

## AlGaAs | Infrared Laser Diode

ADL-83Y51TU

6-2D-LD83-012\_Rev.00

### 830nm 250mW High Power Operation

#### Features

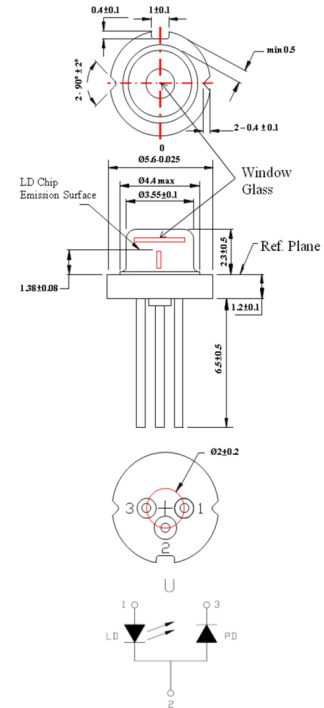
- 250mW kink free power
- Small package: Ø5.6mm
- Small far field angle
- High reliability/ Low astigmatism/ High efficiency

#### Applications

- Light source for sensing device
- LIDAR (light detection & ranging)
- 3D Sensing with Laser
- Illumination/ Medical application/ Imaging

#### Absolute maximum ratings

Parameter	Symbol	Condition	Rating	Unit
Light output power	$P_O$	CW	270	mW
Reverse voltage (LD)	$V_{RL}$	-	2	V
Case temperature	TC	-	-10~+60	°C
Storage temperature	TS	-	-40~+85	°C



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

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Peak wavelength	$\lambda$	820	830	840	nm	$P_o=250\text{mW}$
Threshold current	$I_{th}$	-	75	100	mA	
Operating current	$I_{op1}$	-	300	350	mA	$P_o=250\text{mW}$
Operating voltage	$V_{op}$	-	1.9	2.4	V	$P_o=250\text{mW}$
Differential efficiency	$\eta$	0.9	1.0	-	mW/mA	$P_o=200\text{-}250\text{mW}$
Monitor current	$I_m$	0.4	1.1	1.9	mA	$P_o=250\text{mW}$ , $V_{RD}=5\text{V}$
Parallel divergence angle	$\theta_{//}$	5	7	12	deg	$P_o=250\text{mW}$
Perpendicular divergence angle	$\theta_{\perp}$	10	14	20	deg	
Parallel FFP deviation angle	$\Delta\theta_{//}$	-3	0	3	deg	
Perpendicular FFP deviation angle	$\Delta\theta_{\perp}$	-3	0	3	deg	
Emission point accuracy	$\Delta x\Delta y\Delta z$	-50	0	50	um	

\* Sufficient heat dissipation is required for CW operation.

#### Precautions

- Do not operate the device above maximum ratings even short period of time. Doing so may cause unexpected and permanent damage to the device.
- Take precautions to avoid electrostatic discharge and/or momentary power spikes. A change in the characteristics of the laser or premature failure may result.
- Proper heat sinking of the device assures stability and lifetime. Always ensure that maximum operating temperatures are not exceeded.
- Observing visible or invisible laser beams with the human eye directly, or indirectly, can cause permanent damage. Use a camera to observe the laser.
- No laser device should be used in any application or situation where life or property is at risk in event of device failure.
- Specifications are subject to change without notice. Ensure that you have the latest specification by contacting us prior to purchase or use of the product.

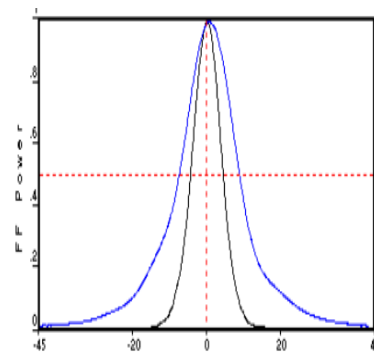
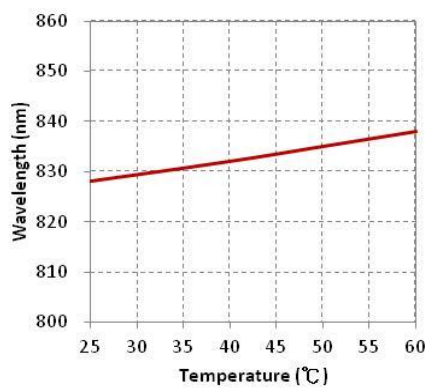
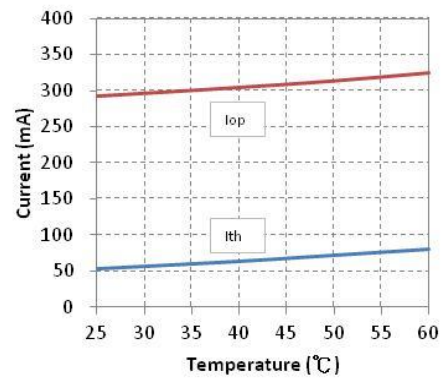
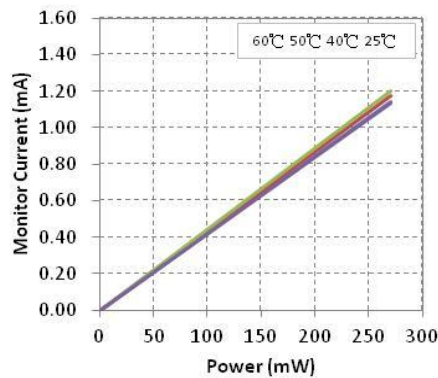
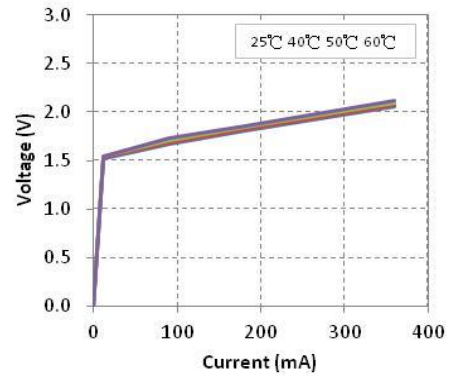
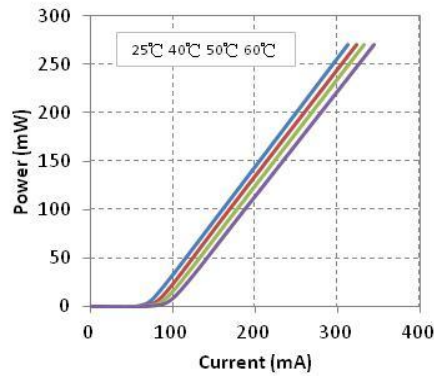
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