Ordering number : EN5857A

Red Laser Diode

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.

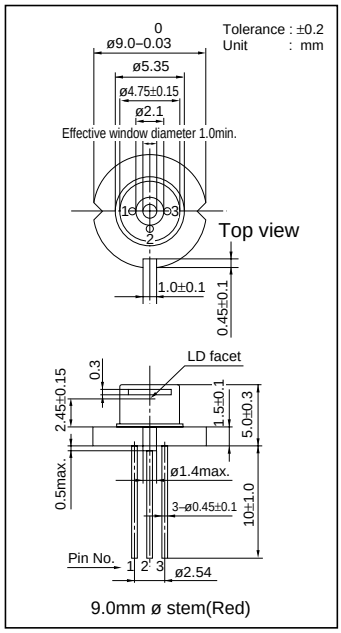
Features

- •Short wavelength : 635 nm (Typ.)
- •High output power : 10mW CW
- •Low threshold current : Ith = 35 mA (Typ.)
- •Low operating voltage : Vop = 2.2 V (Typ.)

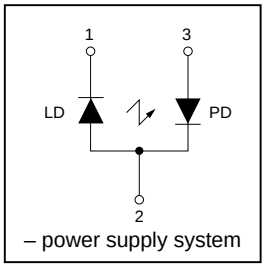
Absolute Maximum Ratings at Tc=25°C

Parameter		Symbol	Ratings	Unit
Light Output		Po	10	mW
Reverse Voltage	Laser	V_R	2	V
	PIN		30	
Operating Temperature		Topr	–10 to +40	°C
Storage Temperature		Tstg	–40 to +85	°C

Package Dimensions



Electrical Connection



Electrical and Optical Characteristics at Tc=25°C

Parameter		Symbol	Condition	Min.	Typ.	Max.	Unit
Threshold Current		Ith	CW	–	35	60	mA
Operating Current		Iop	Po=10mW	–	55	80	mA
Operating Voltage		Vop	Po=10mW	–	2.2	2.4	V
Lasing Wavelength		λ p	Po=10mW	–	635	645	nm
Beam ❋) Divergence	Perpendicular	θ⊥	Po=10mW	25	30	35	deg.
	Parallel	θ//	Po=10mW	6	8	10	deg.
Off Axis Angle	Perpendicular	Δθ⊥	–	–	–	±3	deg.
	Parallel	Δθ//	–	–	–	±3	deg.
Differential Efficiency		dPo/dIop	–	–	0.5	–	mW/mA
Monitoring Output Current		Im	Po=10mW	0.05	0.15	0.4	mA
Astigmatism		As	Po=10mW	–	8	–	μm

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

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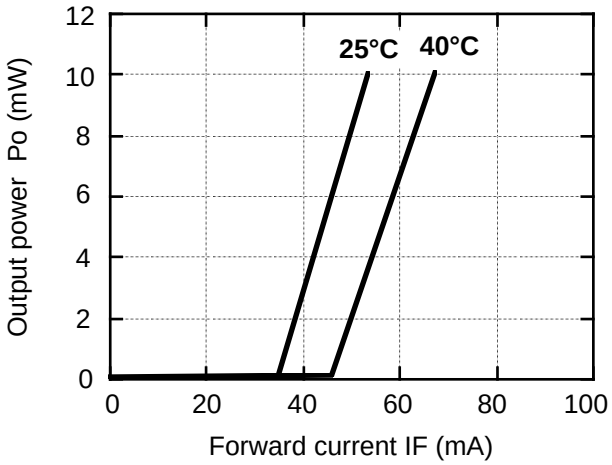
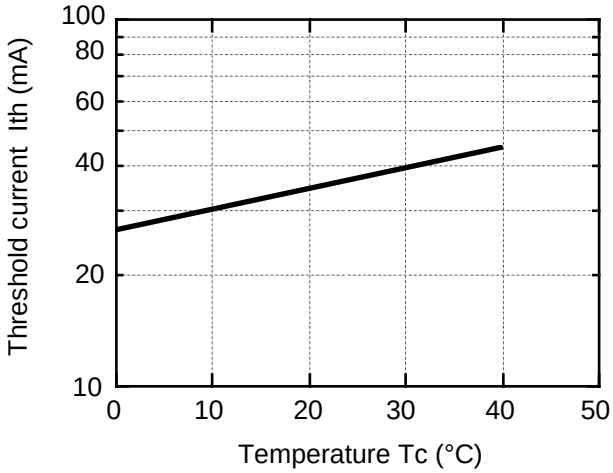
Characteristics

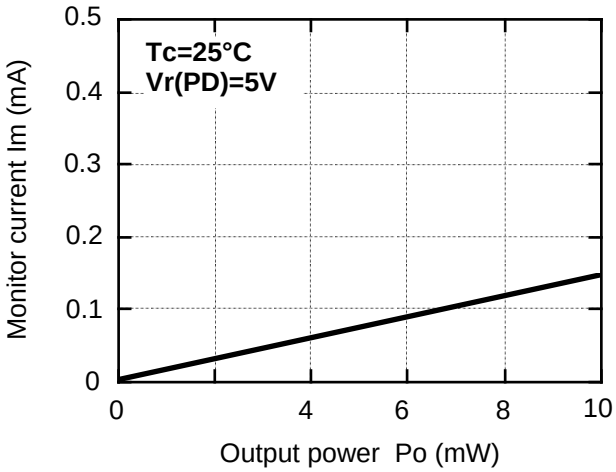
Output power vs. Forward current



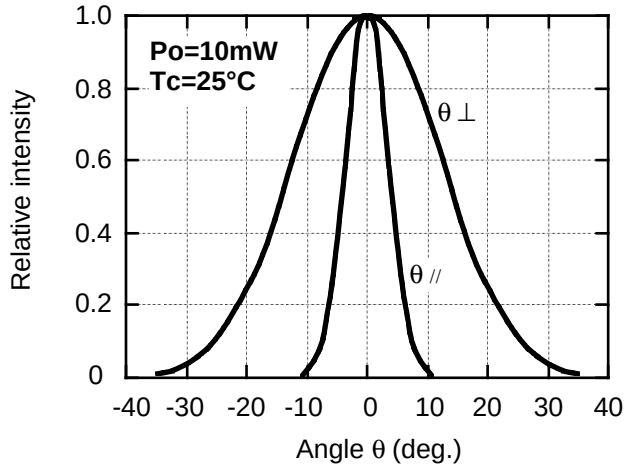
Threshold current vs. Temperature



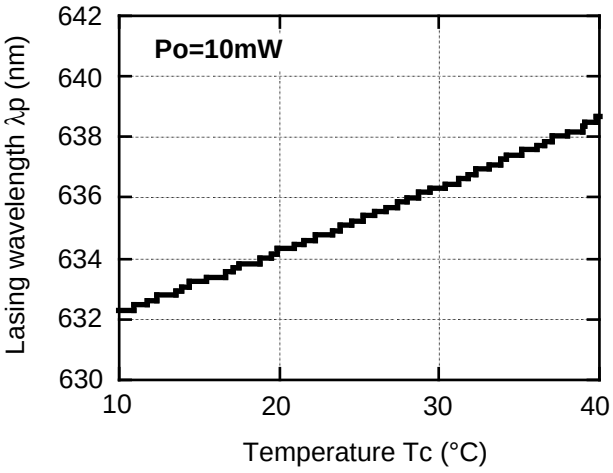
Monitor current vs. Output power



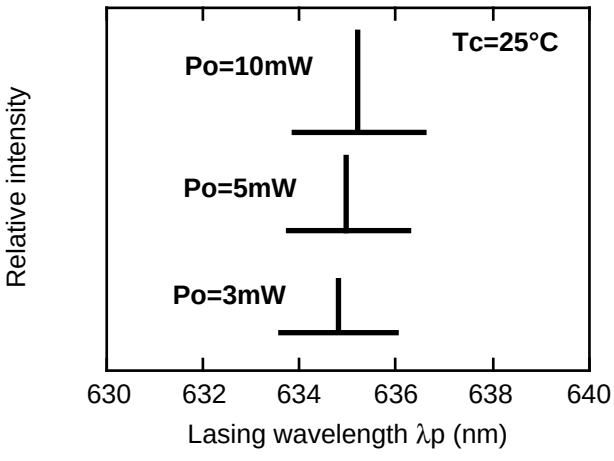
Beam divergence



Lasing wavelength vs. Temperature



Output power vs. Lasing wavelength



⚠ CAUTION

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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   2) Not impose any responsibility for any fault or negligence which may be cited in any such claim or litigation on SANYO ELECTRIC CO., LTD., it's affiliates, subsidiaries and distributors or any of their officers and employees jointly or severally.

3. Information (including circuit diagrams and circuit parameters) disclosed herein is for example only; it is not guaranteed for mass production, SANYO believes the information disclosed herein is accurate and reliable, but no guarantees are made or implied regarding it's use or any infringements of intellectual property rights or other rights of third parties.

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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