

780nm Low Power Lasers

RLD78MPA1

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

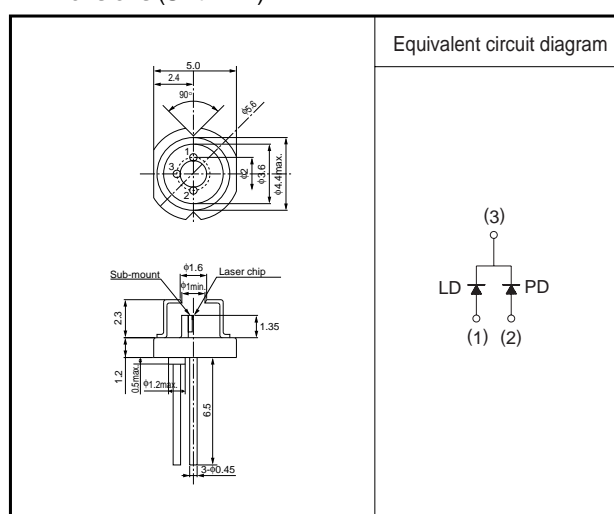
●Applications

CD-ROM
CD player
etc.

●Features

- 1) Optical power output : CW 5mW
- 2) Low noise
- 3) High precision $\phi 5.6$ metal stem

●Dimensions (Unit : mm)



●Absolute maximum ratings (T_c=25°C)

Parameter		Symbol	Limits	Unit
Output		P _o	5	mW
Reverse voltage	Laser	V _R	2	V
	Photodiode	V _R (PIN)	30	V
Operating temperature		T _{op}	-10 to +75	°C
Storage temperature		T _{stg}	-40 to +85	°C

●Electrical and optical characteristics (T_c=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	0.1	0.3	mA	P _o =3mW, V _R (PIN)=15V
Parallel divergence angle	θ_{\parallel}	8	11	15	deg	P _o =3mW
Perpendicular divergence angle	θ_{\perp}	20	37	45	deg	
Parallel deviation angle	$\Delta\phi_{\parallel}$	-2	0	2	deg	
Perpendicular deviation angle	$\Delta\phi_{\perp}$	-3	0	3	deg	
Emission point accuracy	$\Delta X, \Delta Y, \Delta Z$	-100	0	100	μ m	-
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

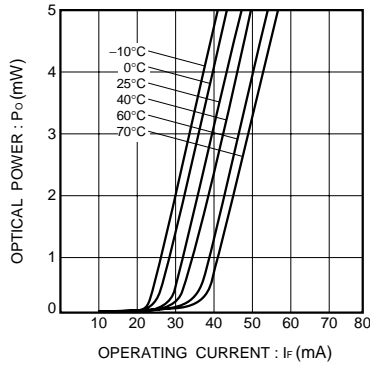


Fig.1 Optical output vs. operating current

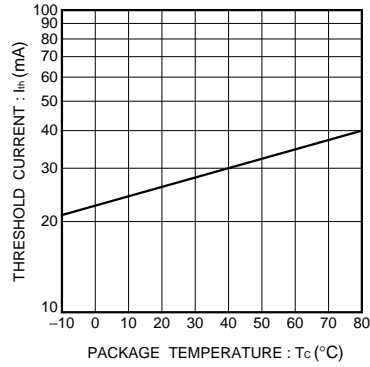


Fig.2 Threshold current vs. package temperature

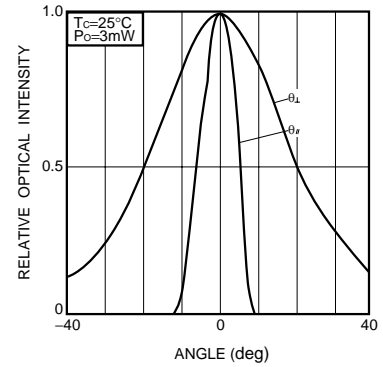


Fig.3 Far-field pattern

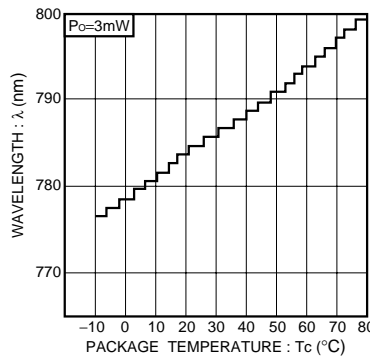


Fig.4 Dependence of wavelength on temperature

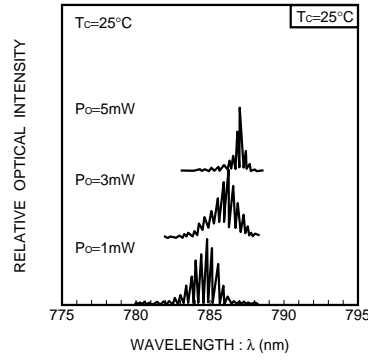


Fig.5 Relative optical intensity vs. wavelength

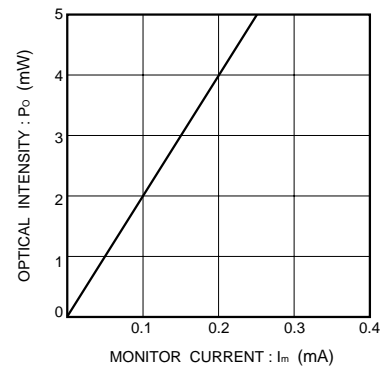


Fig.6 Monitor current vs. optical output

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