

MITSUBISHI LASER DIODES  
**ML1XX10 SERIES**  
 FOR OPTICAL INFORMATION SYSTEMS

**TYPE  
NAME**

**ML101J10, ML120G10**

**DESCRIPTION**

ML1XX10 is a high power AlGaInP semiconductor laser which provides a stable, single transverse mode oscillation with emission wavelength of 685 nm and standard CW light output of 50mW.

ML1XX10 has a window-mirror-facet which improves the maximum output power. That leads to highly reliable and high-power operation.

**FEATURES**

- High Power: 50mW (CW), 60mW (pulse)
- Visible Light: 685nm (typ)

**APPLICATION**

Optical disc drive (High Density / High Speed)

**ABSOLUTE MAXIMUM RATINGS** (Note 1)

Symbol	Parameter	Conditions	Ratings	Unit
Po	Light output power	CW	60	mW
		Pulse(Note 2)	60	
VRL	Reverse voltage	-	2	V
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 from Mitsubishi Semiconductor Quality Assurance Department.

Note2: TARGET SPEC /Condition Duty less than 50%, pulse width less than 0.1μsec

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

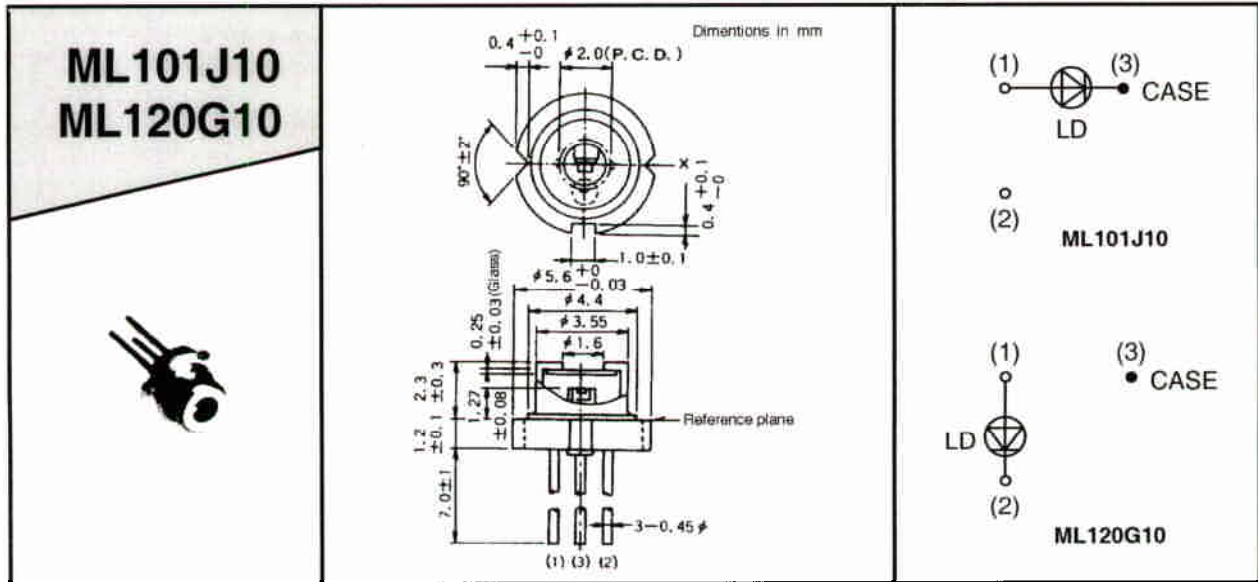
Symbol	Parameter	Test conditions	Min.	Typ.	Max	Unit
Ith	Threshold current	CW	-	40	80	mA
Iop	Operation current	CW, Po=50mW	-	110	150	mA
Vop	Operating voltage	CW, Po=50mW	2	2.5	3	V
η	Slope efficiency	CW, Po=50mW	0.5	0.75	1.0	mW/mA
λp	Peak wavelength	CW, Po=50mW	670	685	700	nm
θ//	Beam divergence angle (parallel)	CW, Po=50mW	7	9	12	°
θ⊥	Beam divergence angle (perpendicular)	CW, Po=50mW	16	20.5	24	°

NSF



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**OUTLINE DRAWINGS**



There is no model with a monitor photo diode in ML1XX10 series.