# Barcode, printer red laser diode

## RLD65NZT1

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

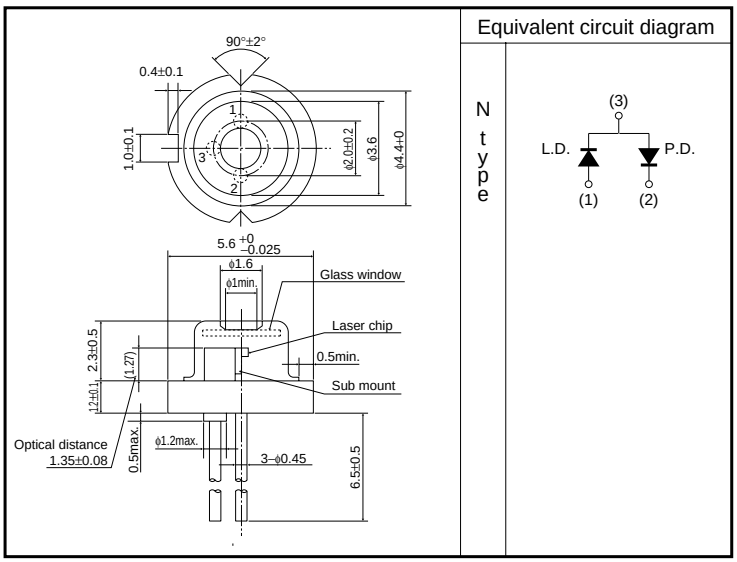
**●Applications**

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°C, $P_O$=5mW)
3) The single power supply drive type (LD=Anode common type)

**●External dimensions** (Units : mm)



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

| Parameter | | Symbol | Limits | Unit |
|---|---|---|---|---|
| Output | | $P_O$ | 7 | mW |
| Reverse voltage | Raser | $V_R$ | 2 | V |
| | PIN photodiode | $V_{R(PIN)}$ | 30 | V |
| Operating temperature | | Topr | −10 to +70 | °C |
| Storage temperature | | Tstg | −40 to +85 | °C |

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

| Parameter | Symbol | Min. | Typ. | Max. | Unit | Conditions |
|---|---|---|---|---|---|---|
| Threshold current | $I_{th}$ | – | 25 | 60 | mA | – |
| Operating current | $I_{op}$ | – | 35 | 70 | mA | $P_O$=5mW |
| Operating voltage | $V_{op}$ | – | 2.3 | 2.6 | V | $P_O$=5mW |
| Differential efficiency | $\eta$ | 0.2 | 0.4 | 0.8 | mW/mA | – |
| Monitor current | $I_m$ | 0.1 | 0.2 | 0.5 | mA | $P_O$=5mW |
| Parallel divergence angle | $\theta_{//}$* | 7 | 8 | 10 | deg | $P_O$=5mW |
| Perpendicular divergence angle | $\theta_{\perp}$* | 20 | 27 | 35 | deg | $P_O$=5mW |
| Parallel deviation angle | $\Delta\phi_{//}$ | −2 | 0 | +2 | deg | $P_O$=5mW |
| Perpendicular deviation angle | $\Delta\phi_{\perp}$ | −3 | 0 | +3 | deg | $P_O$=5mW |
| Emission point accuracy | $\Delta X$<br>$\Delta Y$<br>$\Delta Z$ | −80 | 0 | +80 | μm | – |
| Peak emission wavelength | $\lambda$ | 645 | 655 | 660 | nm | $P_O$=5mW |
| Astigmatism | $\Delta\ell$ | – | – | 10 | μm | $P_O$=5mW |

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

●**Electrical and optical characteristics curves**

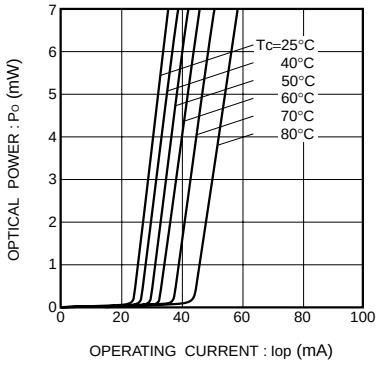



Fig.1 Optical output vs. operating current

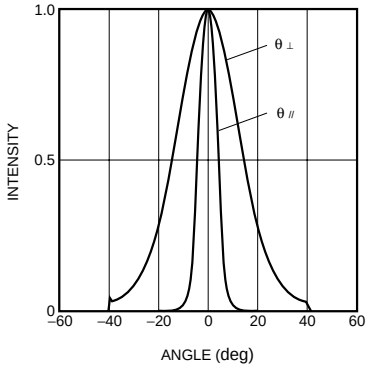



Fig.2 Far field pattern

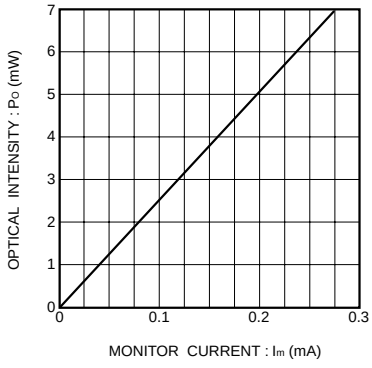



Fig.3 Monitor current vs. optical output

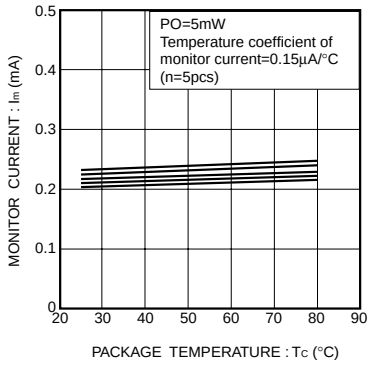



Fig.4 Temperature dependence of moritor current

## Notes

- No technical content pages of this document may be reproduced in any form or transmitted by any means without prior permission of ROHM CO.,LTD.
- The contents described herein are subject to change without notice. The specifications for the product described in this document are for reference only. Upon actual use, therefore, please request that specifications to be separately delivered.
- Application circuit diagrams and circuit constants contained herein are shown as examples of standard use and operation. Please pay careful attention to the peripheral conditions when designing circuits and deciding upon circuit constants in the set.
- Any data, including, but not limited to application circuit diagrams information, described herein are intended only as illustrations of such devices and not as the specifications for such devices. ROHM CO.,LTD. disclaims any warranty that any use of such devices shall be free from infringement of any third party's intellectual property rights or other proprietary rights, and further, assumes no liability of whatsoever nature in the event of any such infringement, or arising from or connected with or related to the use of such devices.
- Upon the sale of any such devices, other than for buyer's right to use such devices itself, resell or otherwise dispose of the same, no express or implied right or license to practice or commercially exploit any intellectual property rights or other proprietary rights owned or controlled by
- ROHM CO., LTD. is granted to any such buyer.
- Products listed in this document use silicon as a basic material.
  Products listed in this document are no antiradiation design.

The products listed in this document are designed to be used with ordinary electronic equipment or devices (such as audio visual equipment, office-automation equipment, communications devices, electrical appliances and electronic toys).
Should you intend to use these products with equipment or devices which require an extremely high level of reliability and the malfunction of with would directly endanger human life (such as medical instruments, transportation equipment, aerospace machinery, nuclear-reactor controllers, fuel controllers and other safety devices), please be sure to consult with our sales representative in advance.

About Export Control Order in Japan

Products described herein are the objects of controlled goods in Annex 1 (Item 16) of Export Trade Control Order in Japan.
In case of export from Japan, please confirm if it applies to "objective" criteria or an "informed" (by MITI clause) on the basis of "catch all controls for Non-Proliferation of Weapons of Mass Destruction.