

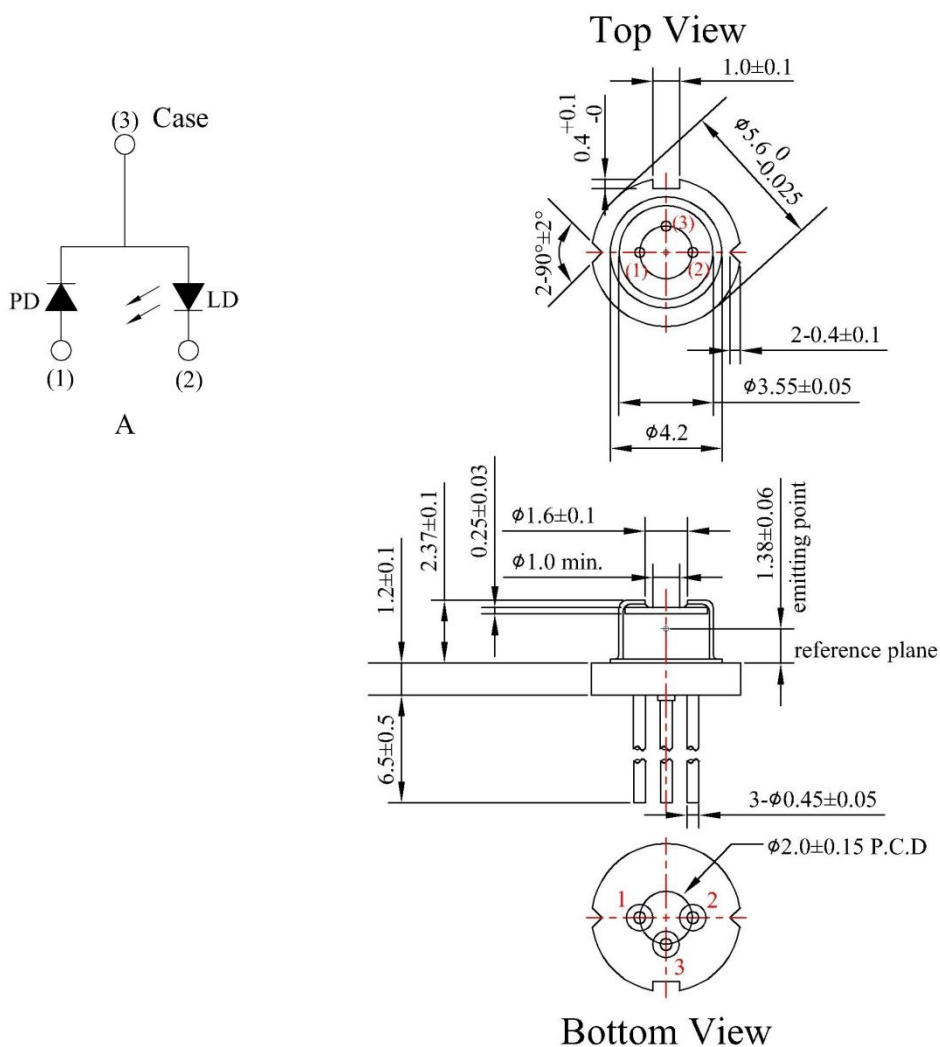
## ■ Features

1. Peak wavelength at 25°C : 850 nm (typical)
2. Standard light output : 50mW (CW)
3. Package Type : TO-18 (  $\phi$  5.6mm) cap with flat window-glass by Pb free, with monitor PD.
4. Small perpendicular divergence angle
5. Lateral single mode lasing

## ■ Applications

1. Motion sensor
2. 3D depth sensor
3. Illumination
4. Industry
5. Medical application

## ■ External dimensions(Unit : mm)



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### ■ Absolute Maximum Ratings(Tc=25°C)

Parameter	Symbol	Rating	Unit
Optical Output	Po	<b>60</b>	mW
Reverse Voltage	Vr	<b>2</b>	V
Operating Temperature ( Case )	Top	-10~+60	°C
Storage Temperature	Tstg	-40~+85	°C

### ■ Electrical and Optical Characteristics(Tc=25°C)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit	
Threshold Current	Ith	Po=50mW	-	<b>16</b>	<b>20</b>	mA	
Operating Current	Iop	Po=50mW	-	<b>68</b>	<b>85</b>	mA	
Operating Voltage	Vop	Po=50mW	-	<b>2.1</b>	<b>2.3</b>	V	
Slope Efficiency	$\eta$	Po=12.5-37.5mW	-	<b>0.95</b>	-	mW/mA	
Monitor Current	Im	Po=50mW	<b>0.05</b>	<b>0.13</b>	<b>0.5</b>	mA	
Beam Divergence (FWHM)	Parallel	$\theta_{//}$	Po=50mW	-	<b>11</b>	<b>16</b>	deg.
	Perpendicular	$\theta_{\perp}$	Po=50mW	-	<b>21</b>	<b>26</b>	deg.
Lasing Wavelength	$\lambda$	Po=50mW	<b>840</b>	<b>850</b>	<b>860</b>	nm	

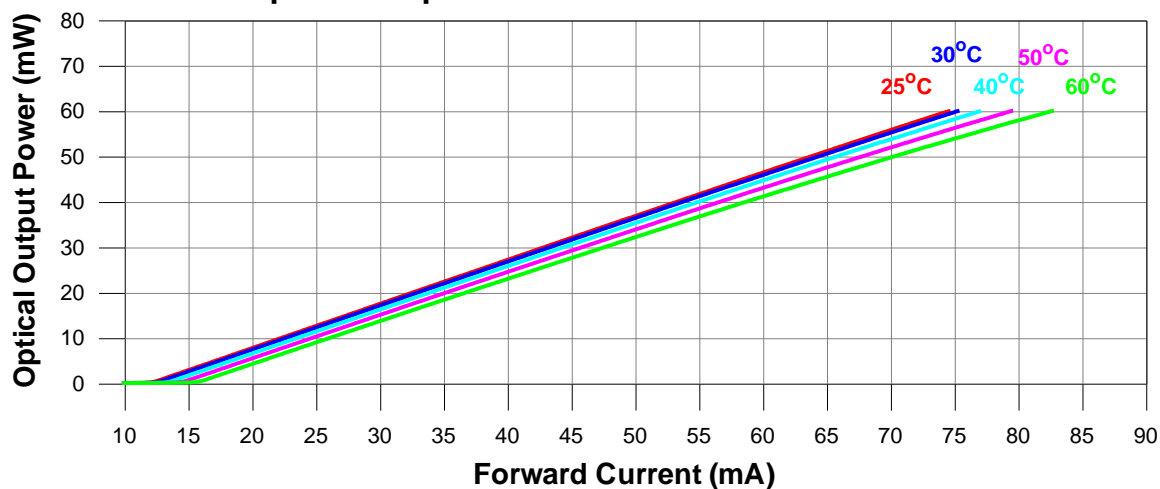
©  $\theta_{//}$  and  $\theta_{\perp}$  are defined as the angle within which the intensity is 50% of the peak value.

### ■ Quality Notice

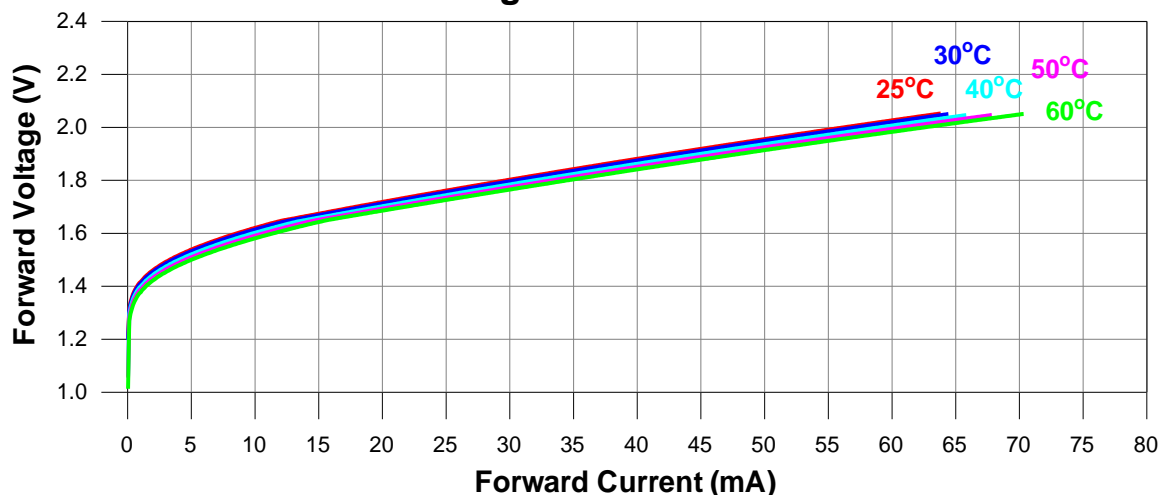
This device is still under product development.

### ■ Typical characteristic curves

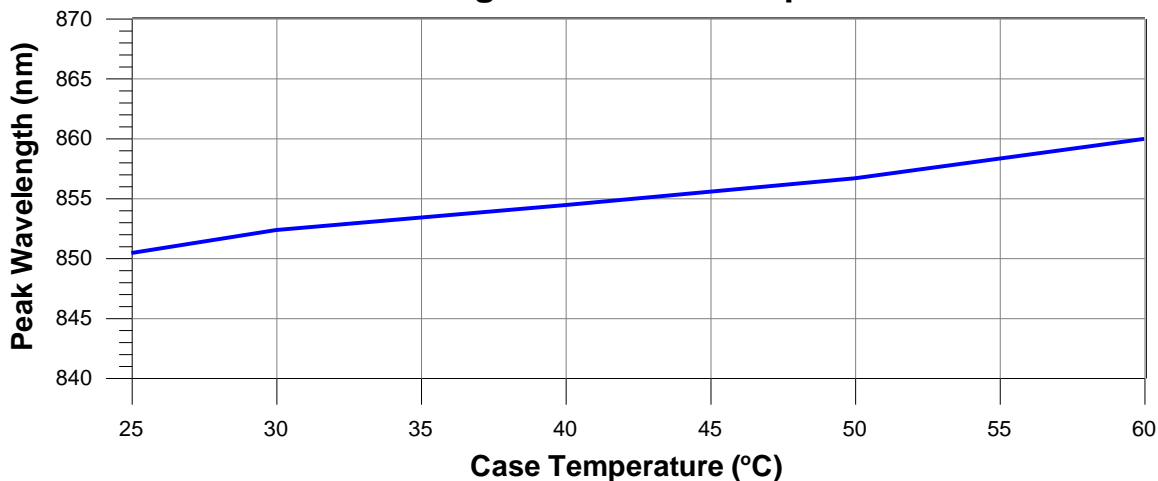
Optical Output Power v.s. Forward Current



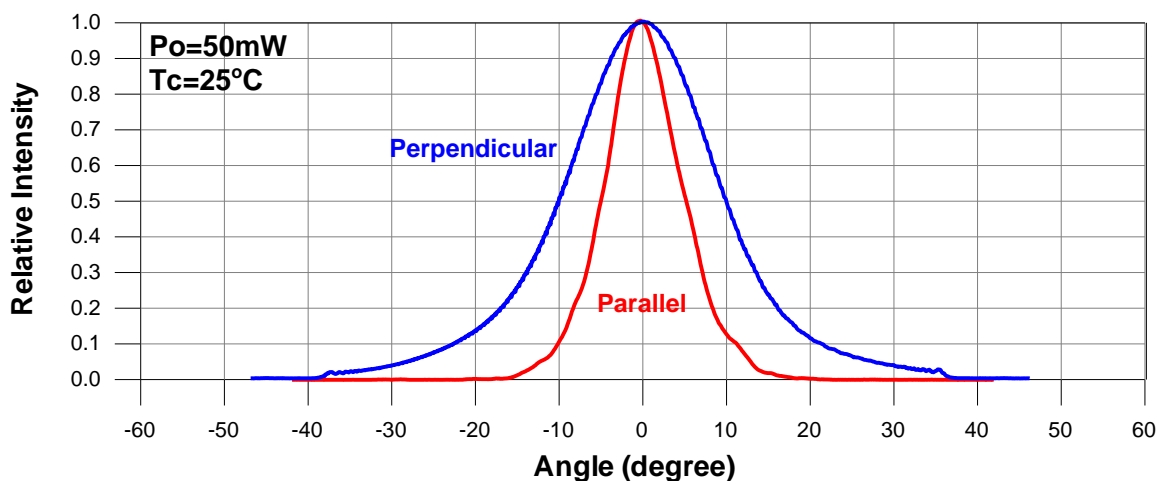
### Forward Voltage v.s. Forward Current



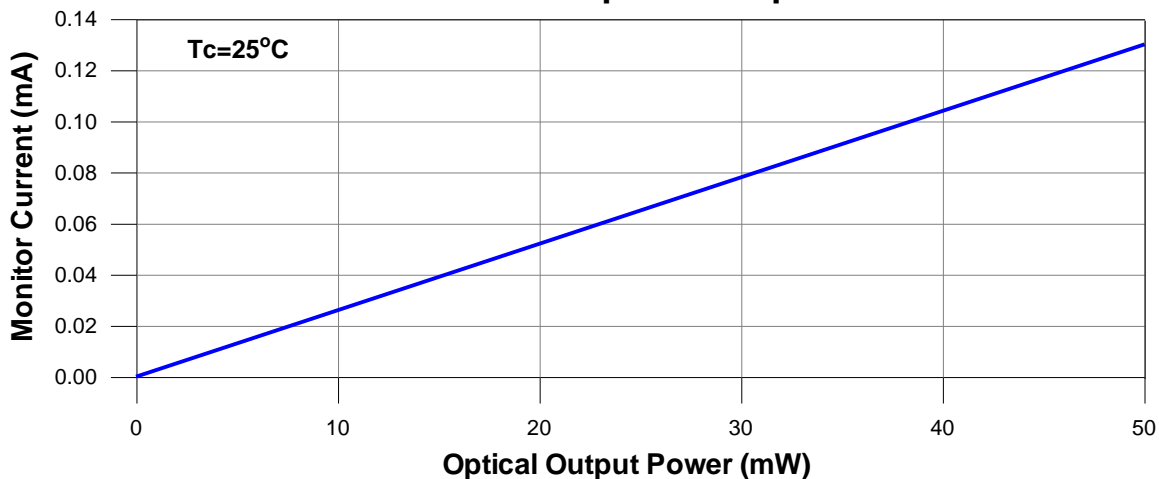
### Peak Wavelength v.s. Case Temperature



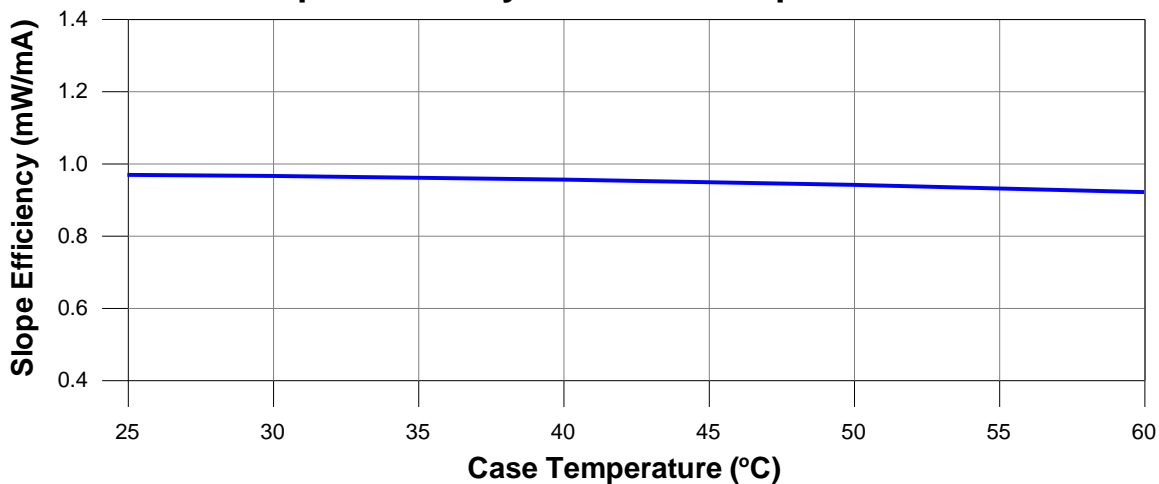
### Far-Field Pattern



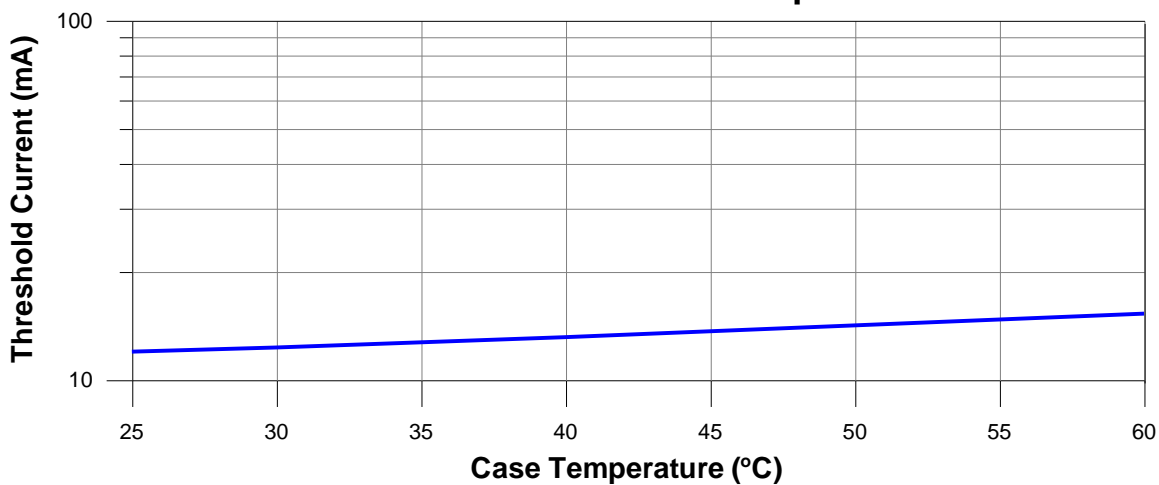
## Monitor Current v.s. Optical Output Power



## Slope Efficiency v.s. Case Temperature



## Threshold Current v.s. Case Temperature



## ■ Precautions

### QUALITY ASSURANCE

After any processing of laser chip or laser diode TO-CAN (LD) by the customer, the performance, yield and reliability of the product, in which the chip or LD is applied, are subject to change due to customer's handling, assembly, testing, and processing. Because laser chip and LD are strongly affected by environmental conditions, physical stress, and chemical stresses imposed by customer that are not in Union Optronics Corp. (UOC) control and hence no guarantee on the characteristics and the reliability at all after the shipment. Also, UOC does not have any responsibility for field failures in a customer product. When attaching a heat sink to laser chip or LD, be careful not to apply excessive force to the device in the process.

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