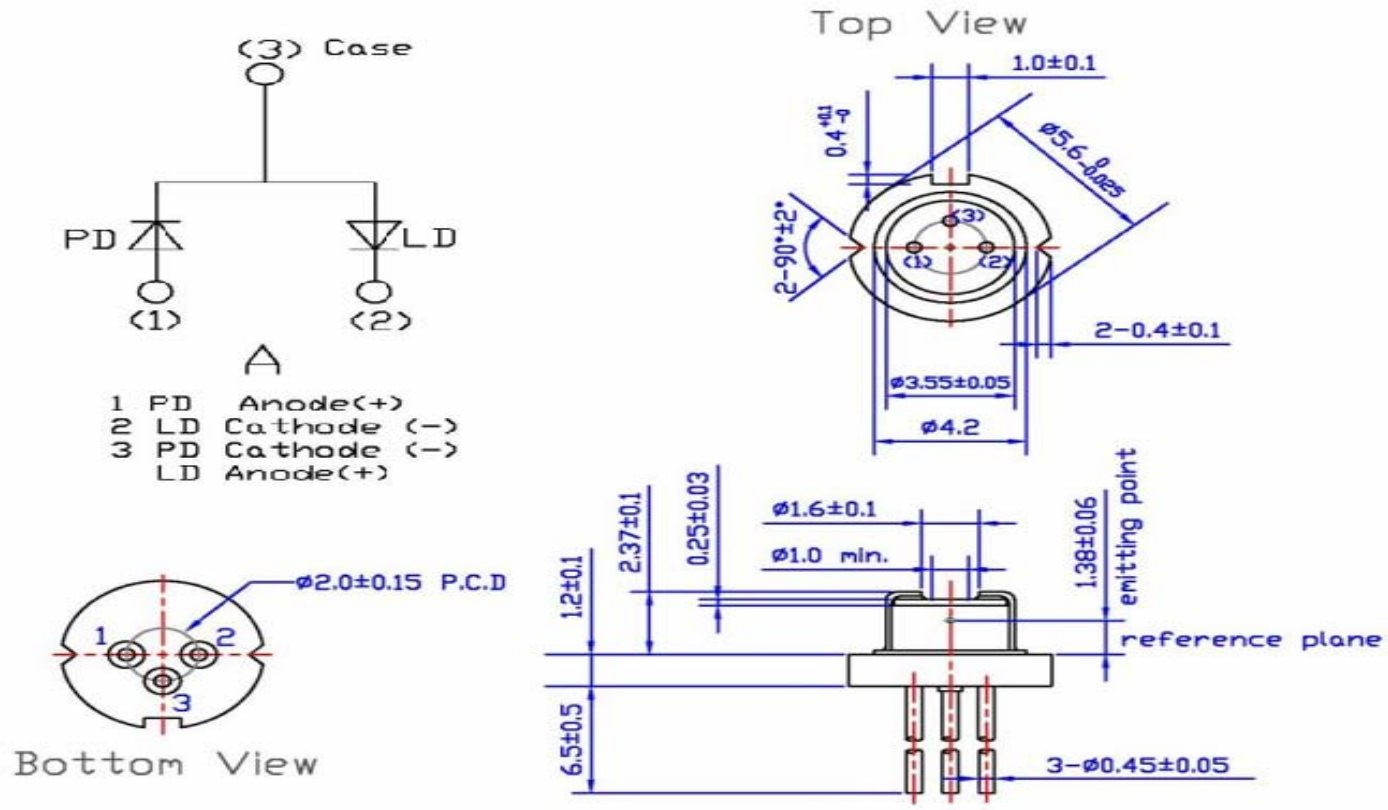
830nm Laser Diode
RLD83000010

■Specifications

(1) Device: Laser Diode

(2) Structure: TO-18(ϕ 5.6mm)



■External dimensions(Unit : mm)

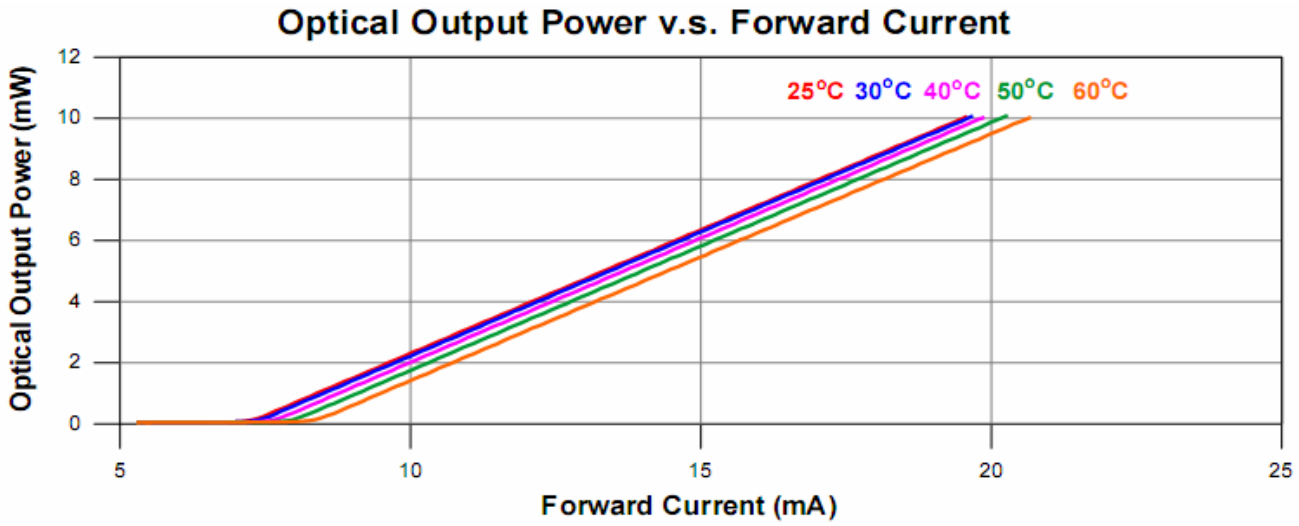
■Absolute Maximum Ratings(Tc=25℃)

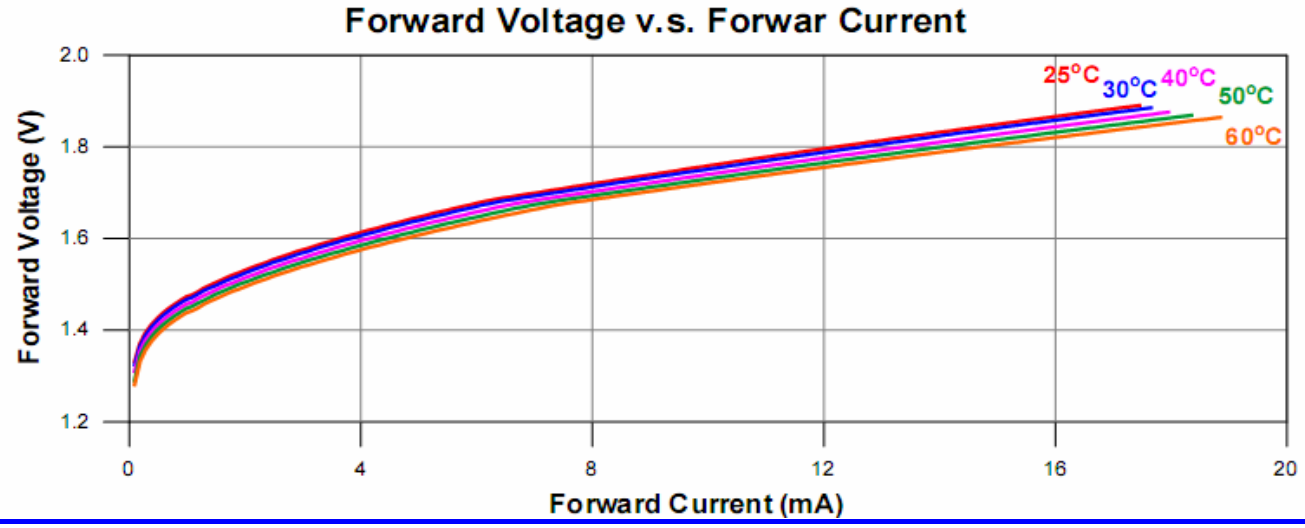
Parameter		Symbols	Ratings	Units
Optical Output		Po	**10**	mW
Reverse Voltage	Laser	Vr	**2**	V
	PIN PD	Vr(PIN)	**30**	V
Operating Temperature		Top	-10～+60	℃
Storage Temperature		Tstg	-40～+85	℃

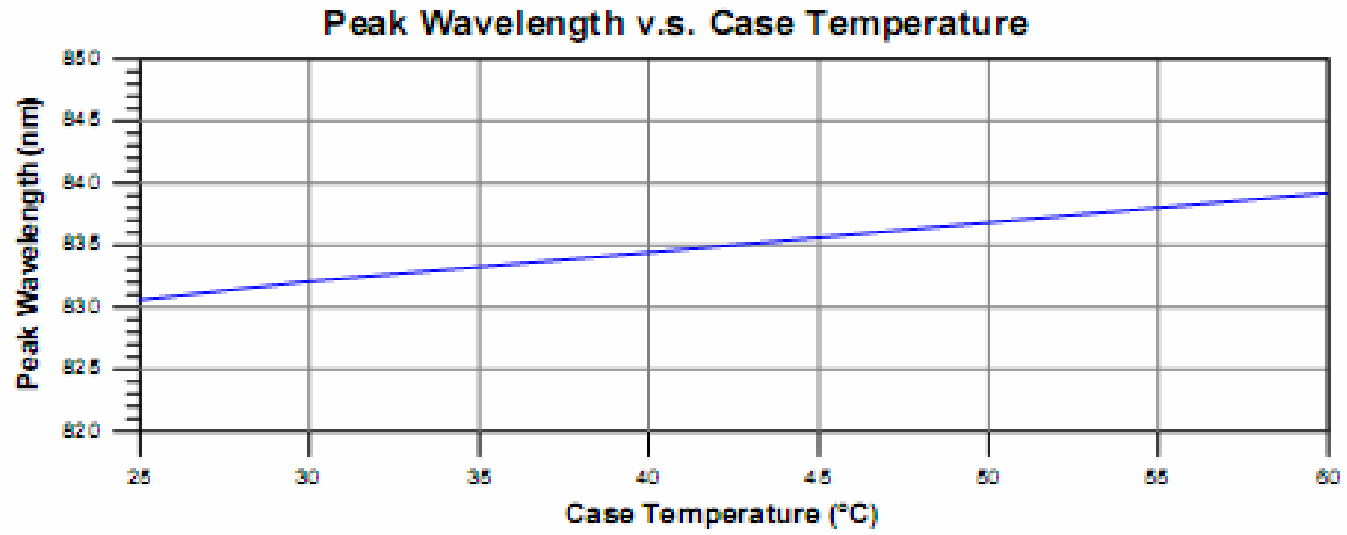
■Electrical and Optical Characteristics(Tc=25℃)

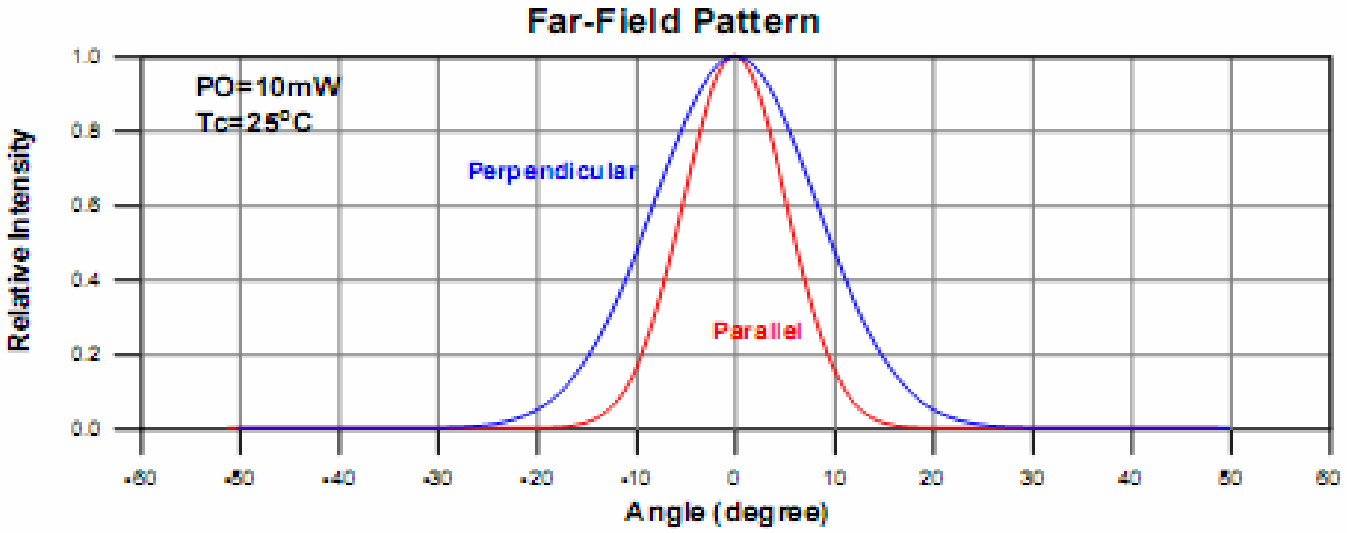
Parameter		Symbols	Conditions	Min.	Typ.	Max.	Units
Threshold Current		Ith	-	-	7	10	mA
Operating Current		Iop	Po=10mW	-	19	25	mA
Operating Voltage		Vop	-	-	1.9	2.2	Volts
Slope Efficiency		η	7.5mW-2.5mW / $I_{7.5mW}$-$I_{2.5mW}$	-	0.85	-	mW/mA
Monitor Current		Im	Po=10mW	0.1	0.6	1	mA
Beam Divergence (FWHM)	Parallel	θ //	Po=10mW	5	11	16	deg.
	Perpendicular	θ ⊥	Po=10mW	15	20	25	deg.
Lasing Wavelength*		λ	Po=10mW	820	830	840	nm

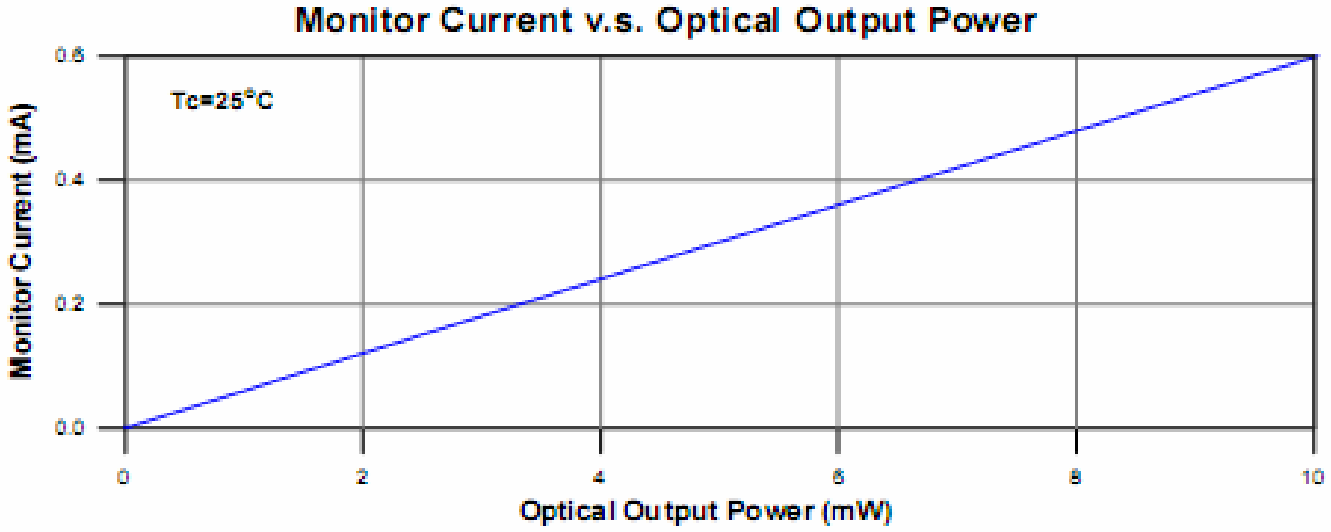
◎θ // and θ ⊥ are defined as the angle within which the intensity is 50% of the peak value.

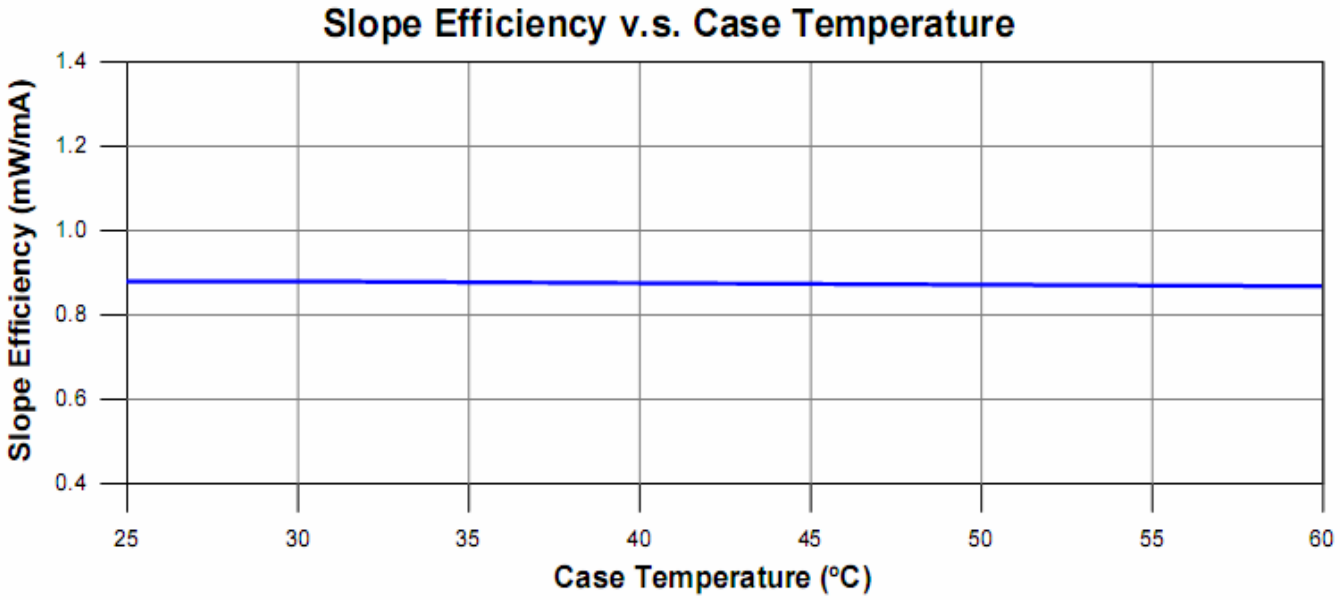


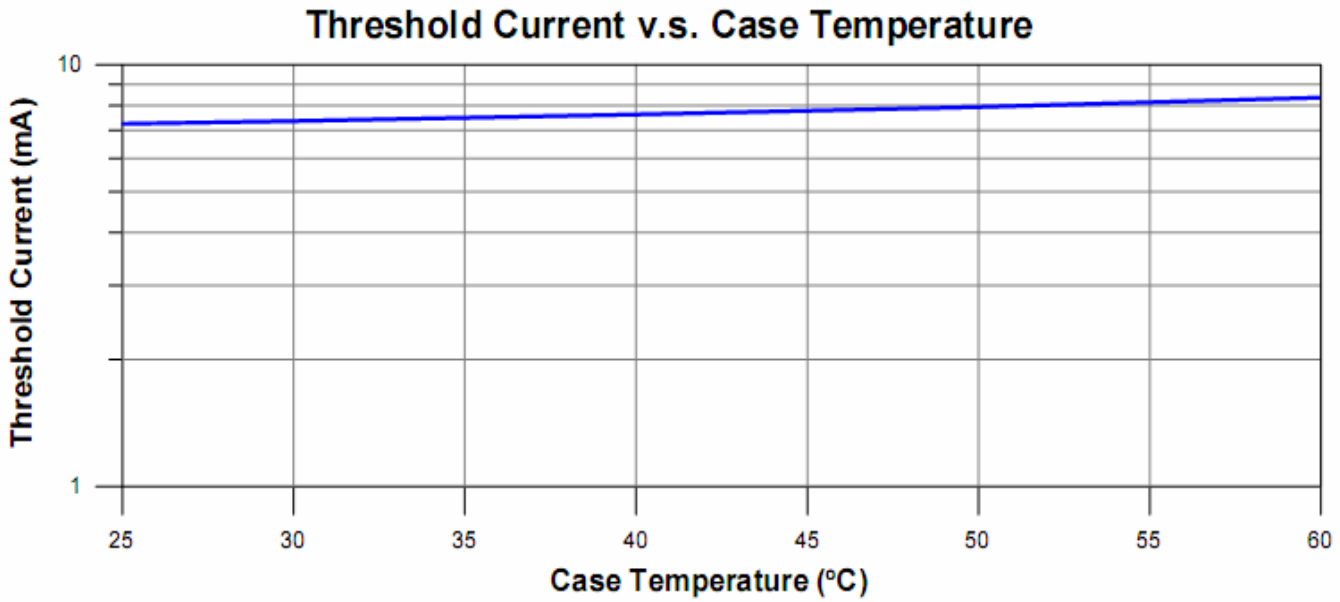



Peak Wavelength v.s. Case Temperature
Peak Wavelength (nm)
850
845
840
835
830
825
820
25
30
35
40
45
50
55
60
Case Temperature (°C)


Far-Field Pattern
PO=10mW
Tc=25°C
Perpendicular
Parallel
Relative Intensity
1.0
0.8
0.6
0.4
0.2
0.0
-60
-50
-40
-30
-20
-10
0
10
20
30
40
50
60
Angle (degree)


Monitor Current v.s. Optical Output Power
Tc=25°C
Monitor Current (mA)
0.6
0.4
0.2
0.0
0
2
4
6
8
10
Optical Output Power (mW)


Slope Efficiency v.s. Case Temperature
Slope Efficiency (mW/mA)
1.4
1.2
1.0
0.8
0.6
0.4
25
30
35
40
45
50
55
60
Case Temperature (°C)


Threshold Current v.s. Case Temperature
Threshold Current (mA)
10
1
25
30
35
40
45
50
55
60
Case Temperature (°C)