

**DL-3148-235****Red Laser Diode****Features**

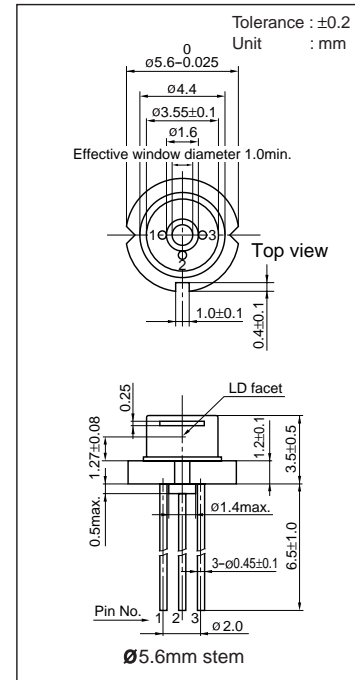
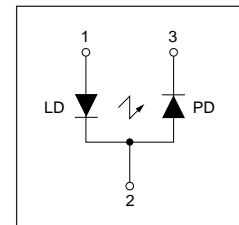
- Short wavelength : 635 nm (Typ.)
- Output power : 3 mW CW
- Low threshold current :  $I_{th} = 20$  mA (Typ.)
- Low operating voltage :  $V_{op} = 2.2$  V (Typ.)
- Small package :  $\phi 5.6$  mm

**Applications**

- Laser pointer

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

Parameter		Symbol	Ratings	Unit
Light Output	CW	$P_o$	3	mW
Reverse Voltage	Laser	$V_R$	2	V
	PD		30	
Operating Temperature		$T_{opr}$	-10 to +50	$^\circ\text{C}$
Storage Temperature		$T_{stg}$	-40 to +85	$^\circ\text{C}$

**Package Dimensions****Pin Connection****Electrical and Optical Characteristics 1) 2) at  $T_c=25^\circ\text{C}$** 

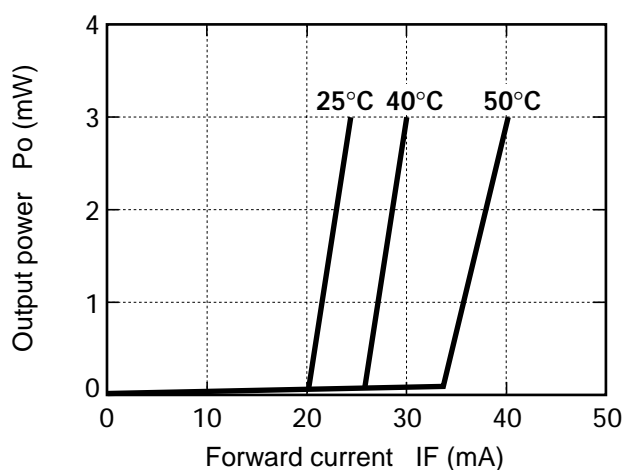
Parameter		Symbol	Condition	Min.	Typ.	Max.	Unit
Threshold Current		$I_{th}$	CW	-	20	40	mA
Operating Current		$I_{op}$	$P_o=3\text{mW}$	-	25	45	mA
Operating Voltage		$V_{op}$	$P_o=3\text{mW}$	-	2.2	2.4	V
Lasing Wavelength		$\lambda_p$	$P_o=3\text{mW}$	630	635	640	nm
Beam 3) Divergence	Perpendicular	$\theta_\perp$	$P_o=3\text{mW}$	25	30	35	$^\circ$
	Parallel	$\theta_\parallel$	$P_o=3\text{mW}$	6	8	10	$^\circ$
Off Axis Angle	Perpendicular	$\Delta\theta_\perp$	-	-	-	$\pm 3$	$^\circ$
	Parallel	$\Delta\theta_\parallel$	-	-	-	$\pm 3$	$^\circ$
Differential Efficiency		$dP_o/dI_{op}$	-	-	0.5	-	mW/mA
Monitoring Output Current		$I_m$	$P_o=3\text{mW}$	0.08	0.15	0.4	mA
Astigmatism		$A_s$	$P_o=3\text{mW}$	-	8	-	$\mu\text{m}$

1) Initial values 2) All the above values are evaluated with Tottori Sanyo's measuring apparatus

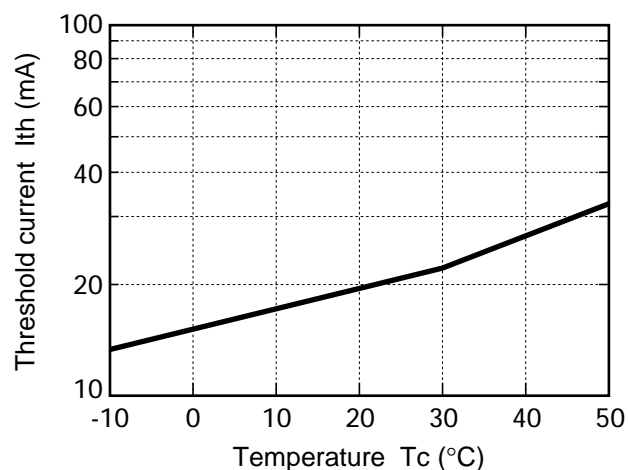
3) Full angle at half maximum Note : The above product specification are subject to change without notice.

## Characteristics

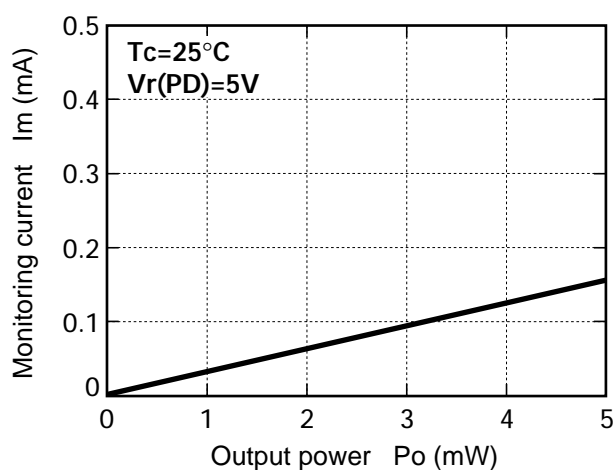
Output power vs. Forward current



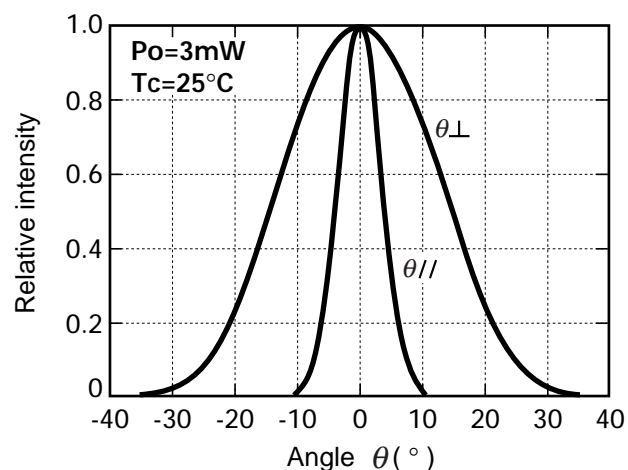
Threshold current vs. Temperature



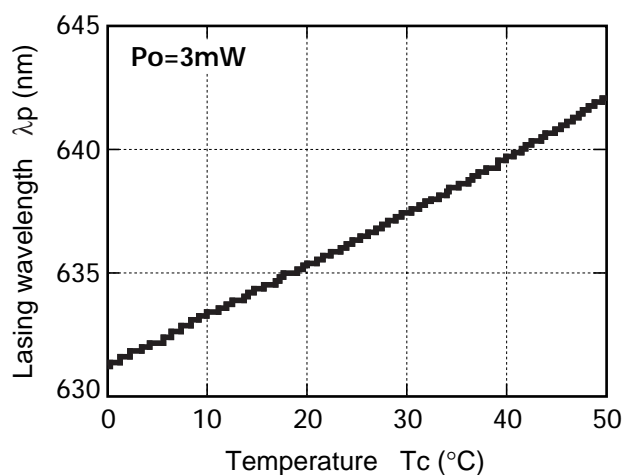
Monitoring current vs. Output power



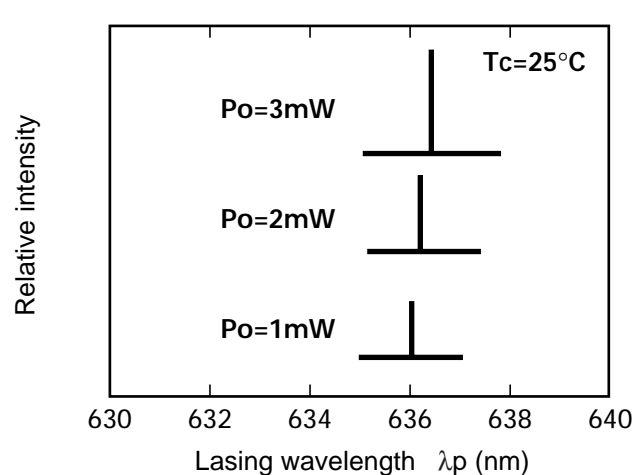
Beam divergence



Lasing wavelength vs. Temperature



Lasing wavelength vs. Output power





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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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