

780nm Low Power Lasers

RLD78MRA1

A long-run product with market-proved high reliability. Matching to various needs.

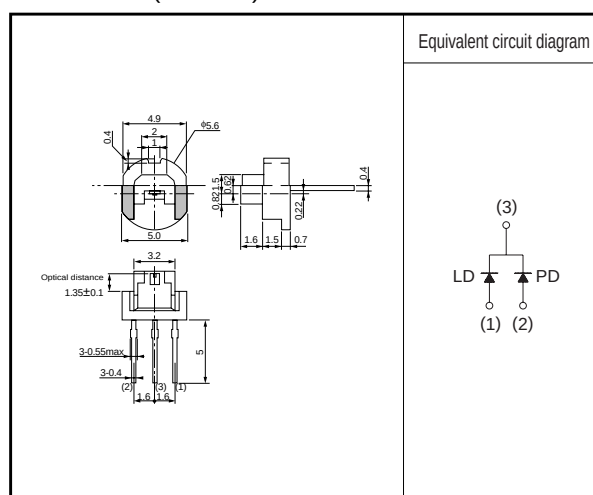
●Applications

CD-ROM
CD player
etc.

●Features

- 1) Optical power output : CW 4.5mW
- 2) Low noise
- 3) High precision $\phi 5.6$ metal stem

●Dimensions (Unit : mm)



●Absolute maximum ratings (Tc=25°C)

Parameter		Symbol	Limits	Unit
Output		P _o	4.5	mW
Reverse voltage	Laser	V _R	2	V
	Photodiode	V _R (PIN)	30	V
Operating temperature		T _{opr}	-10 to +70	°C
Storage temperature		T _{stg}	-40 to +85	°C

●Electrical and optical characteristics (Tc=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Threshold current	I _{th}	—	35	60	mA	—
Operating current	I _{op}	—	45	70	mA	P _o =3mW
Operating voltage	V _{op}	—	1.9	2.3	V	P _o =3mW
Differential efficiency	η	0.1	0.25	0.6	mW/mA	2mW/ (I (3mW) - I (1mW))
Monitor current	I _m	0.05	0.15	0.48	mA	P _o =3mW, V _R (PIN)=15V
Parallel divergences angle	$\theta_{\parallel}$	8	11	15	deg	P _o =3mW
Perpendicular divergence angle	$\theta_{\perp}$	20	37	45	deg	
Parallel deviation angle	$\Delta\theta_{\parallel}$	-3	0	3	deg	
Perpendicular deviation angle	$\Delta\theta_{\perp}$	-3.6	0	3.6	deg	
Emission point accuracy	$\Delta X, \Delta Y, \Delta Z$	-100	0	100	μm	—
Peak emission wavelength	λ	770	785	810	nm	P _o =3mW
Signal-to-Noise ratio	S/N	60	—	—	dB	f=720kHz, Δf =10kHz, P _o =3mW

Laser Diodes

●Electrical and optical characteristics curves

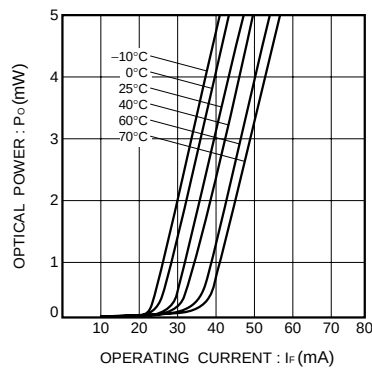


Fig.1 Optical output vs. operating current

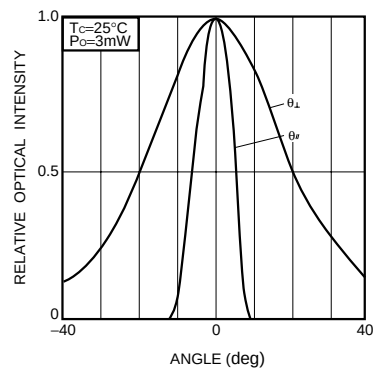


Fig.2 Far field pattern

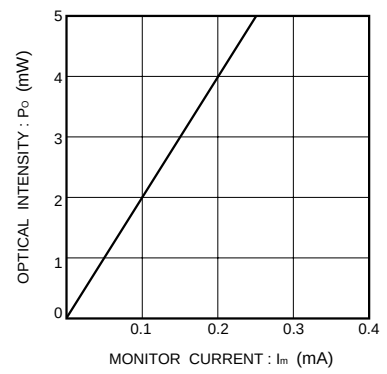


Fig.3 Monitor current vs. optical output

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