

## 830nm Laser Diode

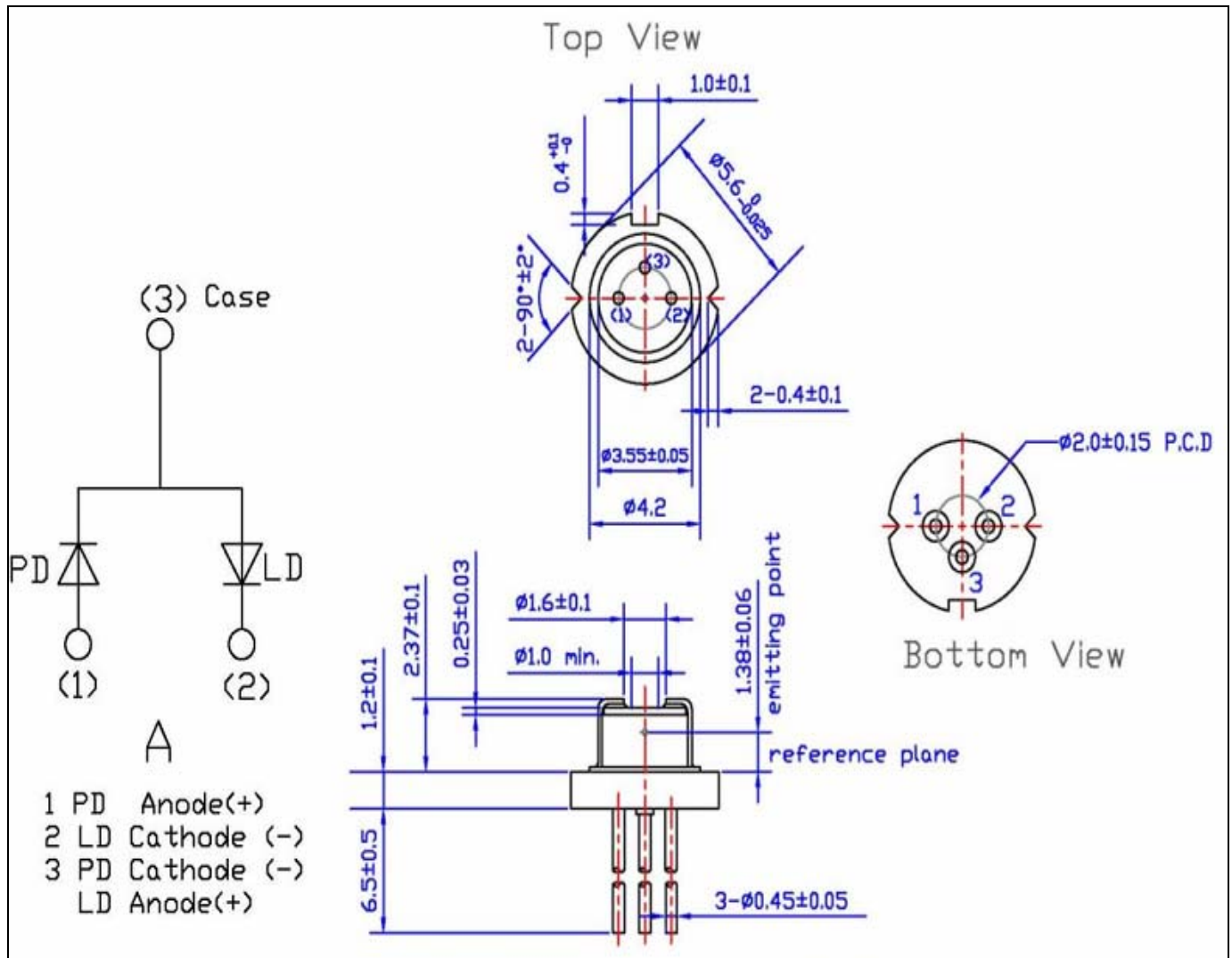
### RLD83000500

#### ■ 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	500	mW
Reverse Voltage	Laser	Vr	2
	PIN PD	Vr(PIN)	30
Operating Temperature	Top	-10~+50	$^\circ\text{C}$
Storage Temperature	Tstg	-40~+85	$^\circ\text{C}$

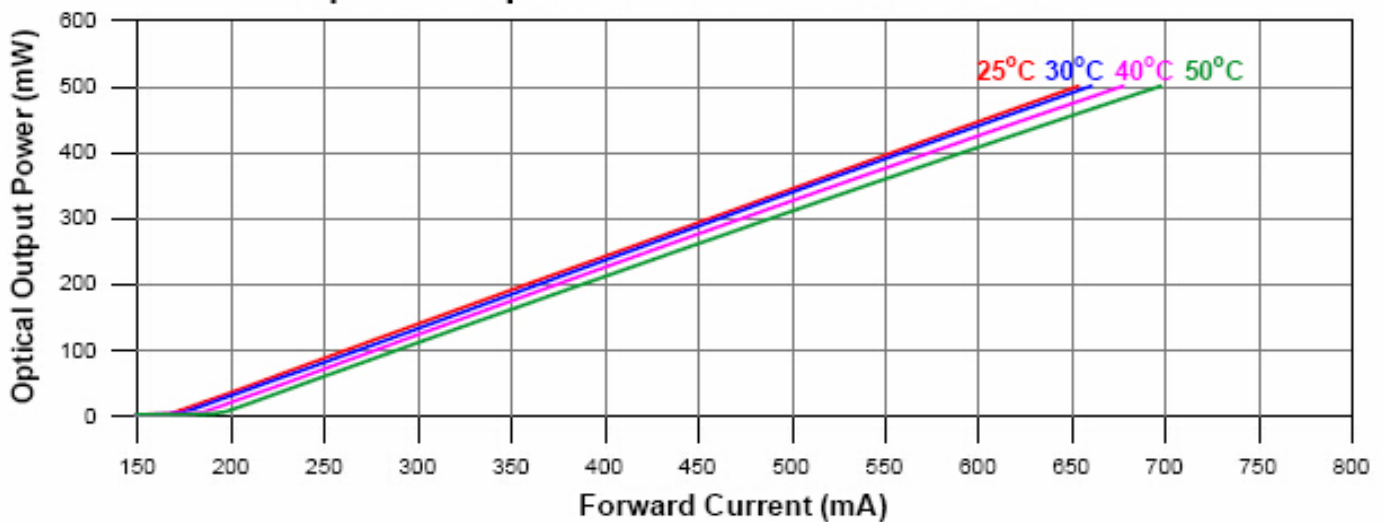
### Electrical and Optical Characteristics( $T_c=25^\circ\text{C}$ )

Parameter	Symbols	Conditions	Min.	Typ.	Max.	Units	
Threshold Current	$I_{th}$	-	-	170	190	mA	
Operating Current	$I_{op}$	$P_o=500\text{mW}$	-	660	720	mA	
Operating Voltage	$V_{op}$	-	-	1.95	2.2	Volts	
Slope Efficiency	$\eta$	375mW-125mW	-	1.00	-	mW/mA	
		$I_{375\text{mW}}-I_{125\text{mW}}$					
Monitor Current	$I_m$	$P_o=500\text{mW}$	0.1	0.85	2	mA	
Beam Divergence (FWHM)	Parallel	$\theta //$	$P_o=500\text{mW}$	-	12	17	deg.
	Perpendicular	$\theta \perp$	$P_o=500\text{mW}$	-	17	22	deg.
Lasing Wavelength*	$\lambda$	$P_o=500\text{mW}$	820	830	840	nm	

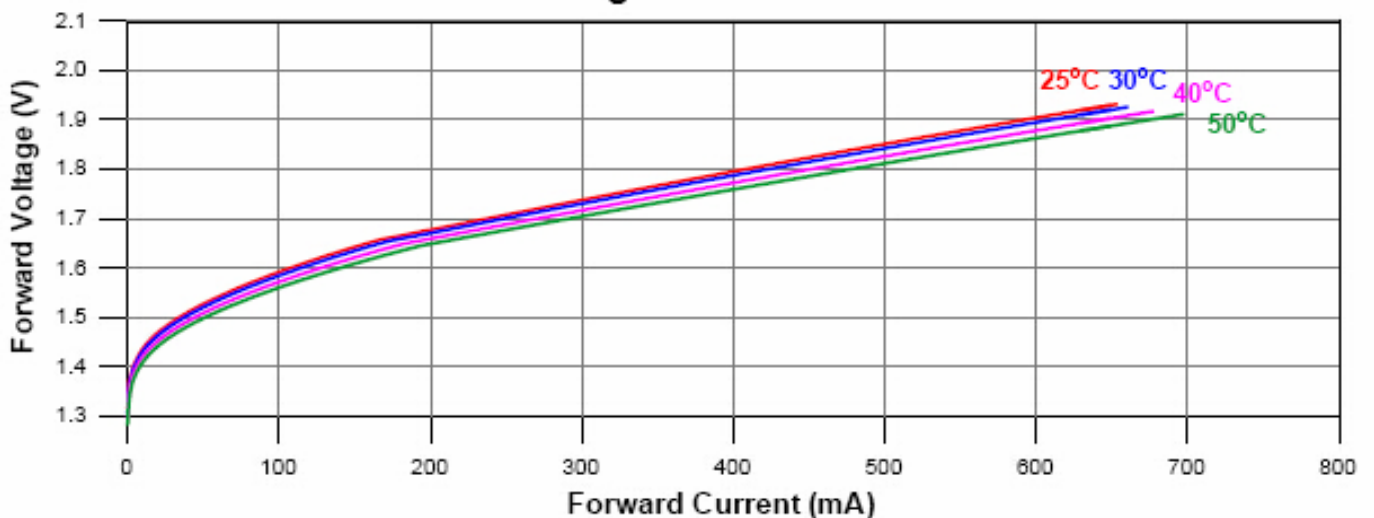
◎ $\theta //$  and  $\theta \perp$  are defined as the angle within which the intensity is 50% of the peak value.

### Typical characteristic curves

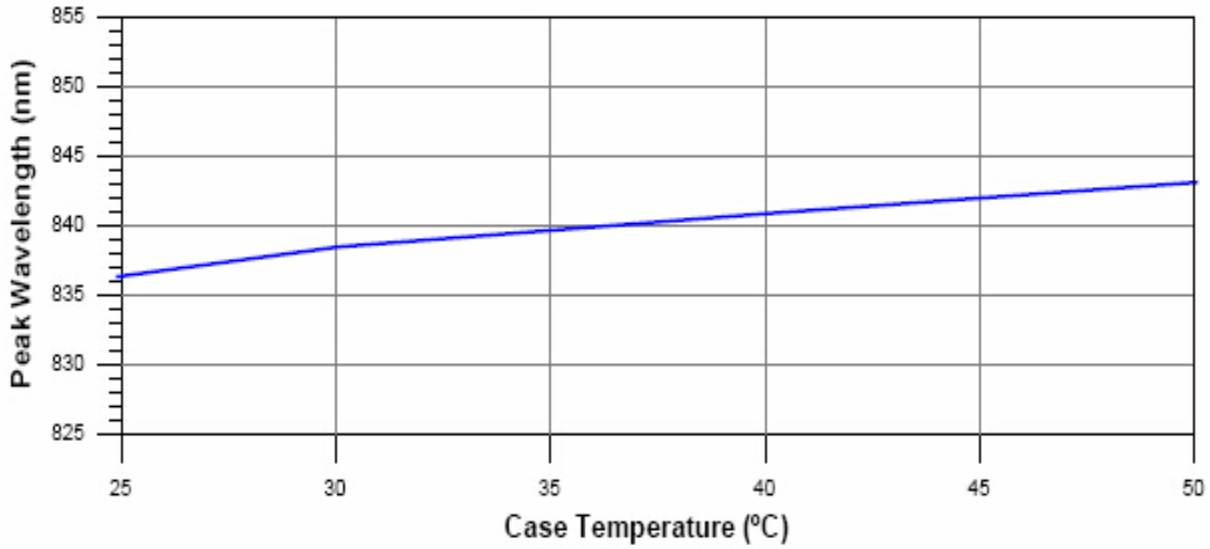
#### Optical Output Power v.s. Forward Current



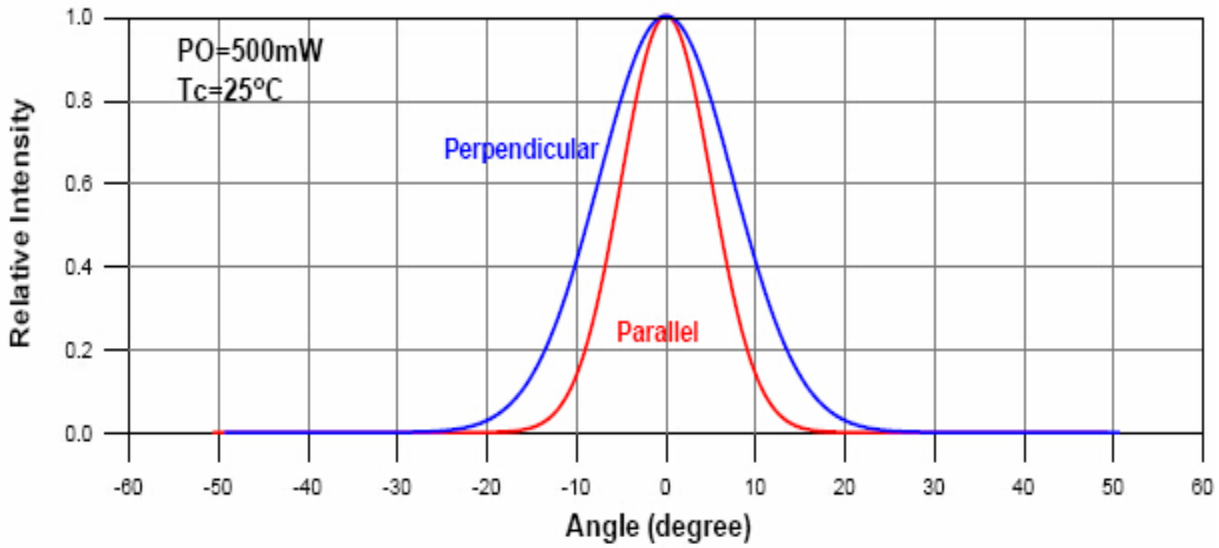
#### Forward Voltage v.s. Forward Current



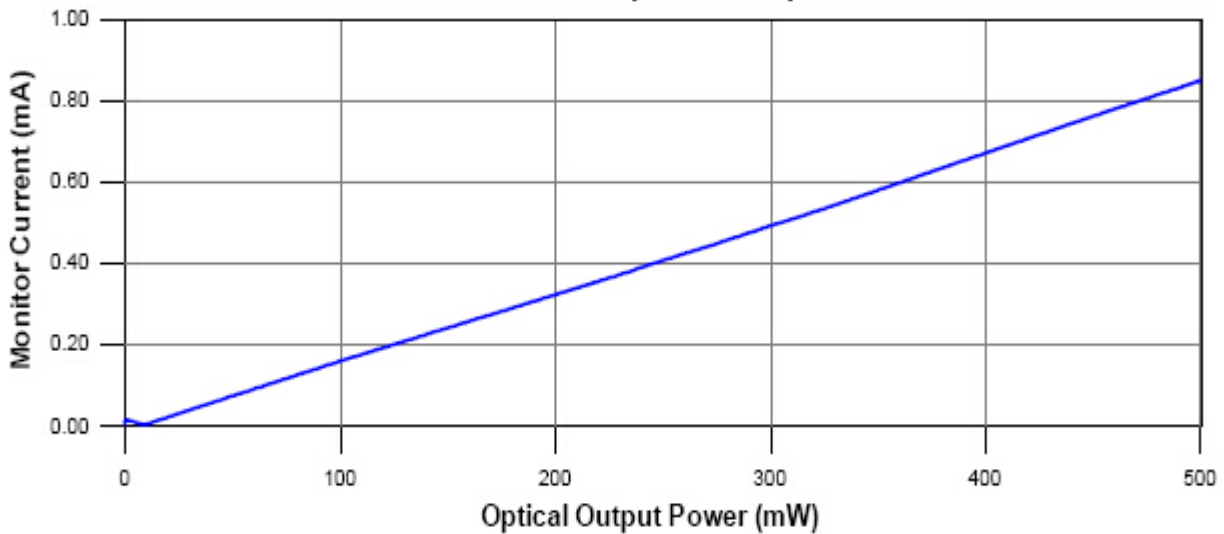
Peak Wavelength v.s. Case Temperature



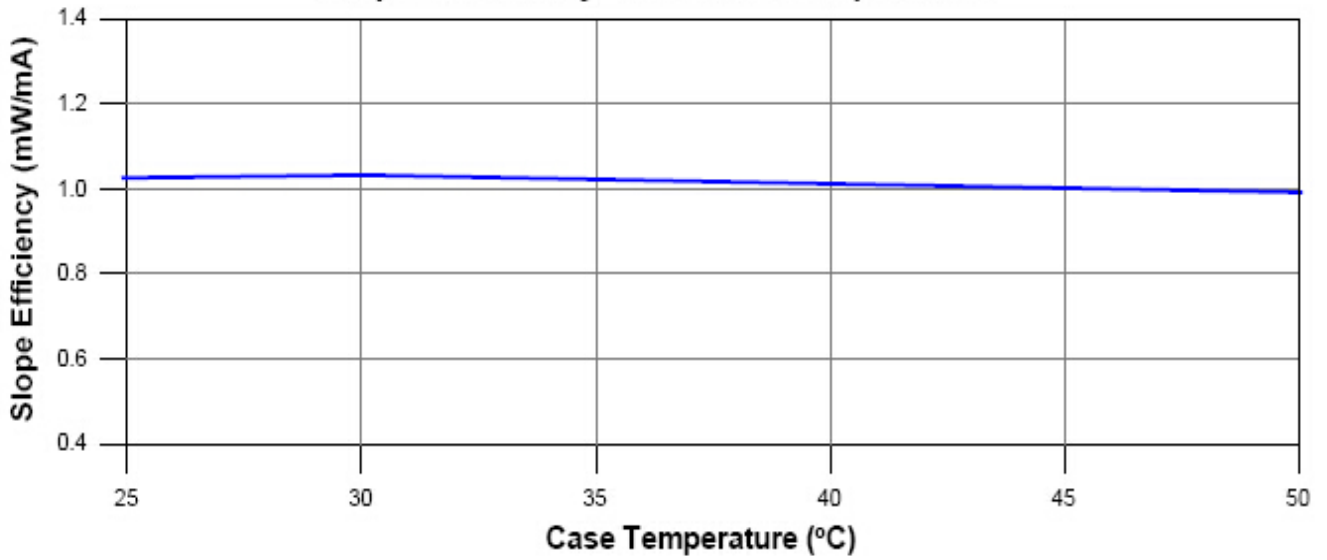
Far-Field Pattern



Monitor Current v.s. Optical Output Power



Slope Efficiency v.s. Case Temperature



Threshold Current v.s. Case Temperature

