Ordering number : EN5854A

Red Laser Diode

DL-3038-023

AlGaInP Laser Diode

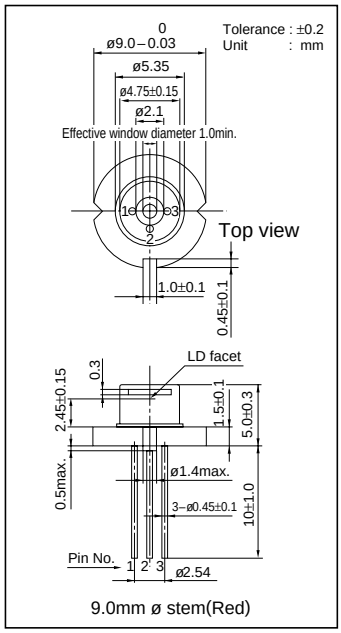
Overview

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

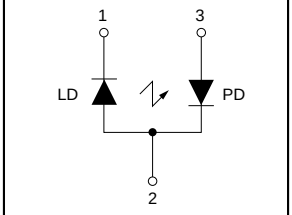
- Short wavelength : 635 nm (Typ.)
- Low threshold current : Ith = 20 mA (Typ.)
- Output power : 3 mW CW
- Low operating voltage : Vop = 2.2 V (Typ.)

Package Dimensions



9.0mm ø stem(Red)

Electrical Connection



– power supply system

Absolute Maximum Ratings at Tc=°C

Parameter		Symbol	Ratings	Unit
Light Output		Po	3	mW
Reverse Voltage	Laser	V_R	2	V
	PIN		30	
Operating Temperature		Topr	-10 to +40	°C
Storage Temperature		Tstg	-40 to +85	°C

Electrical and Optical Characteristics at Tc=25°C

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		λ p	Po=3mW	-	635	640	nm
Beam ❊) Divergence	Perpendicular	$\theta\perp$	Po=3mW	25	35	40	deg.
	Parallel	θ //	Po=3mW	6	8	10	deg.
Off Axis Angle	Perpendicular	$\Delta\theta\perp$	-	-	-	±3	deg.
	Parallel	$\Delta\theta$ //	-	-	-	±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.

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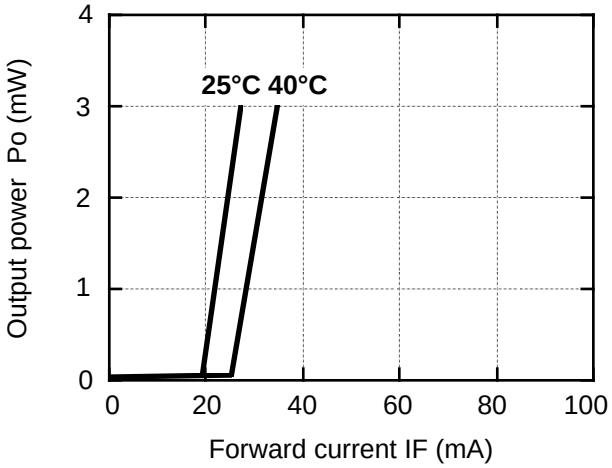
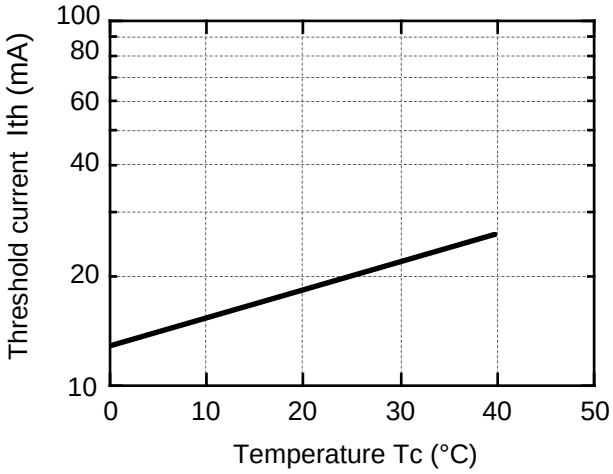
Characteristics

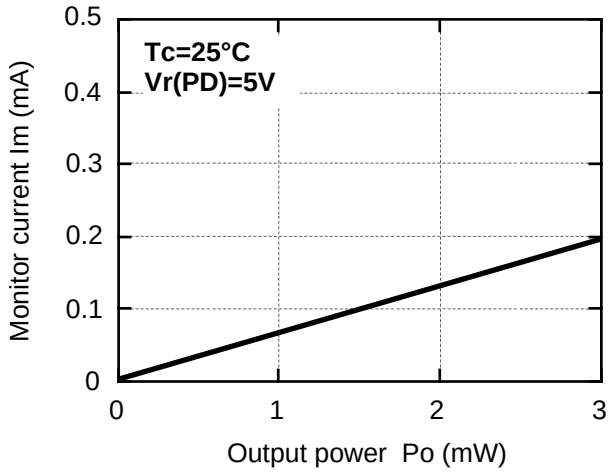
Output power vs. Forward current



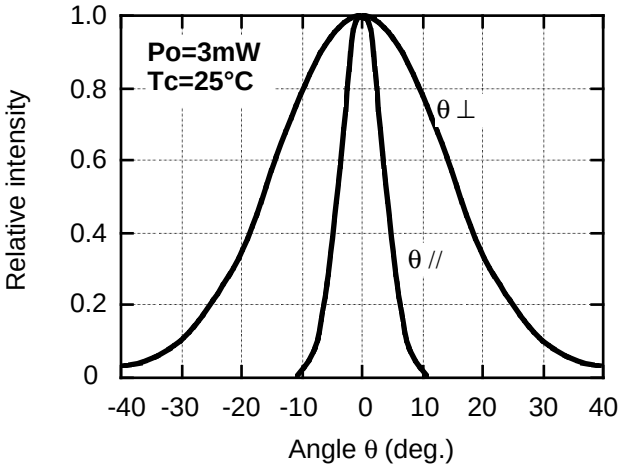
Threshold current vs. Temperature



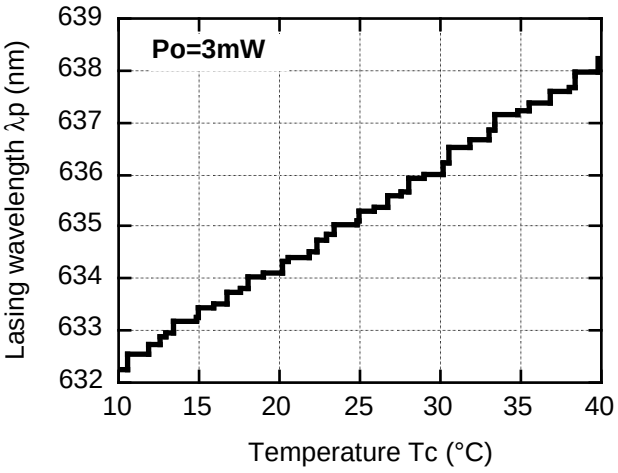
Monitor current vs. Output power



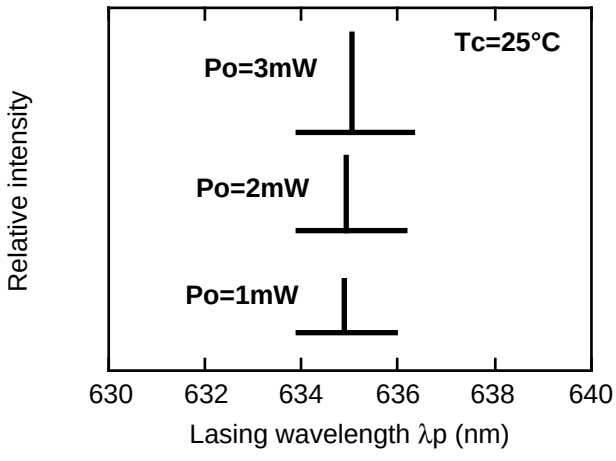
Beam divergence



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.

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