

# DVD-ROM red laser diode

## RLD65MZT1

For DVD-ROM, DVD player the strained multi quantum well of active layer is optimized that realized low threshold current and the good temperature characteristic.

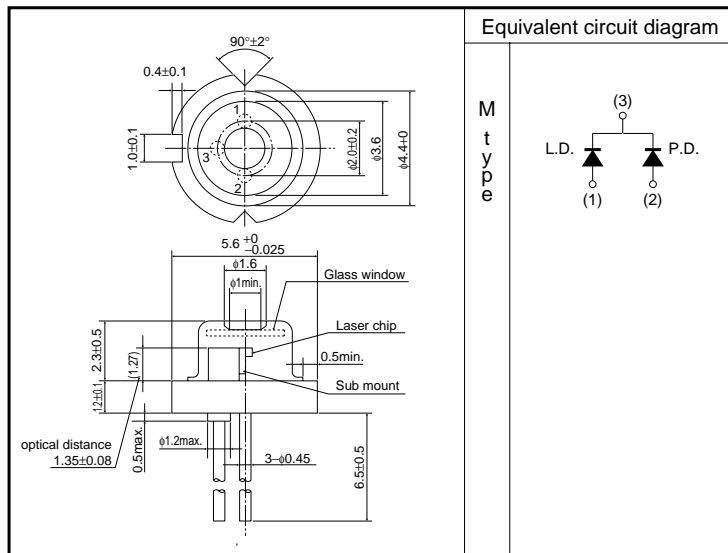
**●Applications**

- DVD-ROM
- DVD player
- Barcode readers
- Sensors

**●Features**

- 1) Optimization of a strained multi quantum well realizes the reduction in threshold current, and the good temperature characteristic.
- 2) Low threshold current : 25mA (Tc=25°C)
- 3) Low noise is realized by a high frequency modulation element..

**●External dimensions (Units : mm)**



## Laser Diodes

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

Parameter		Symbol	Limits	Unit
Output		P <sub>o</sub>	7	mW
Reverse voltage	Raser	V <sub>R</sub>	2	V
	PIN photodiode	V <sub>R(PIN)</sub>	30	V
Operating temperature		T <sub>opr</sub>	-10 to +70	°C
Storage temperature		T <sub>stg</sub>	-40 to +85	°C

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

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Threshold current	I <sub>th</sub>	–	25	60	mA	–
Operating current	I <sub>op</sub>	–	35	70	mA	P <sub>o</sub> =5mW
Operating voltage	V <sub>op</sub>	–	2.3	2.6	V	P <sub>o</sub> =5mW
Differential efficiency	η	0.2	0.4	0.8	mW/mA	–
Monitor current	I <sub>m</sub>	0.1	0.2	0.5	mA	P <sub>o</sub> =5mW
Parallel divergence angle	θ <sub>//</sub> *	7	8	10	deg	P <sub>o</sub> =5mW
Perpendicular divergence angle	θ <sub>⊥</sub> *	20	27	35	deg	P <sub>o</sub> =5mW
Parallel deviation angle	Δφ <sub>//</sub>	-2	0	+2	deg	P <sub>o</sub> =5mW
Perpendicular deviation angle	Δφ <sub>⊥</sub>	-3	0	+3	deg	P <sub>o</sub> =5mW
Emission point accuracy	$\begin{matrix} \Delta X \\ \Delta Y \\ \Delta Z \end{matrix}$	-80	0	+80	μm	–
Peak emission wavelength	λ	645	655	660	nm	P <sub>o</sub> =5mW
Astigmatism	Δℓ	–	–	10	μm	P <sub>o</sub> =5mW

\* θ<sub>//</sub> and θ<sub>⊥</sub> are defined as the angle within which the intensity is 50% of the peak value.

## ●Electrical and optical characteristics curves

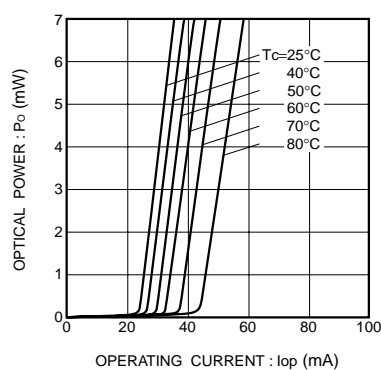


Fig.1 Optical output vs. operating current

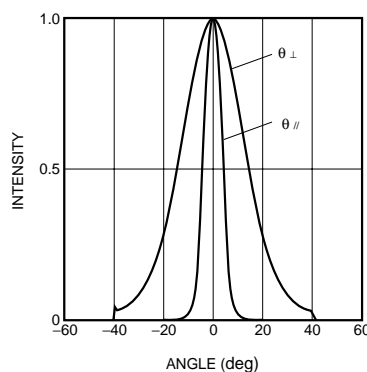


Fig.2 Far field pattern

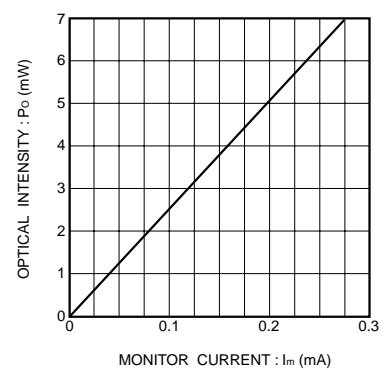


Fig.3 Monitor current vs. optical output