

# 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.

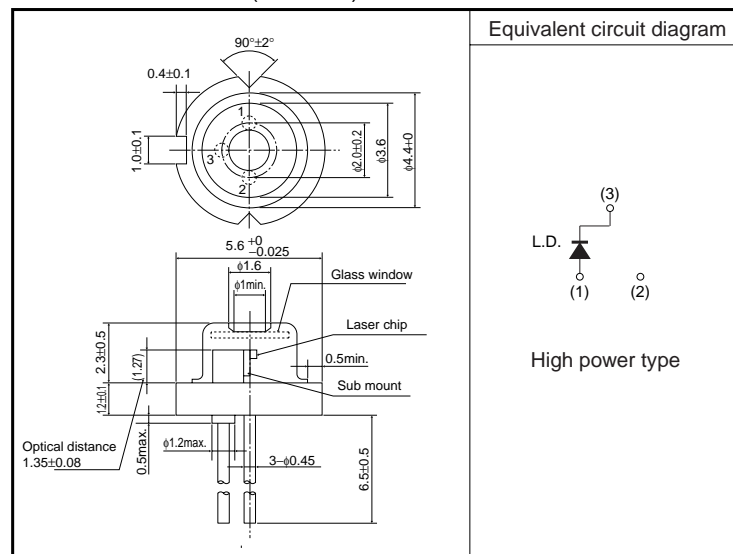
### ●Applications

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)  $\phi 5.6$ mm small package (optical height 1.35mm)

### ●External dimensions (Unit : mm)



### ●Absolute maximum ratings (Tc=25°C)

Parameter	Symbol	Limits	Unit
Output	P <sub>o</sub>	Pulse 240	mW
Laser reverse voltage	V <sub>R</sub>	2	V
Operating temperature	T <sub>op</sub>	-10 to +70 (Pulse)	°C
Storage temperature	T <sub>stg</sub>	-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 <sub>o</sub> =80mW
Operating voltage	$V_{op}^{*1}$	–	2.7	3.2	V	CW : P <sub>o</sub> =80mW
Differential efficiency	$\eta^{*1}$	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 <sub>o</sub> =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	$\Delta XYZ^{*1}$	–80	0	+80	μm	–
Peak emission wave length	$\lambda^{*1}$	650	658	662	nm	CW : P <sub>o</sub> =80mW
Astigmatism	$As^{*2}$	–	–	6	μm	CW : P <sub>o</sub> =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

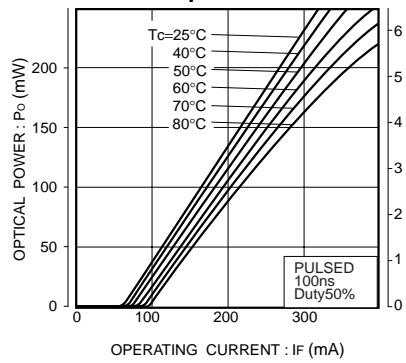


Fig.1 Optical output vs. operating current

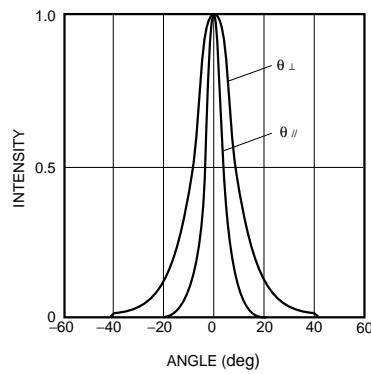


Fig.2 Far field pattern

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