

Infra-red Laser for Sensor, Printer

RLD78MZGM

Single mode infra-red laser developed for Sensor. Good temperature characteristics made, most suitable for the printer.

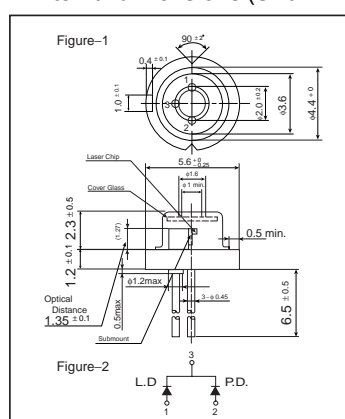
●Applications

Optical sensor
Laser printer

●Features

- 1) Loaded on industry's standard $\phi 5.6$ metal package.
- 2) Normal pole type. (M type)
- 3) Excellent temperature characteristic

●External dimensions (Unit : mm)



●Absolute maximum ratings (Tc=25°C)

Parameter		Symbol	Limits	Unit
Output		P _o	5	mW
Reverse voltage	Laser	V _R	2	V
	PIN photodiode	V _R (PIN)	30	V
Operating temperature		T _{opr}	-10 to +60	°C
Storage temperature		T _{stg}	-40 to +85	°C

Laser Diodes

●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	Po=3mW
Operating voltage	V_{op}	–	1.9	2.3	V	Po=3mW
Differential efficiency	η	0.1	0.25	0.6	mW/mA	–
Monitor current	I_m	0.1	0.2	0.6	mA	Po=3mW
Parallel divergence angle	$\theta_{//}^*$	8	11	15	deg	Po=3mW
Perpendicular divergence angle	θ_{\perp}^*	20	37	45	deg	Po=3mW
Parallel tolerance angle	$\Delta\phi_{//}$	–2	0	2	deg	Po=3mW
Perpendicular tolerance angle	$\Delta\phi_{\perp}$	–3	0	3	deg	Po=3mW
Emission point accuracy	ΔX	–100	0	100	μm	–
	ΔY					
	ΔZ					
Lasing wavelength	λ	770	785	810	nm	Po=3mW
Astigmatism	Δl	–	15	–	μm	Po=3mW

* $\theta_{//}$, θ_{\perp} are defined as full width of half maximum

●Electrical and optical characteristics curve

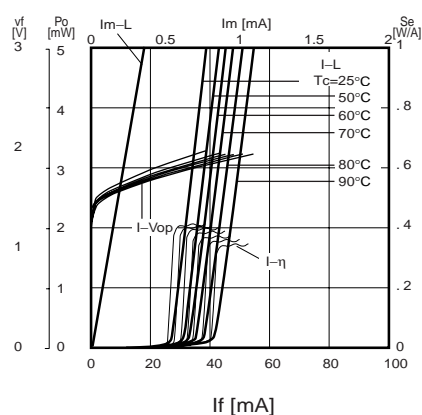


Fig.1 Electrical characteristics vs. package temperature

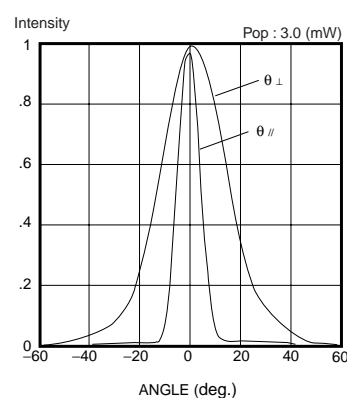


Fig.2 Far field pattern

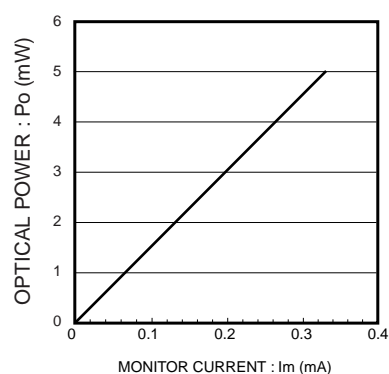


Fig.3 Monitor current vs. optical output

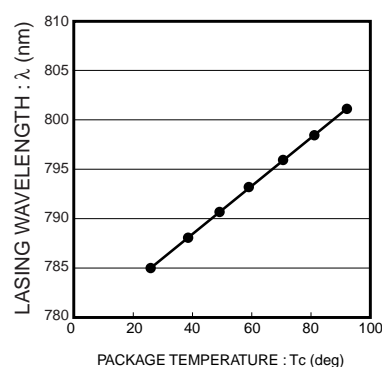


Fig.4 Package temperature vs. wavelength

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