

Low power red laser diode

RLD65MPT7

Glass-less structure Red Laser.

Low I_{th} & good temperature characteristics made by suitability of Multi Quantum Well.

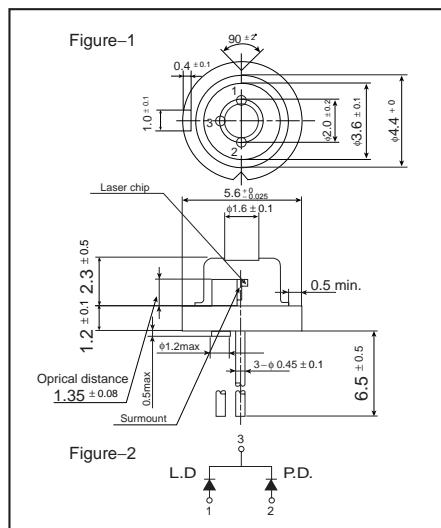
●Applications

DVD-player
COMBO drive
Bar cord scanner
Sensor

●Features

- 1) Glass less structure
- 2) Low I_{th} : 20mA ($P_o=5mW$, $T_c=25^\circ C$)
- 3) Excellent temperature characteristic

●Dimensions (Unit : mm)



●Absolute maximum ratings ($T_c=25^\circ C$)

Parameter	Symbol	Limits	Unit
Output	P_o	7	mW
Reverse voltage	Laser	V_R	V
	PIN photodiode	V_R (PIN)	V
Operating temperature	T_{opr}	-10 to +70	°C
Storage temperature	T_{stg}	-40 to +85	°C

Laser Diodes

● Electrical and optical characteristics ($T_c=25^\circ\text{C}$)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Threshold current	I_{th}	—	20	60	mA	—
Operating current	I_{op}	—	30	70	mA	$P_o=5\text{mW}$
Operating voltage	V_{op}	—	2.3	2.6	V	$P_o=5\text{mW}$
Differential efficiency	η	0.2	0.4	0.8	mW/mA	—
Monitor current	I_m	0.08	0.15	0.4	mA	$P_o=5\text{mW}$
Parallel divergence angle	$\theta_{//}^*$	6.5	8	10	deg	$P_o=5\text{mW}$
Perpendicular tolerance angle	θ_{\perp}^*	20	27	35	deg	$P_o=5\text{mW}$
Parallel tolerance angle	$\Delta\phi_{//}$	-2	0	2	deg	$P_o=5\text{mW}$
Perpendicular tolerance angle	$\Delta\phi_{\perp}$	-3	0	3	deg	$P_o=5\text{mW}$
Emission point accuracy	ΔX	-80	0	80	μm	—
	ΔY					
	ΔZ					
Lasing wavelength	λ	645	655	662	nm	$P_o=5\text{mW}$
Astigmatism	ΔI	—	—	10	μm	$P_o=5\text{mW}$

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

● Electrical and optical characteristics curves

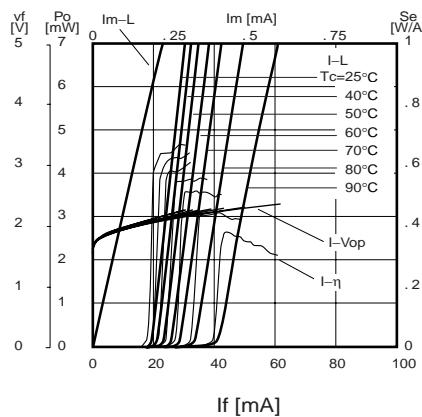


Fig.1 Electrical characteristics vs. package temperature

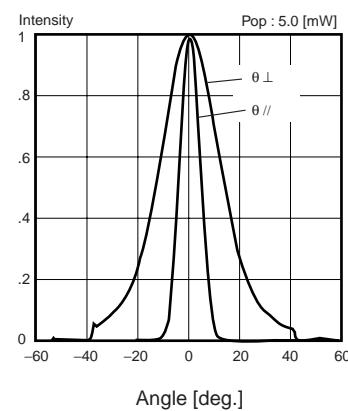


Fig.2 Far field pattern

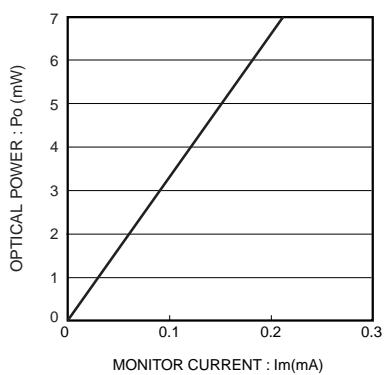


Fig.3 Monitor current vs. optical output

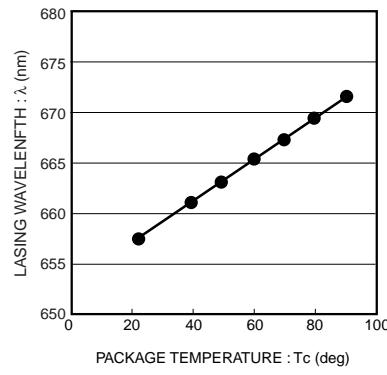


Fig.4 Package temperature vs. wavelength

Appendix

Notes

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