

MITSUBISHI LASER DIODES
ML6XX28 SERIES
FOR OPTICAL INFORMATION SYSTEMS

**TYPE
NAME**

ML60128R, ML601J28

DESCRIPTION

ML6XX28 is a high power AlGaAs semiconductor laser which provides a stable, single transverse mode oscillation with emission wavelength of 785nm and standard light output power of 60mW.

ML6XX28 is produced by a MOCVD crystal growth method which is excellent in mass production and characteristics uniformity. This is a high-performance, highly reliable, and low-operation-current semiconductor laser.

FEATURES

- Output 60mW (CW), 75mW (pulse)
- Small astigmatic distance
- Low operation current

APPLICATION

CD-R/RW Drive
MD Drive

ABSOLUTE MAXIMUM RATINGS (Note 1)

Based on Mitsubishi's measurement standards

Symbol	Parameter	Conditions	Ratings	Unit
Po	Light output power	CW	70	mW
		Pulse(Note 2)	80	
VRL	Reverse voltage (laser diode)	-	2	V
VRD(Note 3)	Reverse voltage (Photodiode)	-	30	V
IFD(Note 3)	Forward current (Photodiode)	-	10	mA
Tc	Case temperature	-	-10 ~ +60	°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, and 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 Co..

Note2: TARGET SPEC /Condition Duty less than 50%,pulse width less than 1μs

Note3: Applicable to ML60128R

ELECTRICAL/OPTICAL CHARACTERISTICS (Tc=25°C)

Based on Mitsubishi's measurement standards

Symbol	Parameter	Test conditions	Min.	Typ.	Max	Unit
I _{th}	Threshold current	CW	-	30	45	mA
I _{op}	Operation current	CW,Po=60mW	-	95	135	mA
η	Slope efficiency	CW,Po=60mW	-	0.83	-	mW/mA
V _{op}	Operating voltage	CW,Po=60mW	-	2.0	2.5	V
λ _p	Peak wavelength	CW,Po=60mW	775	785	795	nm
θ _{//}	Beam divergence angle (parallel)	CW,Po=60mW	6.5	9	12.5	°
θ _⊥	Beam divergence angle (perpendicular)	CW,Po=60mW	16.5	21.5	26.5	°
I _m (Note 4)	Monitoring output current (Photodiode)	CW,Po=60mW,VRD=1V RL=10Ω (Note 5)	-	0.5	-	mA
I _D (Note 4)	Dark current (Photodiode)	VRD=10V	-	-	0.5	μA
C _t (Note 4)	Capacitance (Photodiode)	VRD=5V	-	7	-	pF

Note 4: Applicable to ML60128R

Note 5:RL=the load resistance of photodiode


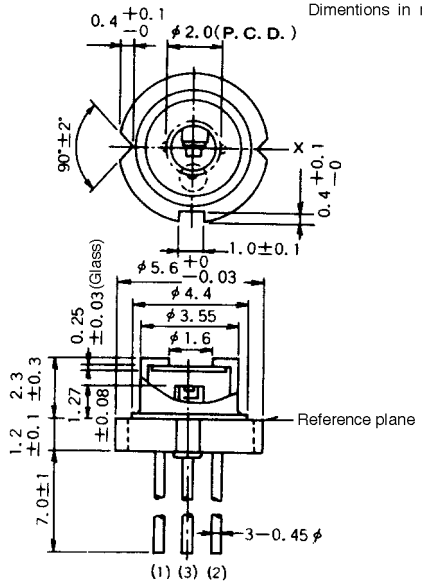
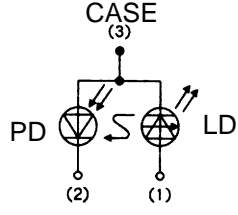

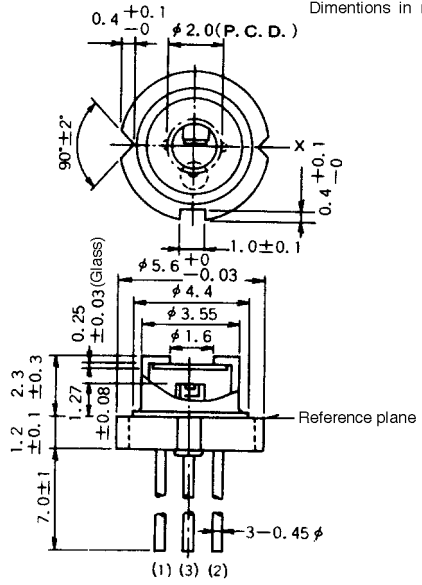
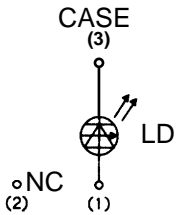
(NSPF)



as of January '00

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OUTLINE DRAWINGS

<p>ML60128R</p> 	<p>Dimensions in mm</p>  <p>0.4^{+0.1}₋₀ $\phi 2.0$(P. C. D.)</p> <p>90°±2°</p> <p>0.4^{+0.1}₋₀</p> <p>1.0±0.1</p> <p>$\phi 5.6$⁺⁰_{-0.03} (Glass)</p> <p>$\phi 4.4$</p> <p>$\phi 3.55$</p> <p>$\phi 1.6$</p> <p>0.25 ±0.03 (Glass)</p> <p>1.27 ±0.08</p> <p>1.2 ±0.1</p> <p>2.3 ±0.3</p> <p>7.0±1</p> <p>Reference plane</p> <p>3-0.45 ϕ</p> <p>(1) (3) (2)</p>	 <p>CASE (3)</p> <p>PD</p> <p>LD</p> <p>(2) (1)</p>
<p>ML601J28</p> 	<p>Dimensions in mm</p>  <p>0.4^{+0.1}₋₀ $\phi 2.0$(P. C. D.)</p> <p>90°±2°</p> <p>0.4^{+0.1}₋₀</p> <p>1.0±0.1</p> <p>$\phi 5.6$⁺⁰_{-0.03} (Glass)</p> <p>$\phi 4.4$</p> <p>$\phi 3.55$</p> <p>$\phi 1.6$</p> <p>0.25 ±0.03 (Glass)</p> <p>1.27 ±0.08</p> <p>1.2 ±0.1</p> <p>2.3 ±0.3</p> <p>7.0±1</p> <p>Reference plane</p> <p>3-0.45 ϕ</p> <p>(1) (3) (2)</p>	 <p>CASE (3)</p> <p>LD</p> <p>NC (2) (1)</p>