Ordering number : EN5854

Red Laser Diode

DL-3038-023

AlGaInP Laser Diode

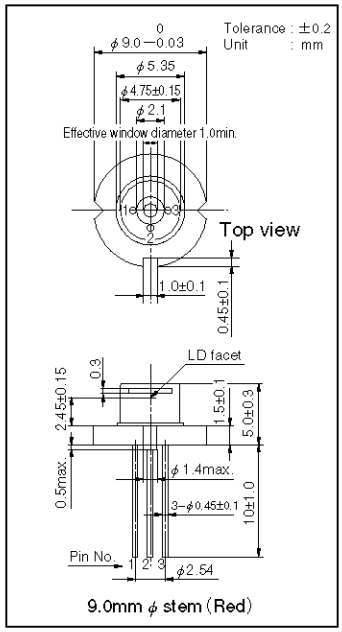
Overview

DL-3038-023 is 635 nm (Typ.) AlGaInP laser diode with low threshold current. The low threshold current and short wavelength are achieved by use of a strained multiple quantum well active layer. The lasing wavelength is 635 nm which is 8 times brighter than 670 nm lasers. DL-3038-023 is suitable for battery powered laser pointers due to its low operating current and voltage.

Features

- Short wavelength : 635 nm (Typ.)
- Low threshold current : Ith = 20 mA (Typ.)
- Output power : 3 mW CW
- Low operating voltage : Vop = 2.2 V (Typ.)

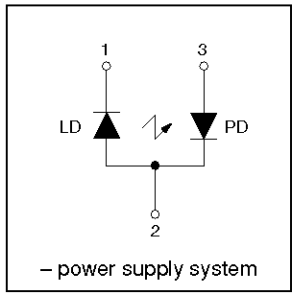
Package Dimensions



Absolute Maximum Ratings at Tc=25℃

Parameter		Symbol	Ratings	Unit
Light Output		Po	3	mW
Reverse Voltage	Laser	VR	2	V
	PIN		30	
Operating Temperature		Topr	−10 to +40	℃
Storage Temperature		Tstg	−40 to +85	℃

Electrical Connection



Electrical and Optical Characteristics at Tc=25℃

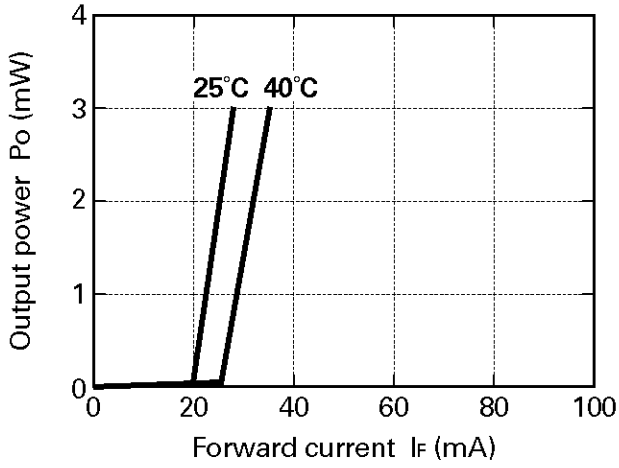
Parameter		Symbol	Condition	Min.	Typ.	Max.	Unit
Threshold Current		Ith	CW	–	20	40	mA
Operating Current		Iop	Po=3mW	–	25	45	mA
Operating Voltage		Vop	Po=3mW	–	2.2	2.4	V
Lasing Wavelength		λp	Po=3mW	–	635	640	nm
Beam Divergence ※)	Perpendicular	θ⊥	Po=3mW	25	35	40	deg.
	Parallel	θ//	Po=3mW	6	8	10	deg.
Off Axis Angle	Perpendicular	Δθ⊥	–	–	–	±3	deg.
	Parallel	Δθ//	–	–	–	±3	deg.
Differential Efficiency		dPo/dIop	–	–	0.5	–	mW/mA
Monitoring Output Current		Im	Po=3mW	0.1	0.2	0.6	mA
Astigmatism		As	Po=3mW	–	8	–	μm

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

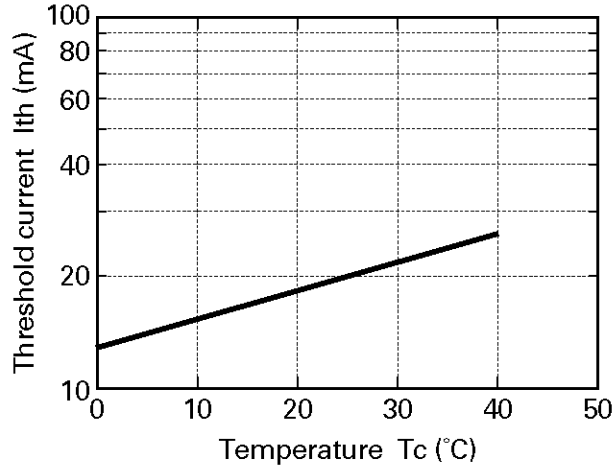
SANYO Electric Co.,Ltd. Semiconductor Bussiness Headquarters
TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110 JAPAN

Characteristics

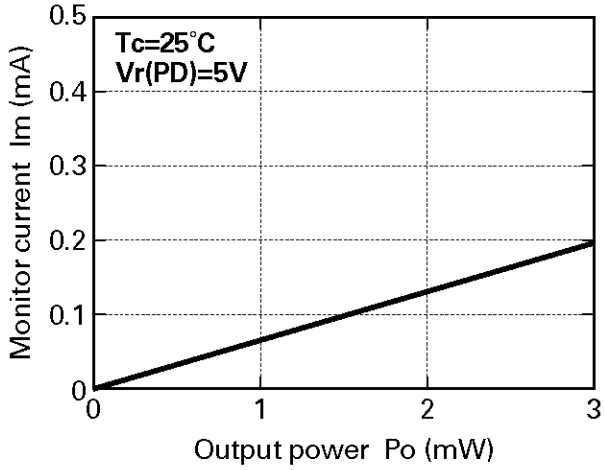
Output power vs. Forward current



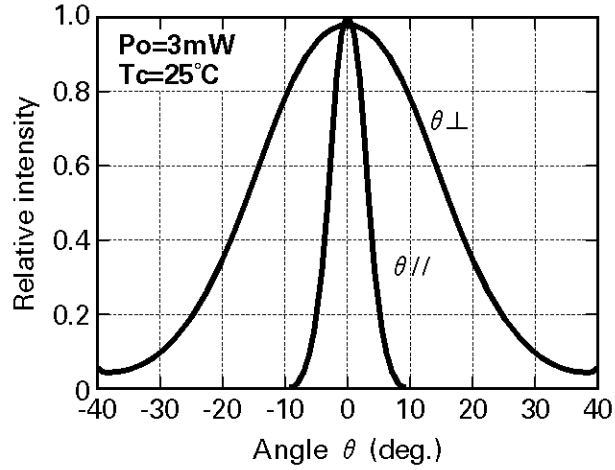
Threshold current vs. Temperature



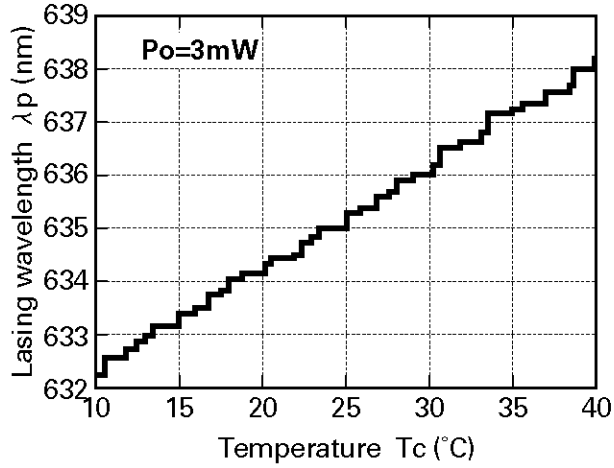
Monitor current vs. Output power



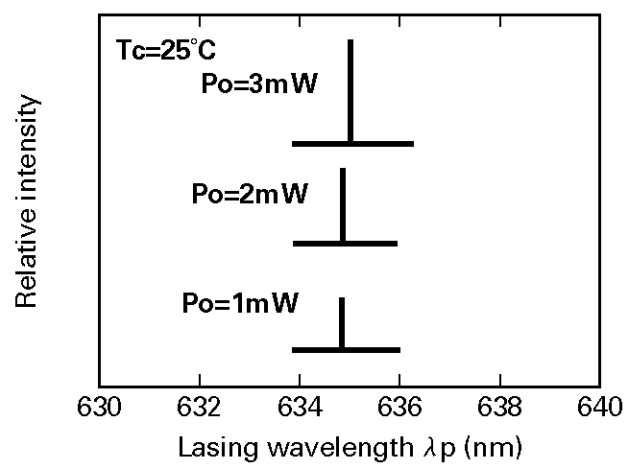
Beam divergence



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