

DVD-Record, High power red laser diode

RLD65PZB5

The RLD65PZB5 is the red high-output semiconductor laser developed since it corresponded to the high speed needs of the optical pick up for DVD record.

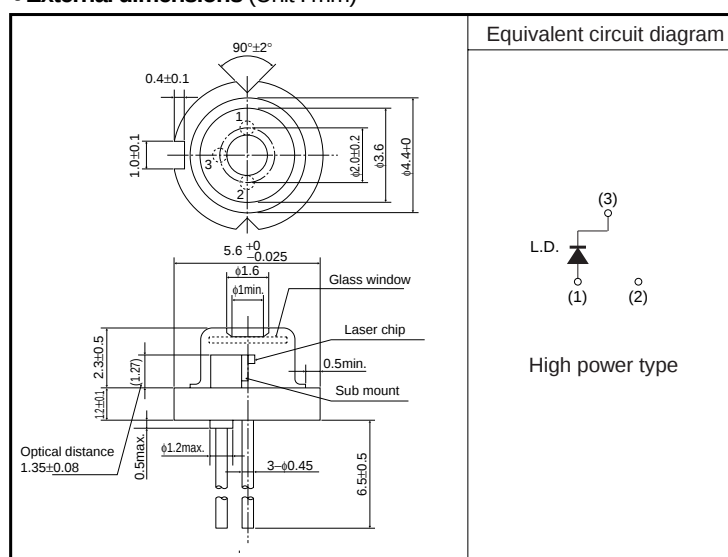
●Applications

DVD±R
DVD±RW
DVD-RAM

●Features

- 1) Absolute maximum optical power output : Pulse 240mW
- 2) High speed response :
~2ns (conventional ratio 50%)
- 3) For field pattern Aspect Ratio : 1.7
- 4) $\phi 5.6\text{mm}$ small package (optical height 1.35mm)

●External dimensions (Unit : mm)



●Absolute maximum ratings (Tc=25°C)

Parameter	Symbol	Limits	Unit
Output	P _o	Pulse 240	mW
Laser reverse voltage	V _R	2	V
Operating temperature	T _{op}	-10 to +70 (Pulse)	°C
Storage temperature	T _{stg}	-40 to +85	°C

Pulse conditions : pulse width < 80ns duty 50%

Laser Diodes

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

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Threshold current	I_{th}^{*1}	—	60	75	mA	CW
Operating current	I_{op}^{*1}	—	150	200	mA	CW : $P_o=80mW$
Operating voltage	V_{op}^{*1}	—	2.7	3.2	V	CW : $P_o=80mW$
Differential efficiency	η^{*1}	0.7	1.0	1.3	mW/mA	CW : $30mW / (I(80mW) - I(50mW))$
Monitor current	I_m^{*1}	—	—	—	mA	—
Parallel divergence angle	$\theta_{//}^{*1}$	8	10	13	deg	CW : $P_o=100mW$
Perpendicular divergence angle	$\theta_{\perp}^{*1}$	15	17	19		
Parallel deviation angle	$\Delta\phi_{//}^{*1}$	-2.0	0	+2.0		
Perpendicular deviation angle	$\Delta\phi_{\perp}^{*1}$	-3.0	0	+3.0		
Emission point accuracy	ΔXYZ^{*1}	-80	0	+80	μm	—
Peak emission wave length	λ^{*1}	650	658	662	nm	CW : $P_o=80mW$
Astigmatism	AS^{*2}	—	—	6	μm	CW : $P_o=80mW$

* $\theta_{//}$ and $\theta_{\perp}$ are defined as the angle within which the intensity is 50% of the peak value.

●Electrical and optical characteristics curve

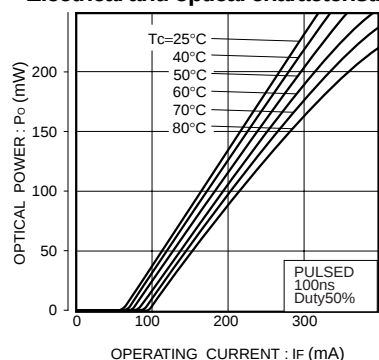


Fig.1 Optical output vs. operating current

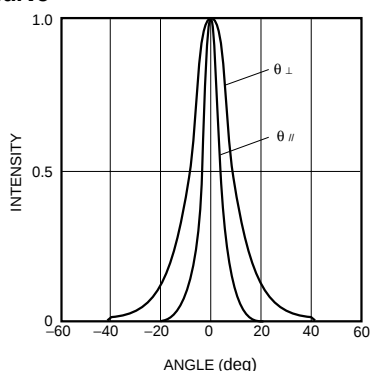


Fig.2 Far field pattern