

Red Laser Diode

DL-3038-033

SANYO

## Index Guided AlGaNp Laser Diode

## Overview

DL-3038-033 is index guided 635 nm (Typ.) AlGaNp laser diode with low threshold current and high operating temperature.

Low threshold current and short wavelength are achieved by a strained multiple quantum well active layer. The lasing wavelength is 635 nm which is 8 times brighter than that of 670 nm lasers. DL-3038-033 is suitable for applications such as bar-code scanners, laser pointers and other optical information systems.

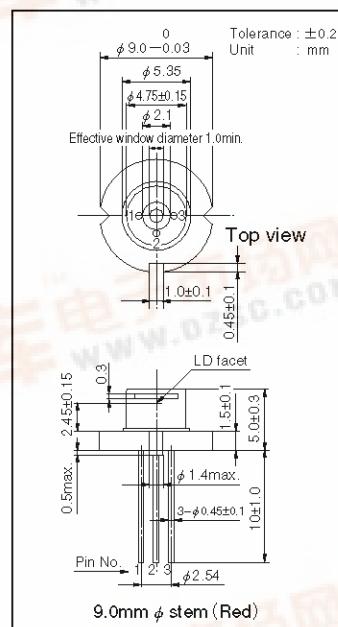
## Features

- Short wavelength : 635 nm (Typ.)
- Low threshold current :  $I_{th} = 30$  mA (Typ.)
- High operating temperature : 50°C at 5 mW
- Low operating voltage :  $V_{op} = 2.2$  V (Typ.)

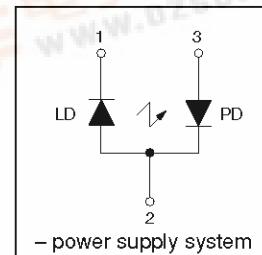
Absolute Maximum Ratings at  $T_c=25^\circ\text{C}$ 

Parameter	Symbol	Ratings	Unit
Light Output	$P_o$	5	mW
Reverse Voltage	$V_R$	2	V
		30	
Operating Temperature	$T_{opr}$	-10 to +50	°C
Storage Temperature	$T_{stg}$	-40 to +85	°C

## Package Dimensions



## Electrical Connection

Electrical and Optical Characteristics at  $T_c=25^\circ\text{C}$ 

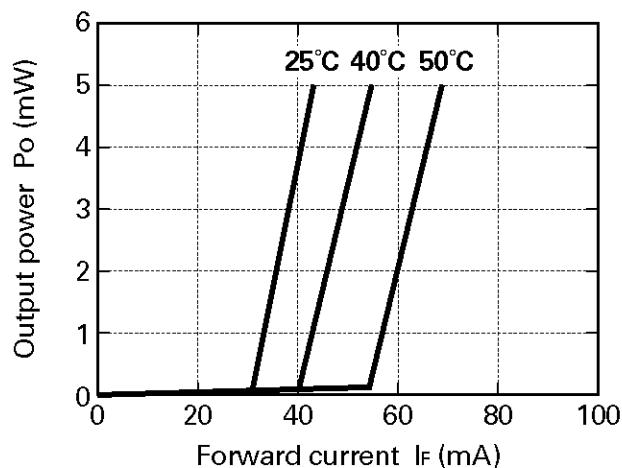
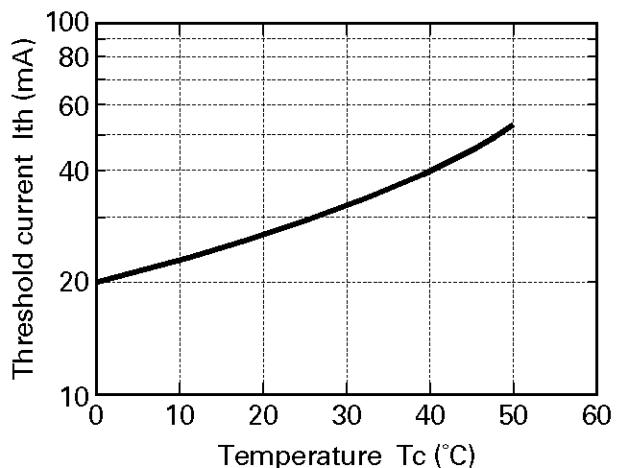
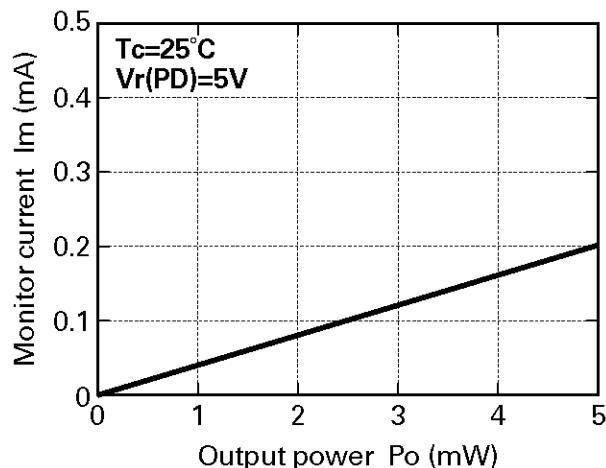
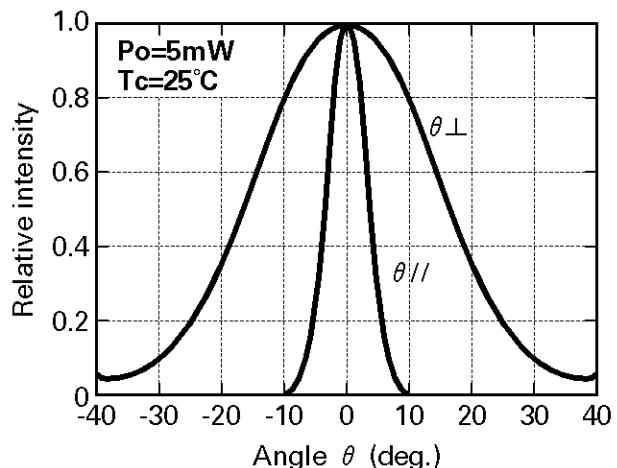
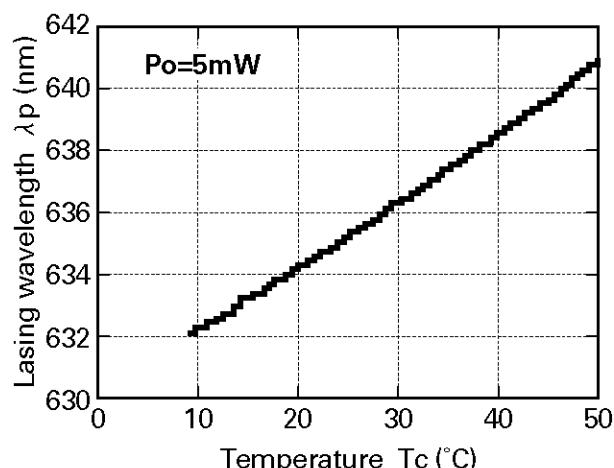
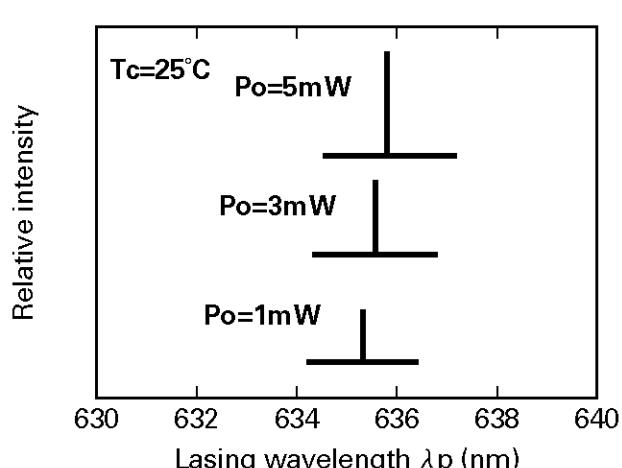
Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Threshold Current	$I_{th}$	CW	-	30	50	mA
Operating Current	$I_{op}$	$P_o=5$ mW	-	40	60	mA
Operating Voltage	$V_{op}$	$P_o=5$ mW	-	2.2	2.4	V
Lasing Wavelength	$\lambda_p$	$P_o=5$ mW	-	635	640	nm
Beam <sup>※</sup> )	Perpendicular	$\theta \perp$	$P_o=5$ mW	25	35	deg.
Divergence	Parallel	$\theta //$	$P_o=5$ mW	6	8	deg.
Off Axis Angle	Perpendicular	$\Delta\theta \perp$	-	-	$\pm 3$	deg.
	Parallel	$\Delta\theta //$	-	-	$\pm 3$	deg.
Differential Efficiency	$dP_o/dI_{op}$	-	-	0.4	-	mW/mA
Monitoring Output Current	$I_m$	$P_o=5$ mW	0.10	0.20	0.50	mA
Astigmatism	$A_s$	$P_o=5$ mW	-	8	-	μm

※) Full angle at half maximum

note : The above product specifications are subject to change without notice.

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**Characteristics****Output power vs. Forward current****Threshold current vs. Temperature****Monitor current vs. Output power****Beam divergence****Lasing wavelength vs. Temperature****Output power vs. Lasing wavelength**

 **CAUTION**

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### Precautionary instructions in handling gallium arsenic products

Special precautions must be taken in handling this product because it contains, gallium arsenic, which is designated as a toxic substance by law. Be sure to adhere strictly to all applicable laws and regulations enacted for this substance, particularly when it comes to disposal.

Manufactured by : **Tottori SANYO Electric Co., Ltd.**

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