



# DL-6140-201

## High Power Laser Diode

### Overview

DL-6140-201 is high power (50mW) 785nm laser diode.  
DL-6140-201 is suitable for CD-R.

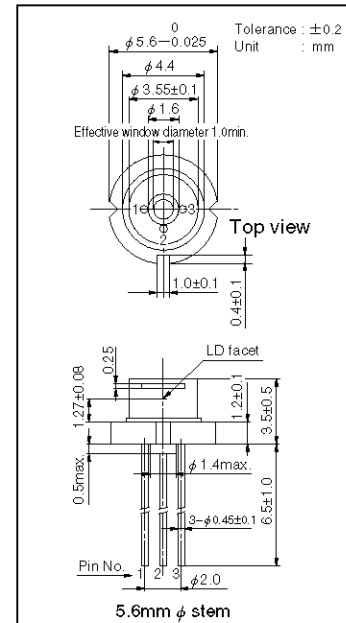
### Features

- High power : 50 mW at 60°C
- Index guided type
- Small package : 5.6 mm  $\phi$
- PIN photodiode built-in for light output monitor

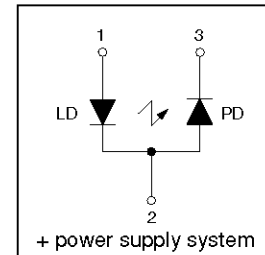
### Absolute Maximum Ratings at Tc=25°C

Parameter	Symbol	Ratings	Unit
Light Output	Po	55	mW
Reverse Voltage	Laser	2	V
	PIN	30	
Operating Temperature	Topr	-10 to +60	°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	I <sub>th</sub>	CW	20	30	50	mA	
Operating Current	I <sub>op</sub>	Po=50mW	-	100	140	mA	
Operating Voltage	V <sub>op</sub>	Po=50mW	-	2.0	2.5	V	
Lasing Wavelength	$\lambda_p$	Po=50mW	775	785	795	nm	
Beam Divergence ※)	Perpendicular	$\theta_{\perp}$	Po=50mW	18	22	26	deg.
	Parallel	$\theta_{\parallel}$	Po=50mW	7.0	8.5	9.5	deg.
Off Axis Angle	Perpendicular	$\Delta\theta_{\perp}$	-	-	±3	deg.	
	Parallel	$\Delta\theta_{\parallel}$	-	-	±3	deg.	
Differential Efficiency	dPo/dI <sub>op</sub>	-	0.40	0.70	0.90	mW/mA	
Monitoring Output Current	I <sub>m</sub>	Po=50mW	0.05	0.20	0.50	mA	
Astigmatism	A <sub>s</sub>	Po=50mW	-	10	-	$\mu$ m	

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

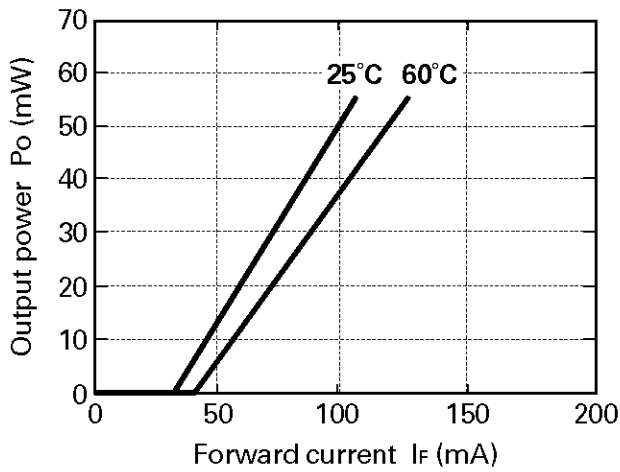
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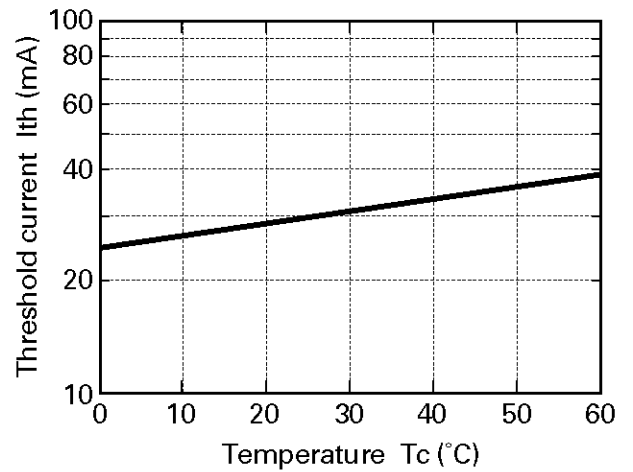
N2897 GI, (IM) No.5872 1/3

## Characteristics

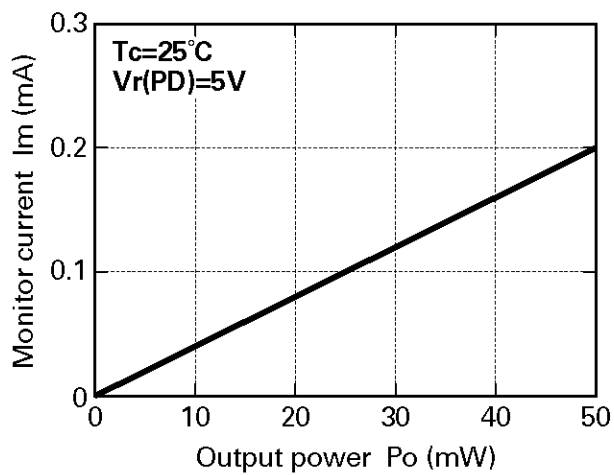
### Output power vs. Forward current



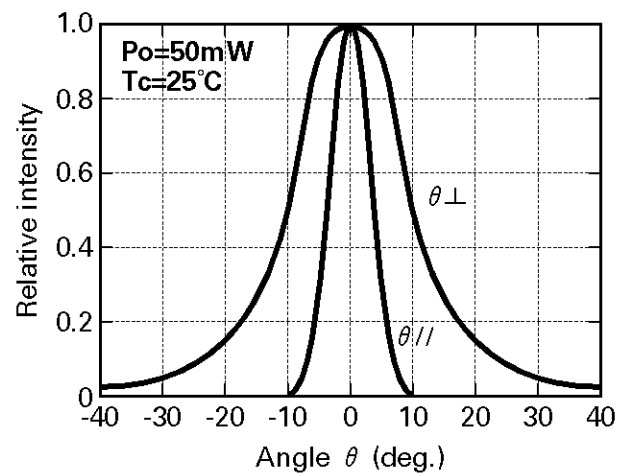
### Threshold current vs. Temperature



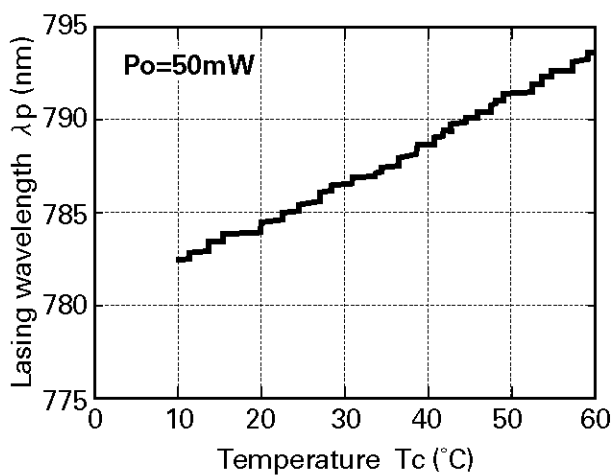
### Monitor current vs. Output power



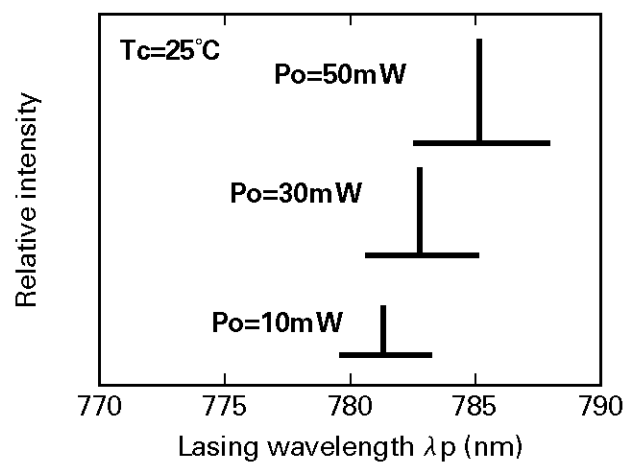
### Beam divergence



### 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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