

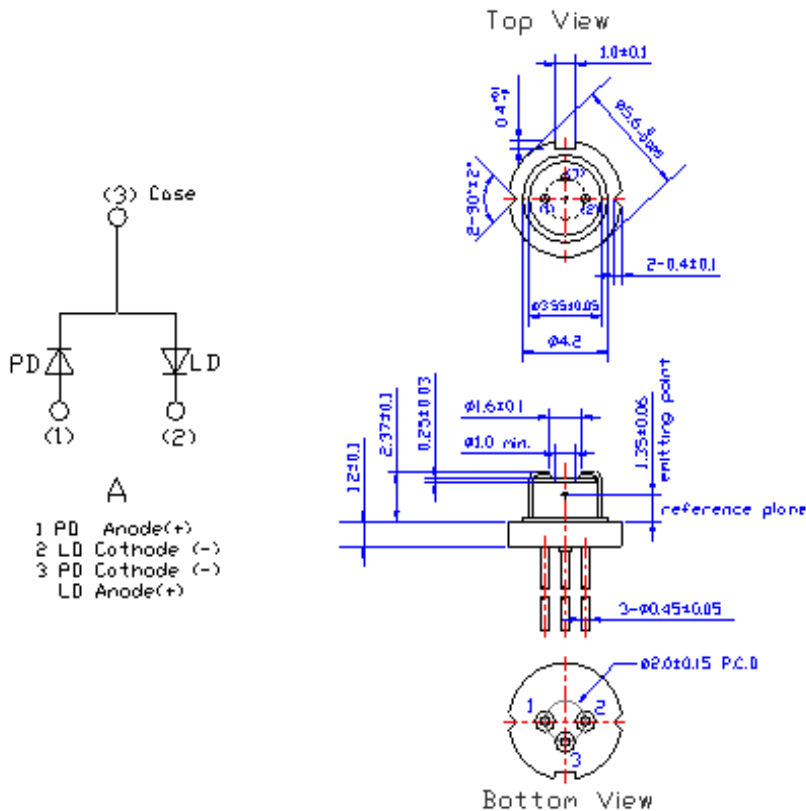
# 830nm IR Laser Diode

## LCU-833041A-preliminary

### Specifications

- (1) Device: Laser Diode
- (2) Structure: TO-18 (  $\phi$  5.6mm ),With Pb free glass cap, PD

### External dimensions(Unit : mm)



### Absolute Maximum Ratings( $T_c=25^\circ\text{C}$ )

Parameter	Symbols	Ratings	Units
Optical Output	Po	<b>30</b>	mW
Reverse Voltage	Laser	<b>2</b>	V
	PIN PD	<b>30</b>	V
Operating Temperature	Top	-10~+40	$^\circ\text{C}$
Storage Temperature	Tstg	-10~+85	$^\circ\text{C}$

Ver.2 2009/02

**830nm Laser Diode**

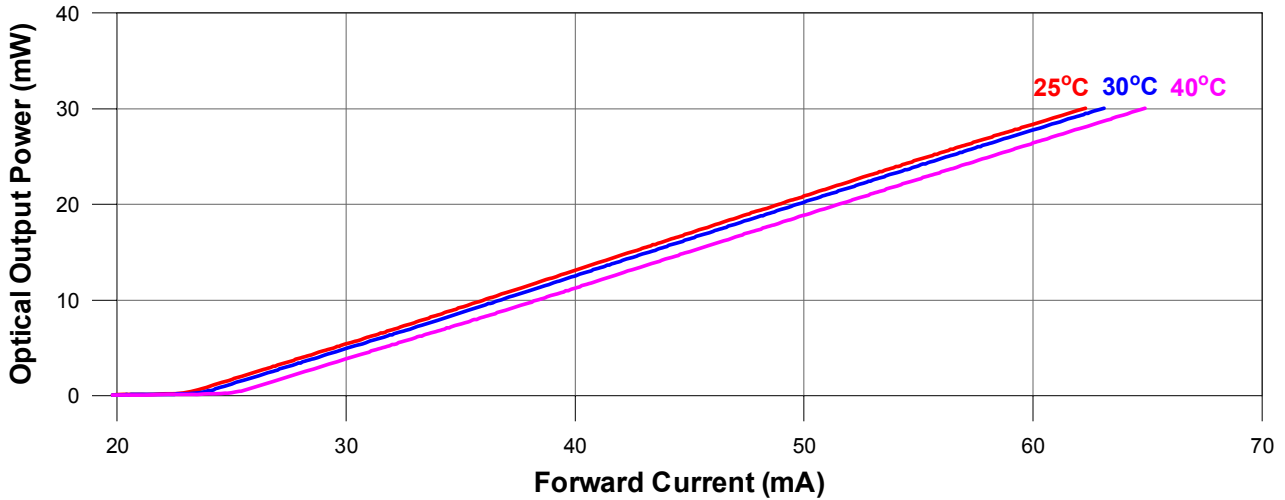
■ Electrical and Optical Characteristics(Tc=25°C)

Parameter	Symbols	Conditions	Min.	Typ.	Max.	Units	
Threshold Current	I <sub>th</sub>	-	-	<b>23</b>	<b>30</b>	mA	
Operating Current	I <sub>op</sub>	P <sub>o</sub> =30mW	-	<b>63</b>	<b>73</b>	mA	
Operating Voltage	V <sub>op</sub>	-	-	<b>1.7</b>	<b>2.3</b>	Volts	
Slope Efficiency	$\eta$	22.5mW-7.5mW	<b>0.3</b>	<b>0.7</b>	-	mW/mA	
		I <sub>22.5mW</sub> -I <sub>7.5mW</sub>					
Monitor Current	I <sub>m</sub>	P <sub>o</sub> =30mW	-	<b>0.3</b>	-	mA	
Beam Divergence (FWHM)	Parallel	$\theta //$	P <sub>o</sub> =30mW	-	<b>10</b>	-	deg.
	Perpendicular	$\theta \perp$	P <sub>o</sub> =30mW	-	<b>36</b>	-	deg.
Lasing Wavelength*	$\lambda$	P <sub>o</sub> =30mW	<b>820</b>	<b>830</b>	<b>840</b>	nm	

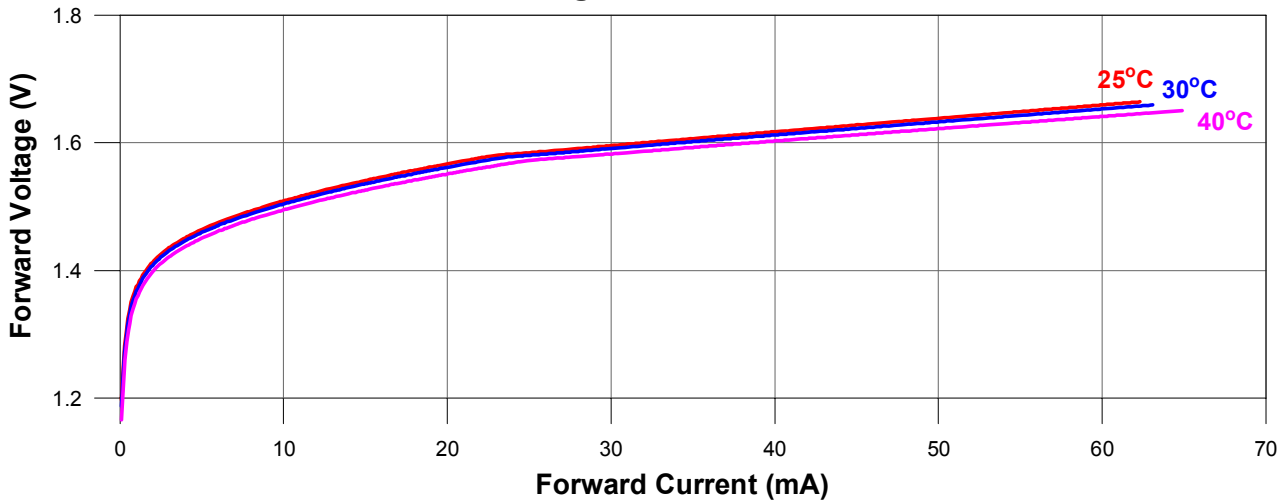
©  $\theta //$  and  $\theta \perp$  are defined as the angle within which the intensity is 50% of the peak value.

■ Typical characteristic curves

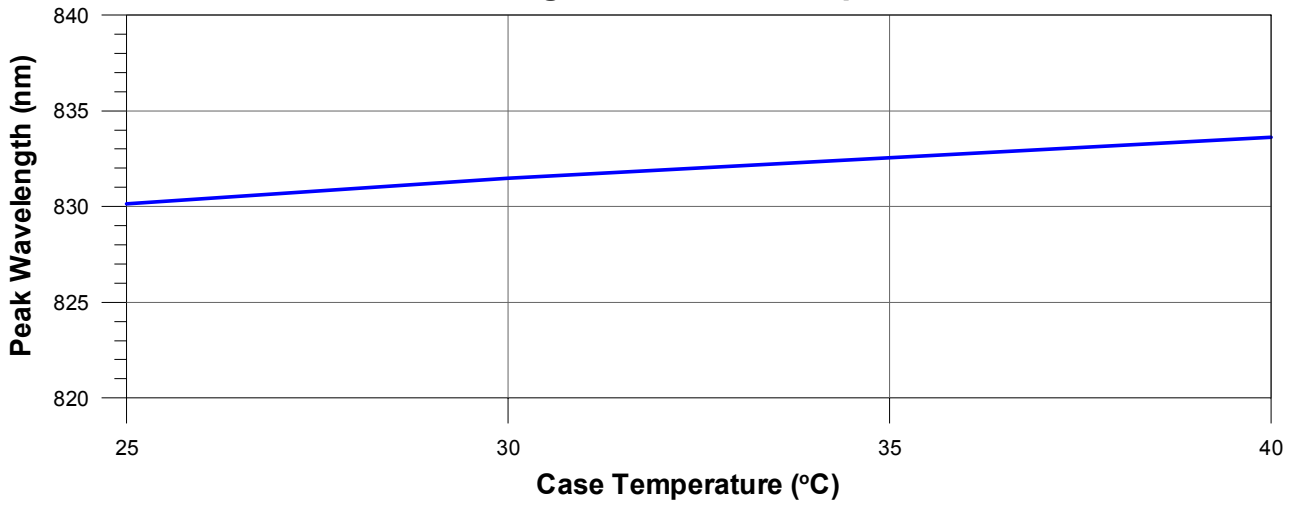
**Optical Output Power v.s. Forward Current**



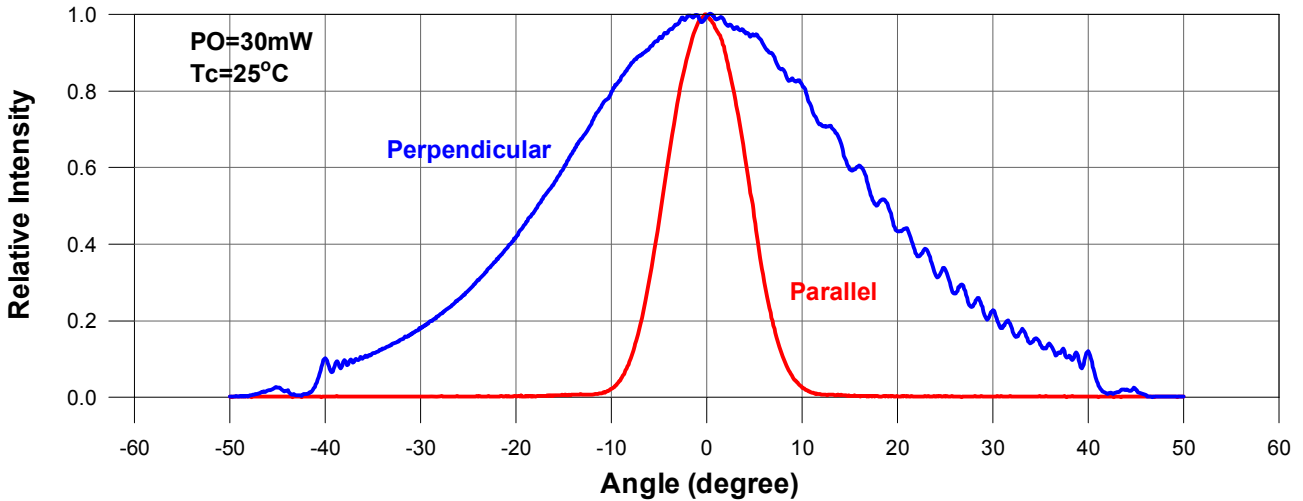
**Forward Voltage v.s. Forward Current**



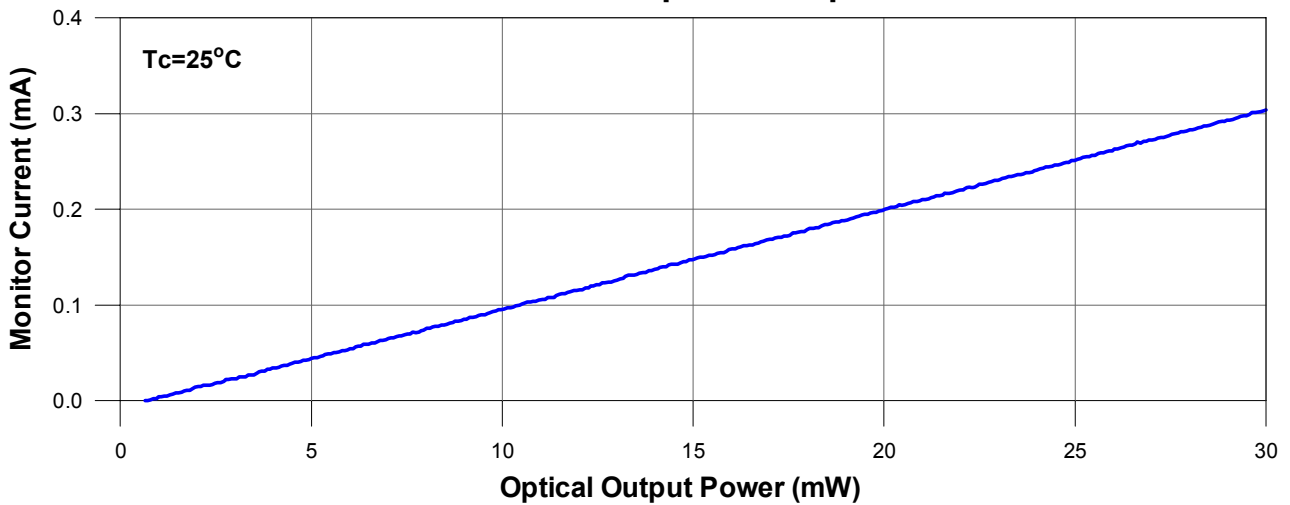
Peak Wavelength v.s. Case Temperature



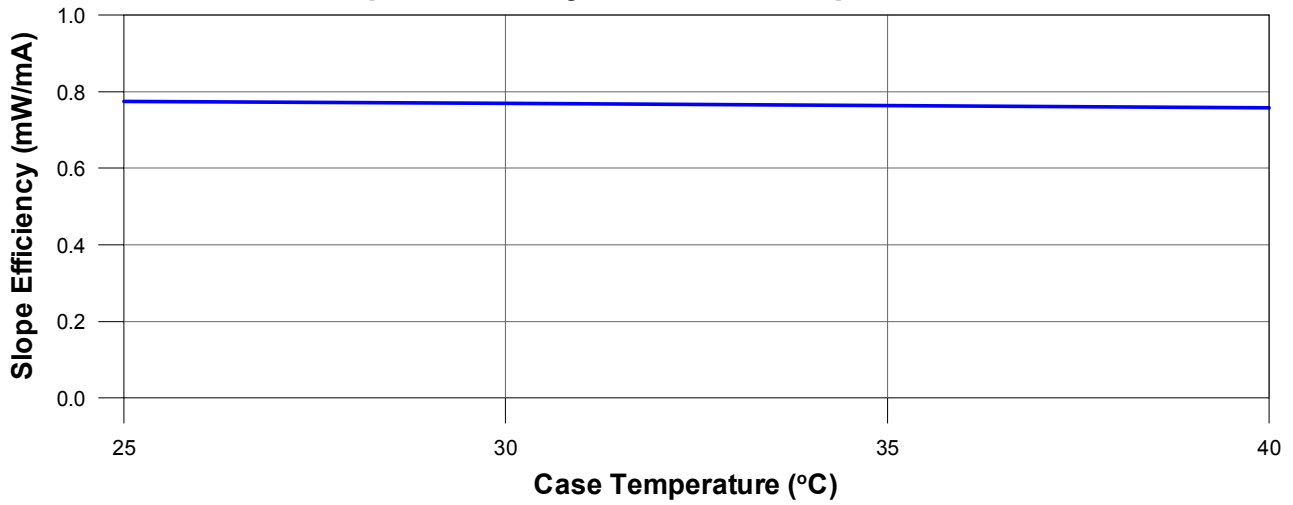
Far-Field Pattern



Monitor Current v.s. Optical Output Power



**Slope Efficiency v.s. Case Temperature**



**Threshold Current v.s. Case Temperature**

