MITSUBISHI LASER DIODES

ML1XX6 SERIES

AlGaLnP LASER DIODES

TYPE NAME

ML1016R,ML120G6

DESCRIPTION

ML1XX6 is a high power AlGaInP semiconductor laser which provides a stable, single transverse mode oscillation with emission wavelength of 658nm (typical) and the standard continuous light output of 30mW.

FEATURES

- High Power 30mW(CW)
- Visible Laser (658nm typ.)
- High reliability

APPLICATION

- Optical disc drive (High Density)
- DVD(Digital Versatile Disc)-RAM Drive

ABSOLUTE MAXIMUM RATINGS (Note 1)

Symbol	Parameter	Conditions	Ratings	Unit
P_O	Light output powe	CW	35	mW
		Pulse (Note 2)	50	
V_{RL}	Reverse voltage (laser diode)	—	2	V
V_{RD}	Reverse voltage (Photodiode)	—	30	V
I_{FD}	Forward current (Photodiode)	—	10	mA
T_C	Case temperature	—	−10～+60	℃
T_{stg}	Storage temperature	—	−10～+100	℃

Note 1: The maximum rating means the limitation over which the laser should not be operated even instant time, and this does not mean the gurantee of its lifetime.

Note 2: Duty cycle less than 50%, pulse width less than 1 μs.

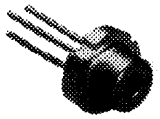
ELECTRICAL/OPTICAL CHARACTERISTICS

Symbol	Parameter	Test condition	Limits			Unit
			Min.	Typ.	Max.	
I_{th}	Threshold current	CW	—	45	70	mA
I_{OP}	Operation current	CW,P_O = 30mW	—	85	120	mA
V_{OP}	Operating voltage	CW,P_O = 30mW	—	2.7	3.2	V
η	Slope efficiency	CW,P_O = 30mW	—	0.8	—	mW/mA
λ_P	Peak wavelength	CW,P_O = 30mW	645	658	666	nm
$\theta_{//}$	Beam divergence angle (parallel)	CW,P_O = 30mW	7	8.5	11	deg.
$\theta_{\perp}$	Beam divergence angle (perpendicular)	CW,P_O = 30mW	17	22	26	deg.
I_m	Monitoring output current (photodiode)(only for ML1016R)	CW,P_O = 30mW,V_{RD} = 1V,R_L = 10Ω *3	0.05	0.3	2.5	mA
I_D	Dark current (Photodiode)	V_{RD} = 10V	—	—	0.5	μA
C_t	Capacitance (Photodiode)	f = 1MHz,V_{RD} = 5V	—	7	—	pF

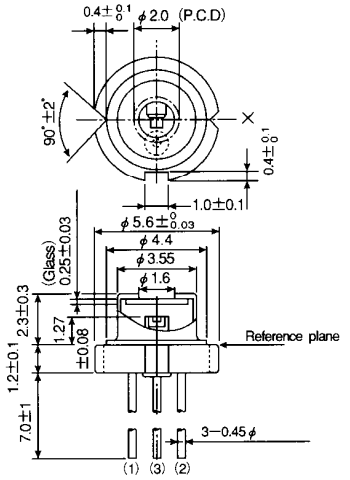
Note3:R_L=the load resistance of photodiode for ML1016R

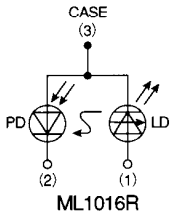
OUTLINE DRAWINGS

ML1016R
ML120G6

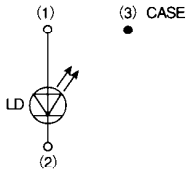


Dimention : mm





ML1016R



ML120G6