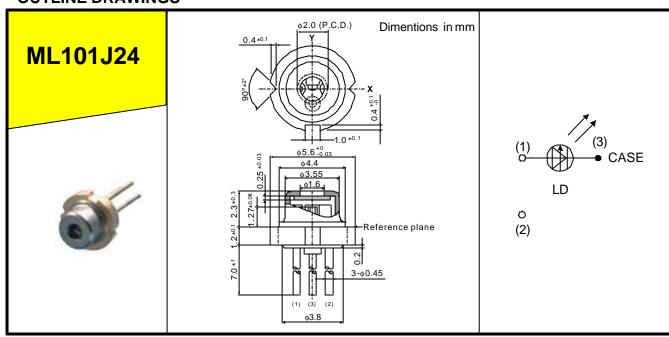
As of Nov. '04

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# **OUTLINE DRAWINGS**



There is no model with a monitor photo diode in ML1XX24 series.



# KTTIC http://www.kttic.com

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