

# Barcode, printer red laser diode

## RLD65NZN1

For Barcode, Laser Printer. The product is the single power supply drive type which realized low threshold current and the good temperature characteristic.

### ●Applications

Barcode readers

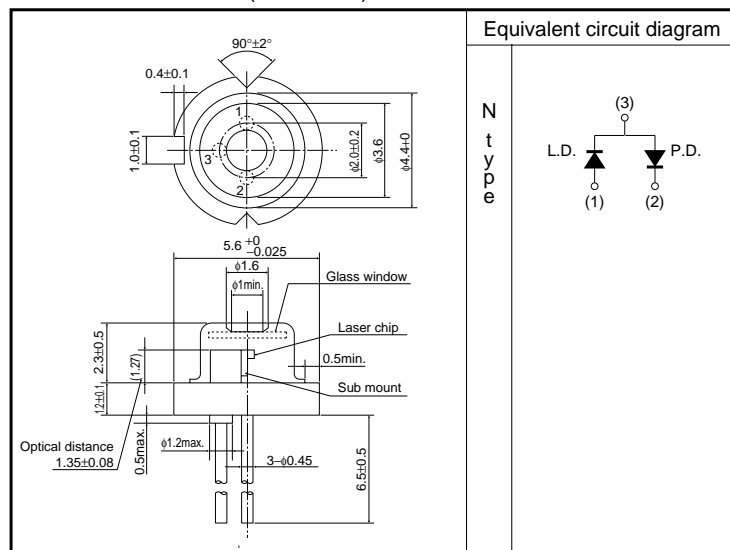
Printers

Sensors

### ●Features

- 1) Optimization of a strained multi quantum well realizes the reduction in threshold current, and the good temperature characteristic.
- 2) Low operation current drive type : 32mA ( $T_C=25^{\circ}\text{C}$ ,  $P_O=5\text{mW}$ )
- 3) The single power supply drive type (LD=Anode common type)

### ●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</sub> (PIN)	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

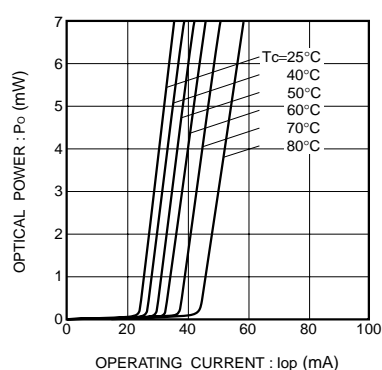


Fig.1 Optical output  
vs. operating current

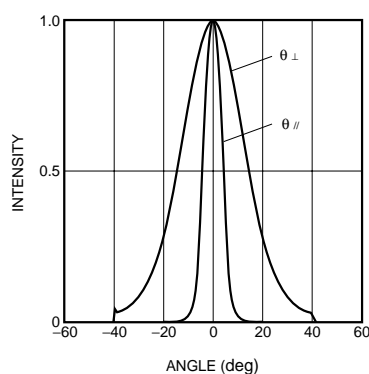


Fig.2 Far field pattern

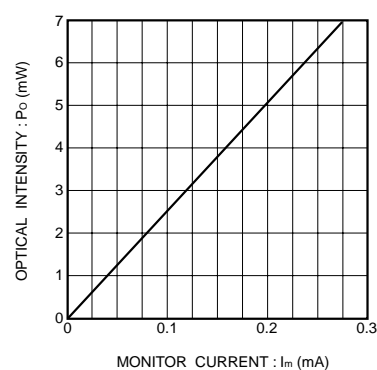


Fig.3 Monitor current  
vs. optical output

## Laser Diodes

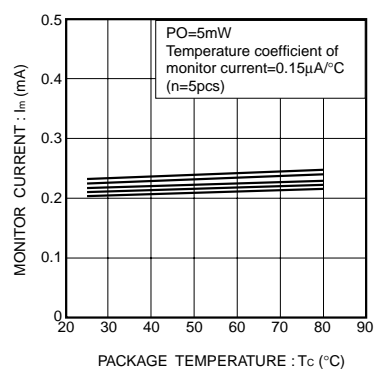


Fig.4 Temperature dependence of  
monitor current

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Datasheets for electronics components.