

AlGaAs Infrared Laser Diode

ADL-85Y51TU

6-2D-LD85-029_Rev.00

850nm 250mW High Power Operation

Features

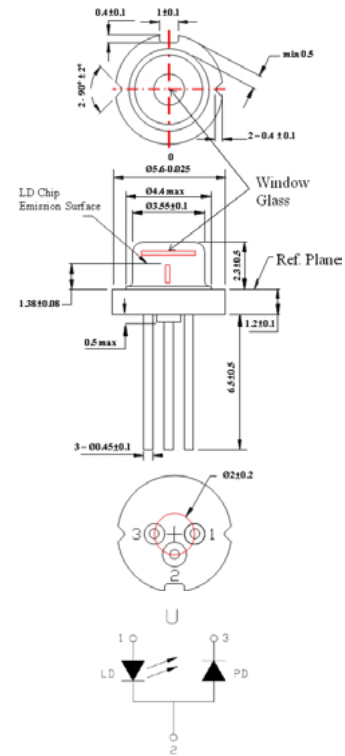
250mW kink free power
Small package: Ø5.6mm
Small far field angle
High reliability/ Low astigmatism/ High efficiency

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	T_c	-	-10~+60	°C
Storage temperature	T_s	-	-40~+85	°C



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

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Peak wavelength	λ	840	850	860	nm	$P_o=250\text{mW}$
Threshold current	I_{th}	-	65	90	mA	
Operating current	I_{op}	-	310	360	mA	
Operating voltage	V_{op}	-	1.9	2.4	V	
Differential efficiency	η	0.90	1.00	-	mW/mA	$P_o=200\text{-}250\text{mW}$
Monitor current	I_m	0.5	1.1	1.8	mA	$P_o=250\text{mW}, V_{RD}=5\text{V}$
Parallel divergence angle	$\theta_{//}$	6	8	13	deg.	$P_o=250\text{mW}$
Perpendicular divergence angle	$\theta_{\perp}$	12	17	22	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	$\Delta x\Delta y\Delta z$	-80	0	+80	μm	

* Sufficient heat dissipation is required for CW operation.

Precautions

- Do not operate the device above maximum ratings. 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

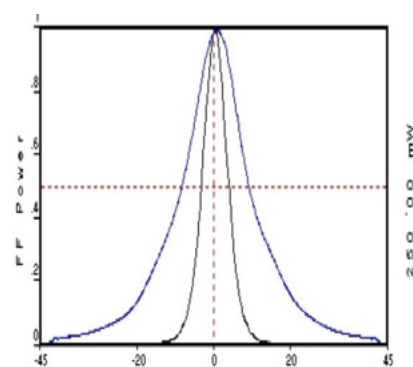
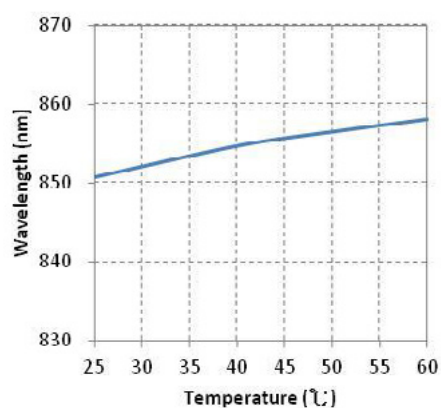
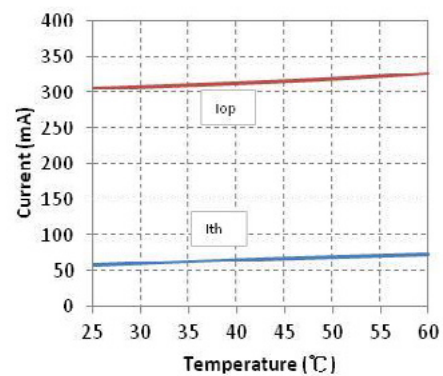
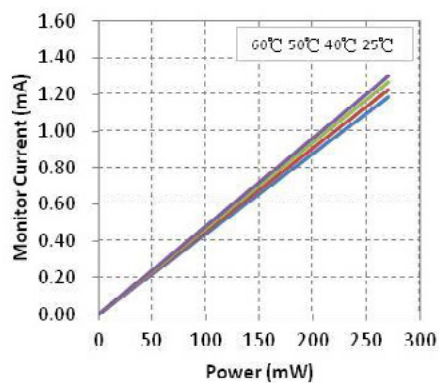
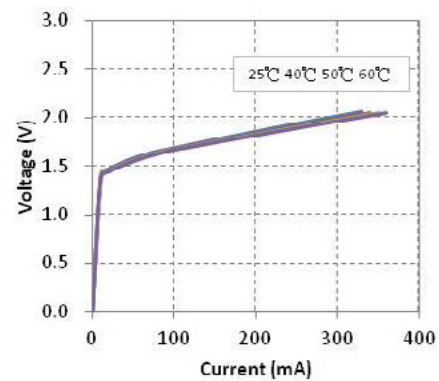
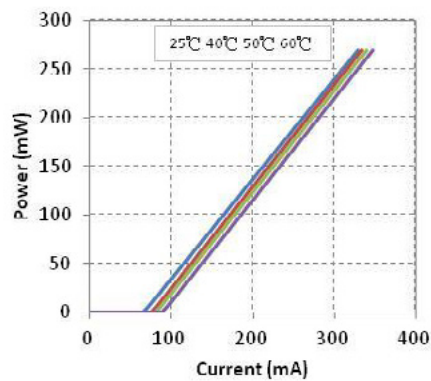
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