

**DL-3149-055****Index Guided AlGaInP Laser Diode****Overview**

DL-3149-055 is 670 nm (Typ.) index guided AlGaInP laser diode with low threshold current. The low threshold current and short wavelength are achieved by the use of a strained multiple quantum well active layer.

DL-3149-055 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
- Low threshold current : $I_{th} = 35\text{mA}$ (Typ.)
- Small package : 5.6 mm ϕ

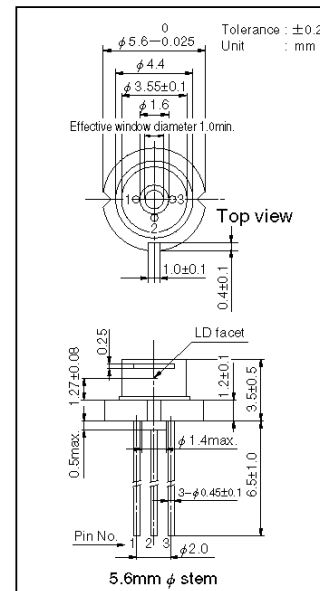
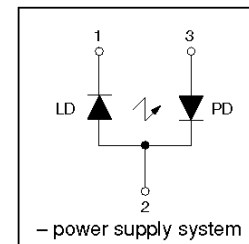
Absolute Maximum Ratings at $T_c=25^\circ\text{C}$

Parameter	Symbol	Ratings	Unit
Light Output	Po	5	mW
Reverse Voltage	Laser	2	V
	PIN	30	
Operating Temperature	Topr	-10 to +50	$^\circ\text{C}$
Storage Temperature	Tstg	-40 to +85	$^\circ\text{C}$

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

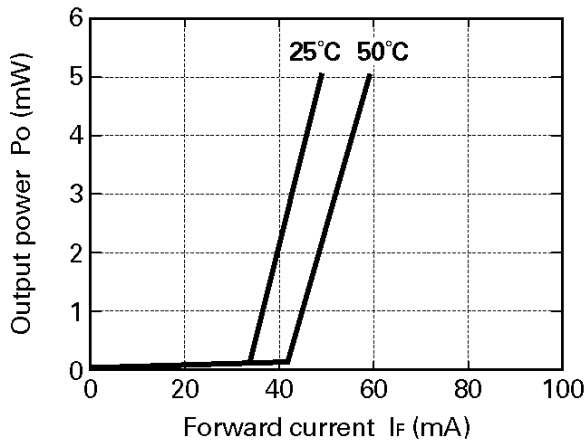
Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit	
Threshold Current	I_{th}	CW	—	35	60	mA	
Operating Current	I_{op}	$P_o=5\text{mW}$	—	45	70	mA	
Operating Voltage	V_{op}	$P_o=5\text{mW}$	—	2.3	2.6	V	
Lasing Wavelength	λ_p	$P_o=5\text{mW}$	660	670	680	nm	
Beam Divergence ※)	Perpendicular	θ_{\perp}	$P_o=5\text{mW}$	25	33	40	deg.
	Parallel	θ_{\parallel}	$P_o=5\text{mW}$	6	8	10	deg.
Off Axis Angle	Perpendicular	$\Delta\theta_{\perp}$	—	—	—	± 2	deg.
	Parallel	$\Delta\theta_{\parallel}$	—	—	—	± 2	deg.
Differential Efficiency	dP_o/dI_{op}	—	0.15	0.3	—	mW/mA	
Monitoring Output Current	I_m	$P_o=5\text{mW}$	0.4	1.2	2.0	mA	
Astigmatism	As	$P_o=5\text{mW}$	—	10	—	μm	

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

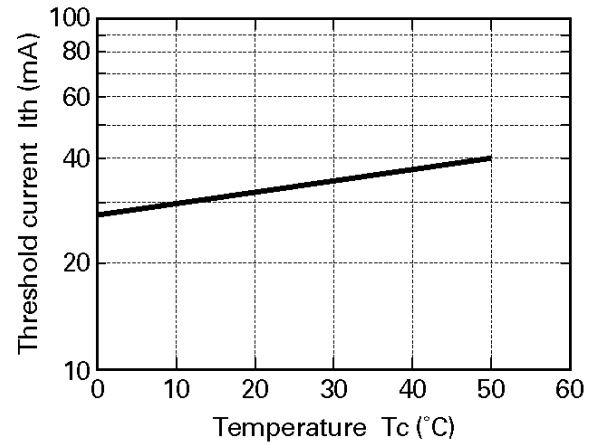
Package Dimensions**Electrical Connection**

Characteristics

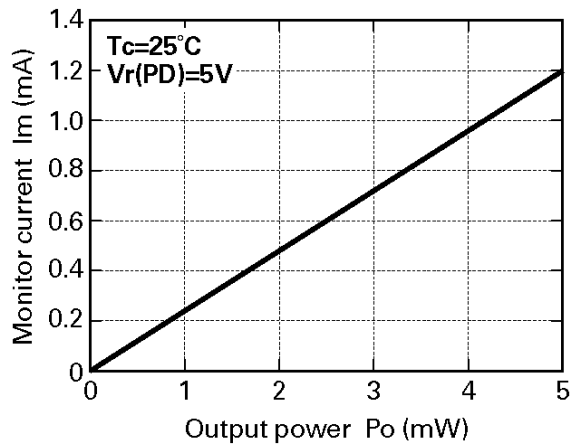
Output power vs. Forward current



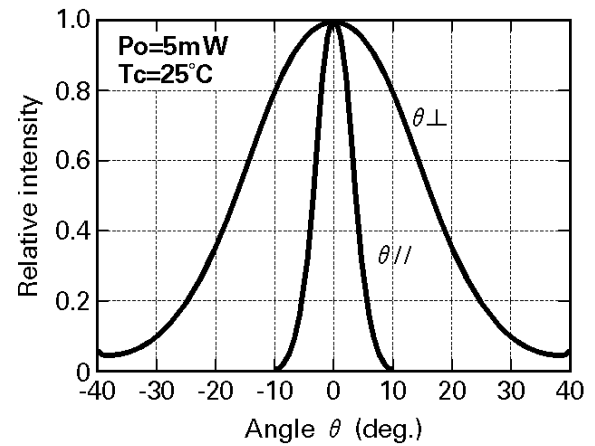
Threshold current vs. Temperature



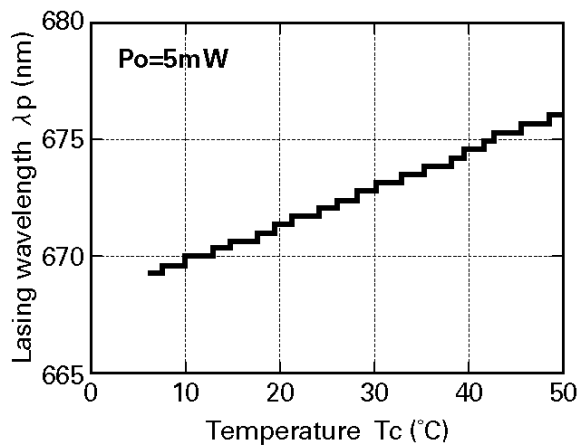
Monitor current vs. Output power



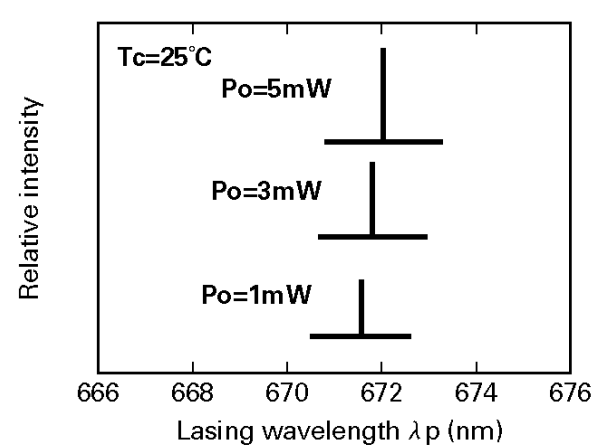
Beam divergence



Lasing wavelength vs. Temperature



Output power vs. Lasing wavelength



 **CAUTION**

1. No products described or contained herein are intended for use in surgical implants, life-support systems, aerospace equipment, nuclear power control systems, vehicles, disaster / crime-prevention equipment or the like, and the failure of which may directly or indirectly cause injury, death or property loss.
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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.

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