

**DL-3039-011****Index Guided AlGaInP Laser Diode****Overview**

DL-3039-011 is 670 nm (Typ.) index guided AlGaInP laser diode with low threshold current and high operating temperature.

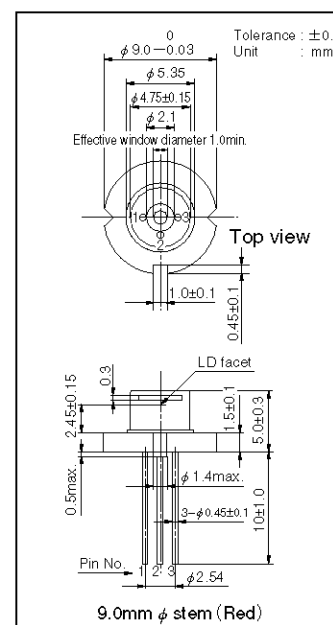
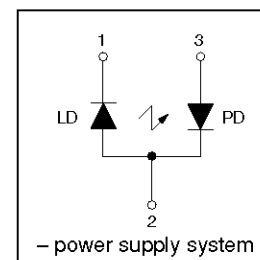
The low threshold current and short wavelength are achieved by use of a strained multiple quantum well active layer. DL-3039-011 is suitable for applications such as bar-code scanners, laser pointers and other optical information systems.

Features

- Short wavelength : 670 nm (Typ.)
- Output power : 5 mW CW
- High operating temperature : 60°C at 5 mW
- Low threshold current : $I_{th} = 30$ mA (Typ.)

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

Parameter	Symbol	Ratings	Unit
Light Output	P_o	5	mW
Reverse Voltage	Laser PIN	V_R	V
		2	
		30	
Operating Temperature	T_{opr}	-10 to +60	°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	60	mA
Operating Current	I_{op}	$P_o=5\text{mW}$	—	45	75	mA
Operating Voltage	V_{op}	$P_o=5\text{mW}$	—	2.3	2.6	V
Lasing Wavelength	λ_p	$P_o=5\text{mW}$	—	670	680	nm
Beam Divergence ※)	Perpendicular	$\theta_{\perp}$	$P_o=5\text{mW}$	25	33	deg.
	Parallel	$\theta_{\parallel}$	$P_o=5\text{mW}$	6	8	deg.
Off Axis Angle	Perpendicular	$\Delta\theta_{\perp}$	—	—	±3	deg.
	Parallel	$\Delta\theta_{\parallel}$	—	—	±3	deg.
Differential Efficiency	dP_o/dI_{op}	—	—	0.3	—	mW/mA
Monitoring Output Current	I_m	$P_o=5\text{mW}$	0.2	1.2	—	mA
Astigmatism	A_s	$P_o=5\text{mW}$	—	8	—	μm

※) Full angle at half maximum note : The above product specifications are subject to change without notice.

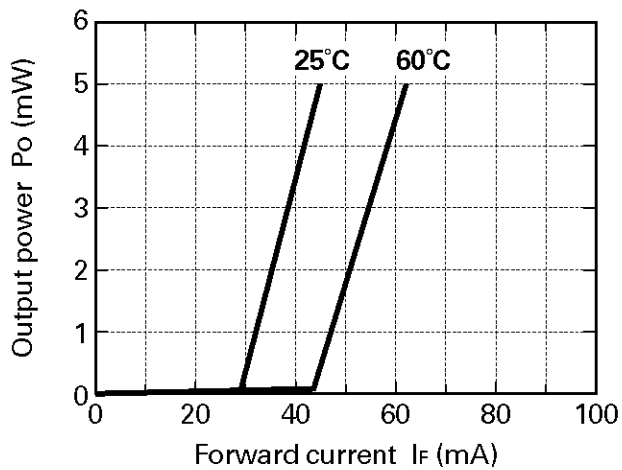
SANYO Electric Co.,Ltd. Semiconductor Business Headquarters

TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110 JAPAN

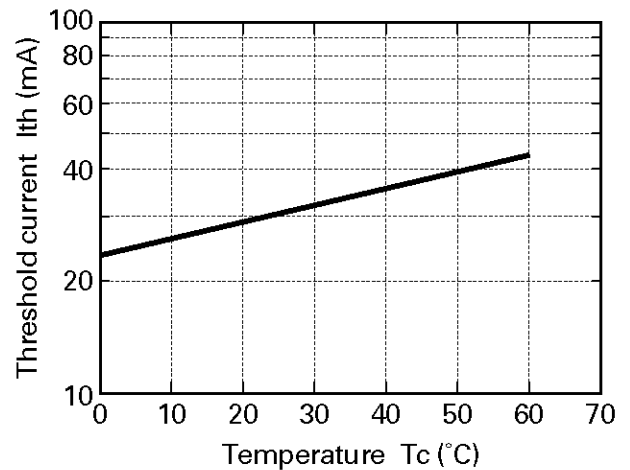
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Characteristics

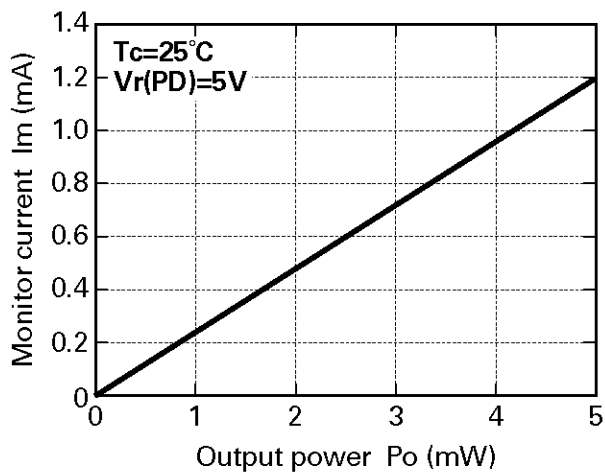
Output power vs. Forward current



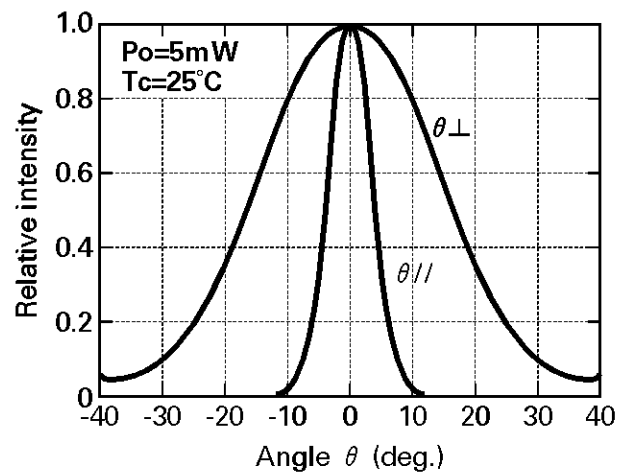
Threshold current vs. Temperature



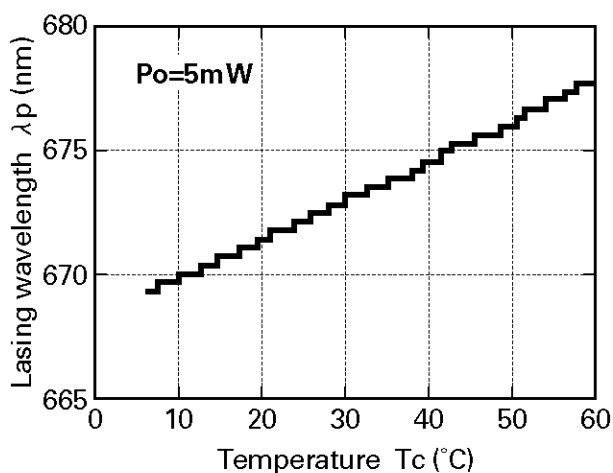
Monitor current vs. Output power



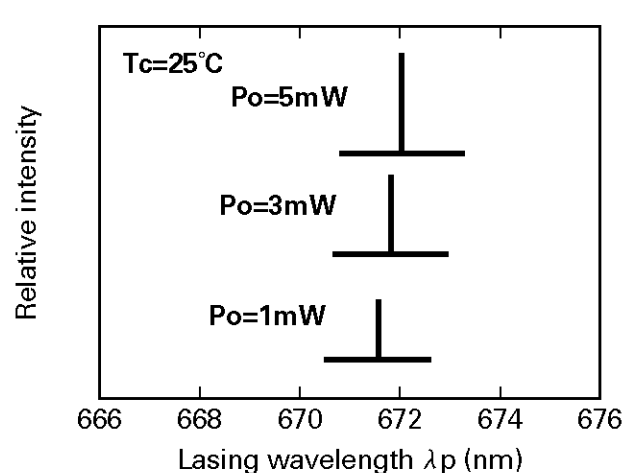
Beam divergence



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.**

Electronics Device Bussiness Headquarters LED Division
5-318, Tachikawa-cho, Tottori City, 680 Japan
TEL: +81-857-21-2137 FAX: +81-857-21-2161