

**DL-4038-021****High Power AlGaInP Laser Diode****Overview**

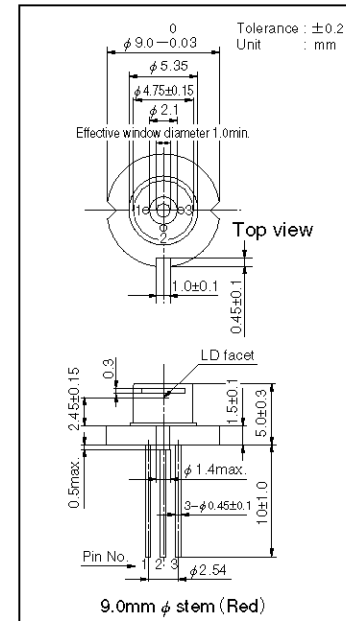
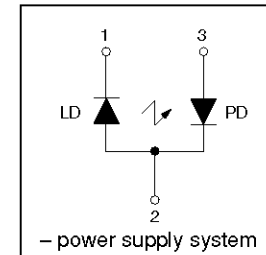
DL-4038-021 is a high power 635 nm (Typ.) AlGaInP laser diode with low threshold current. High output power and low threshold current are achieved by use of a strained quantum well active layer. The lasing wavelength is the same as that of the He-Ne gas lasers. DL-4038-021 is suitable for applications such as laser printers, line markers and other optical information systems.

Features

- Short wavelength : 635 nm (Typ.)
- High output power : 10mW CW
- Low threshold current : $I_{th} = 35$ mA (Typ.)
- 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	10	mW	
Reverse Voltage	Laser PIN	V_R	2	V
			30	
Operating Temperature	T_{opr}	-10 to +40	$^\circ\text{C}$	
Storage Temperature	T_{stg}	-40 to +85	$^\circ\text{C}$	

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	-	35	60	mA
Operating Current	I_{op}	$P_o=10\text{mW}$	-	55	80	mA
Operating Voltage	V_{op}	$P_o=10\text{mW}$	-	2.2	2.4	V
Lasing Wavelength	λ_p	$P_o=10\text{mW}$	-	635	645	nm
Beam Divergence ※)	Perpendicular	θ_{\perp}	25	30	35	deg.
	Parallel	θ_{\parallel}	6	8	10	deg.
Off Axis Angle	Perpendicular	$\Delta\theta_{\perp}$	-	-	± 3	deg.
	Parallel	$\Delta\theta_{\parallel}$	-	-	± 3	deg.
Differential Efficiency	dP_o/dI_{op}	-	-	0.5	-	mW/mA
Monitoring Output Current	I_m	$P_o=10\text{mW}$	0.05	0.15	0.4	mA
Astigmatism	A_s	$P_o=10\text{mW}$	-	8	-	μm

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

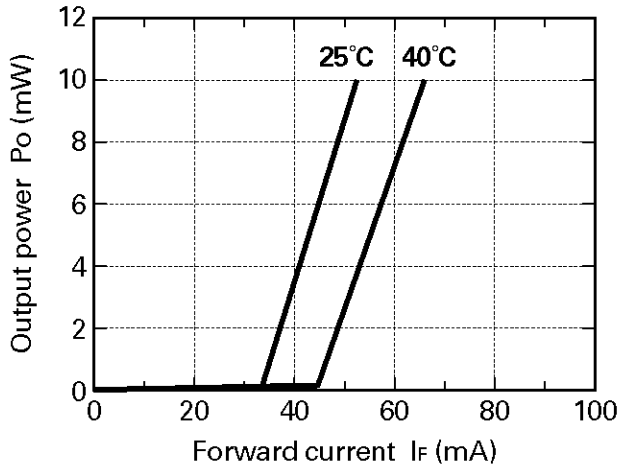
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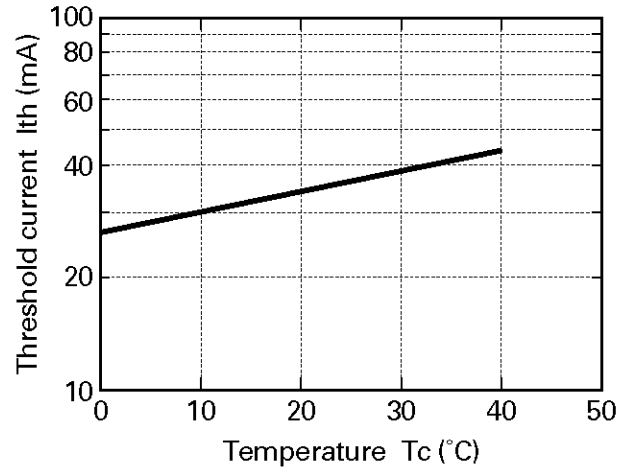
N2897 GI, (IM) No.5857 1/3

Characteristics

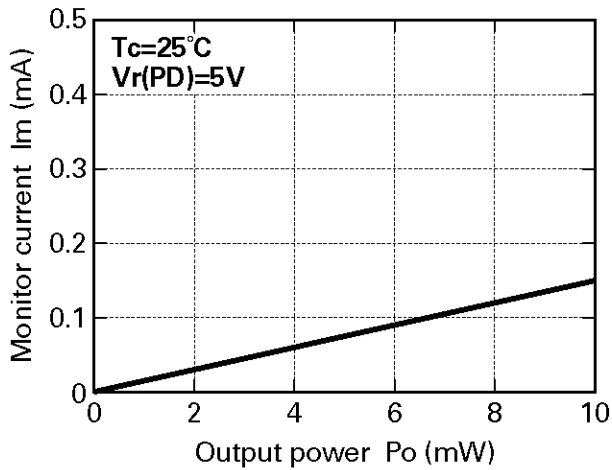
Output power vs. Forward current



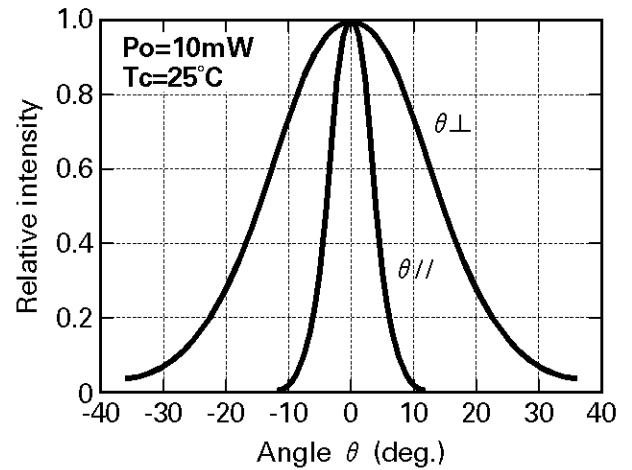
Threshold current vs. Temperature



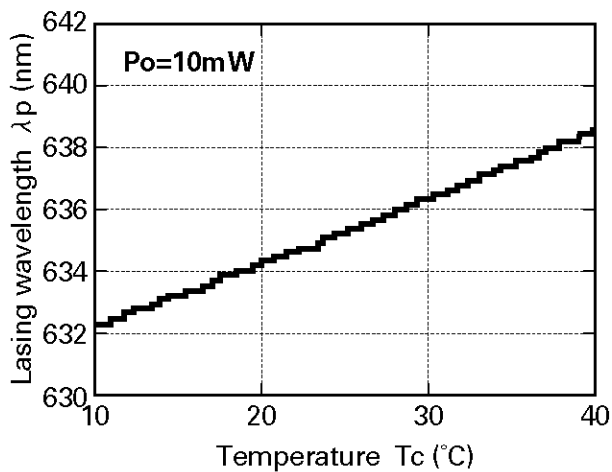
Monitor current vs. Output power



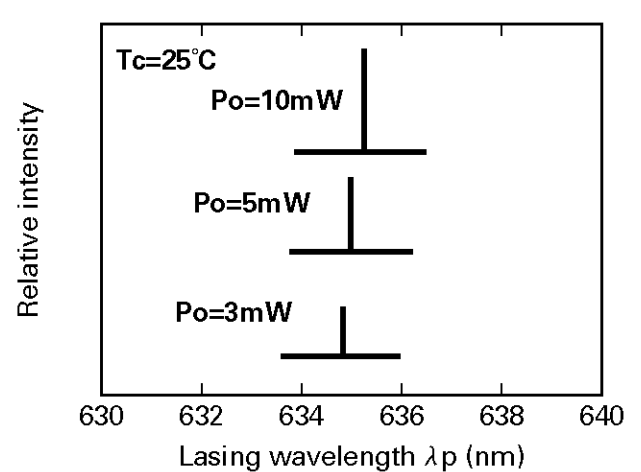
Beam divergence



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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