

AlGaAs | Infrared Laser Diode

ADL-83Y51TU

6-2D-LD83-012_Rev.00

830nm 250mW High Power Operation

Features

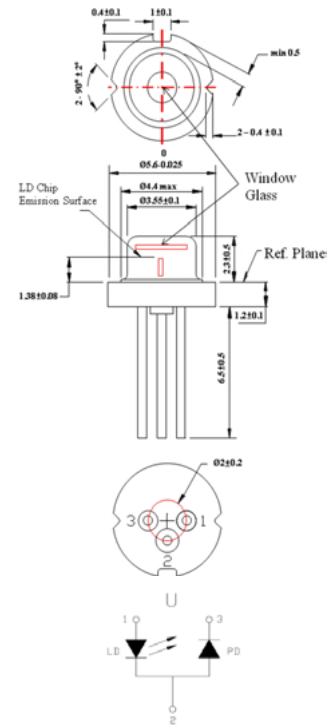
250mW kink free power
Small package: Ø5.6mm
Small far field angle
High reliability/ Low astigmatism/ High efficiency

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 °C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Peak wavelength	λ	820	830	840	nm	P _o =250mW
Threshold current	I _{th}	-	75	100	mA	
Operating current	I _{op1}	-	300	350	mA	P _o =250mW
Operating voltage	V _{op}	-	1.9	2.4	V	P _o =250mW
Differential efficiency	η	0.9	1.0	-	mW/mA	P _o =200-250mW
Monitor current	I _m	0.4	1.1	1.9	mA	P _o =250mW, V _{RD} =5V
Parallel divergence angle	θ _{//}	5	7	12	deg	P _o =250mW
Perpendicular divergence angle	θ _⊥	10	14	20	deg	
Parallel FFP deviation angle	Δθ _{//}	-3	0	3	deg	
Perpendicular FFP deviation angle	Δθ _⊥	-3	0	3	deg	
Emission point accuracy	ΔxΔyΔz	-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.

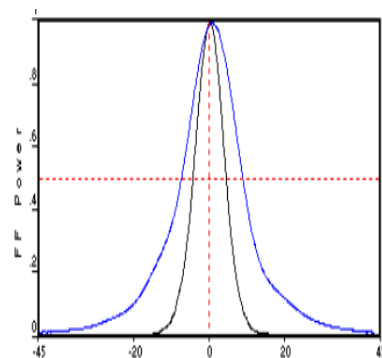
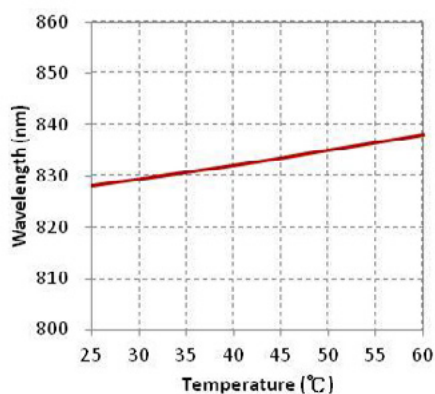
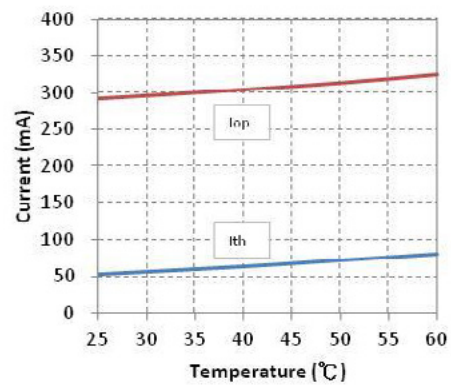
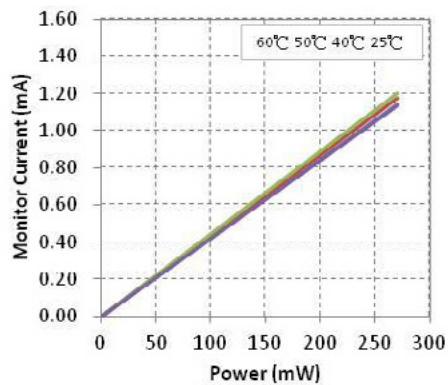
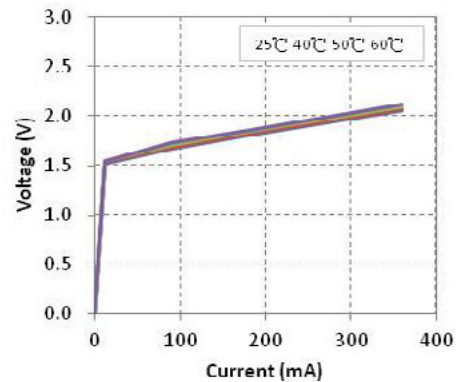
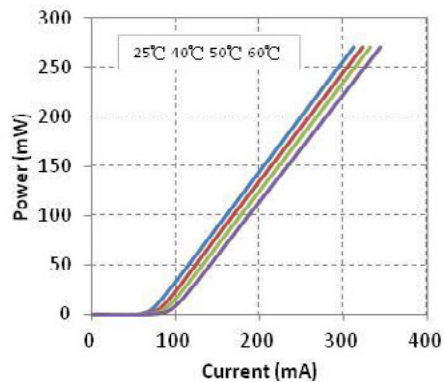
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