

MITSUBISHI LASER DIODES
ML6XX38 SERIES
FOR OPTICAL INFORMATION SYSTEMS

**TYPE
NAME**

ML601J38

DESCRIPTION

ML6XX38 has window-mirror structure for increasing COD power and real-reflective-index wave guide for reducing operation current.

ML6XX38 is a highly reliable high-power and high-efficiency AlGaAs semiconductor laser which provides a stable, single transverse mode oscillation with emission wavelength of 785nm and standard pulse output power of 250mW.

FEATURES

- Pulse available output power : up to 250mW
($t_p \leq 50\text{ns}$, Duty $\leq 50\%$)
- Small astigmatic distance
- Low operation current

APPLICATION

- 48X CD-R/RW Drive

ABSOLUTE MAXIMUM RATINGS (Note 1)

Based on Mitsubishi's measurement standards

Symbol	Parameter	Conditions	Ratings	Unit
Po	Light output power	CW	90	mW
		Pulse(Note 2)	250	
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 50%, pulse width: less than 50ns

ELECTRICAL/OPTICAL CHARACTERISTICS (Tc=25°C) Based on Mitsubishi's measurement standards

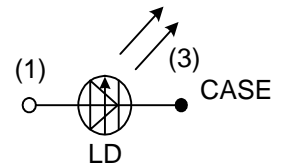
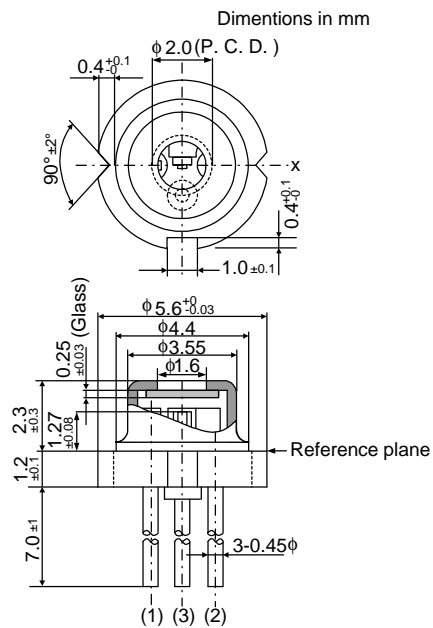
Symbol	Parameter	Test conditions	Min.	Typ.	Max	Unit
Ith	Threshold current	CW	-	35	55	mA
Iop	Operating current	CW, Po=90mW	-	115	160	mA
Vop	Operating voltage	CW, Po=90mW	-	1.85	2.2	V
η	Slope efficiency	CW, Po=90mW	-	1.1	1.3	mW/mA
λ_p	Peak wavelength	CW, Po=90mW	780	784	788	nm
$\theta_{//}$	Beam divergence angle (parallel)	CW, Po=90mW	8	8.8	10	°
θ_{\perp}	Beam divergence angle (perpendicular)	CW, Po=90mW	15	17	19	°

NSPF

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OUTLINE DRAWINGS

ML601J38

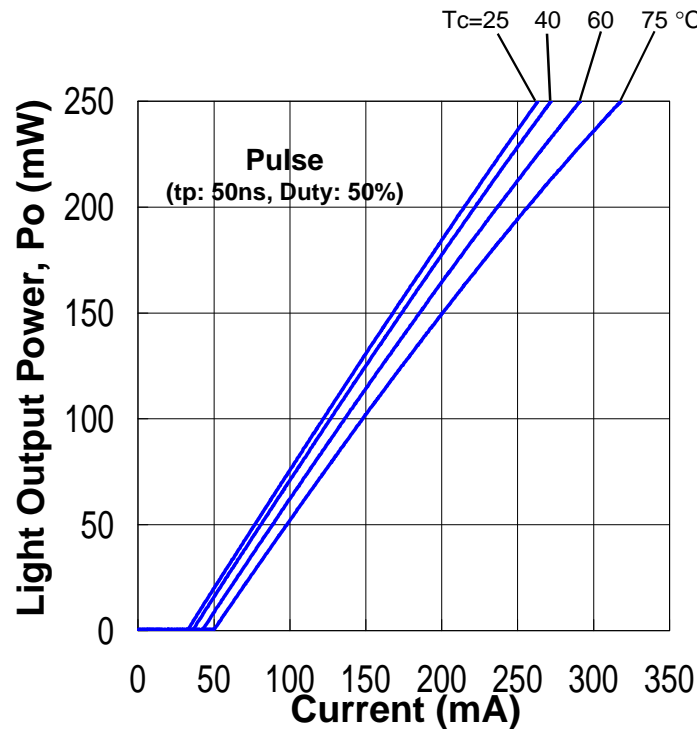


(2)

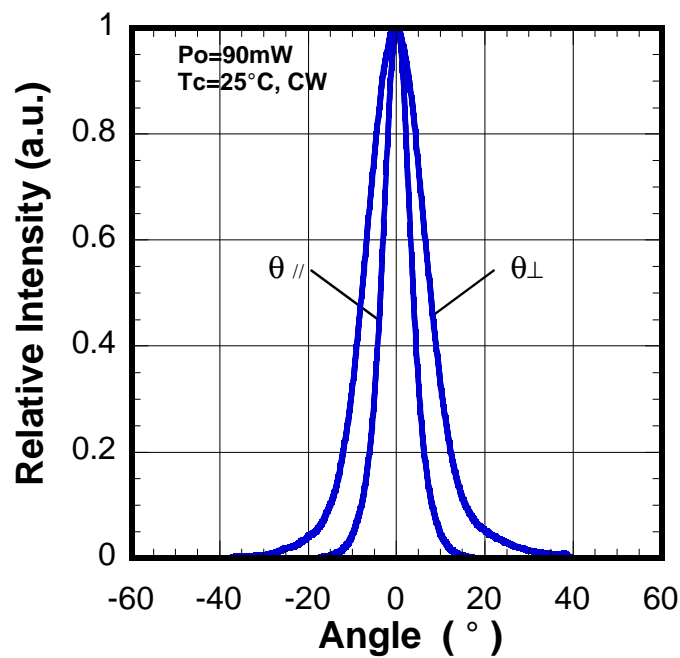
ML601J38

There is no model with a monitor photo diode in ML6XX38 series.

TENTATIVE CHARACTERISTICS (Reference Data)



Light Output Power vs. Current (Pulse)



Far Field Patterns