

# Low power red laser diode

## RLD65MPT4

Glass-less structure Red Laser.

Low lth & good temperature characteristics made by suitability of Multi Quantum Well.

### ●Applications

DVD-ROM

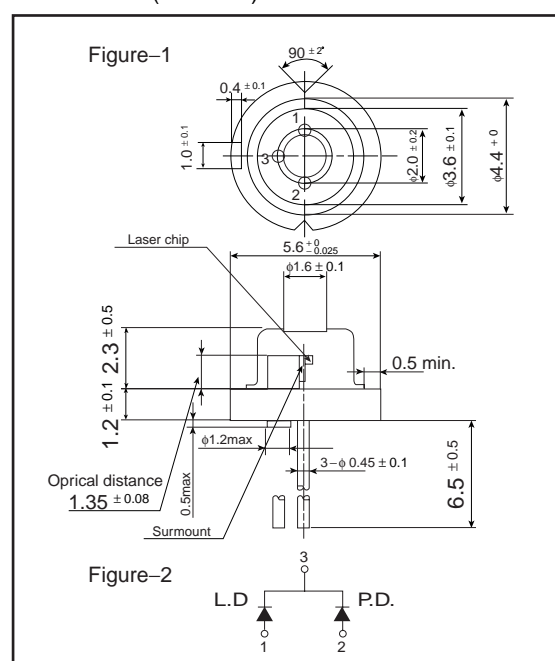
COMBINATION Drive

Sensors

### ●Features

- 1) The 10mW of the maximum rating corresponding to DVD-RAM read.
- 2) Optimization of a strained multi quantum well realizes the reduction in threshold current, and the good temperature characteristic.
- 3) Low threshold current : 25mA ( $T_C=25^{\circ}\text{C}$ ).

### ●Dimensions (Unit : mm)



### ●Absolute maximum ratings ( $T_C=25^{\circ}\text{C}$ )

Parameter		Symbol	Limits	Unit
Output		$P_o$	10	mW
Reverse voltage	Raser	$V_R$	2	V
	PIN photodiode	$V_{R(PIN)}$	30	V
Operating temperature		$T_{opr}$	-10 to +70	$^{\circ}\text{C}$
Storage temperature		$T_{stg}$	-40 to +85	$^{\circ}\text{C}$

## Laser Diodes

●Electrical and optical characteristics (T<sub>c</sub>=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>	0.07	0.12	0.35	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	664	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

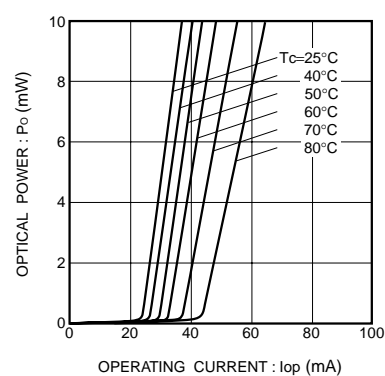


Fig.1 Optical output  
vs. operating current

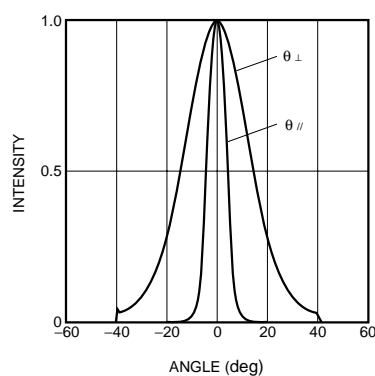


Fig.2 Far field pattern

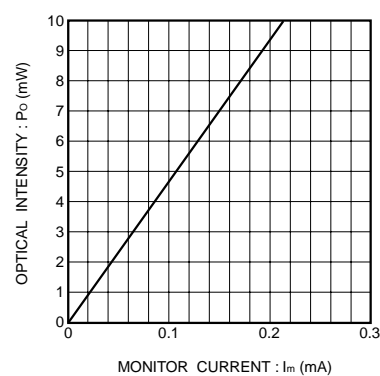


Fig.3 Monitor current  
vs. optical output

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