

AlGaAs / Infrared Laser Diode

ADL-83Z51TL

830nm 150mW High Power Operation

Features

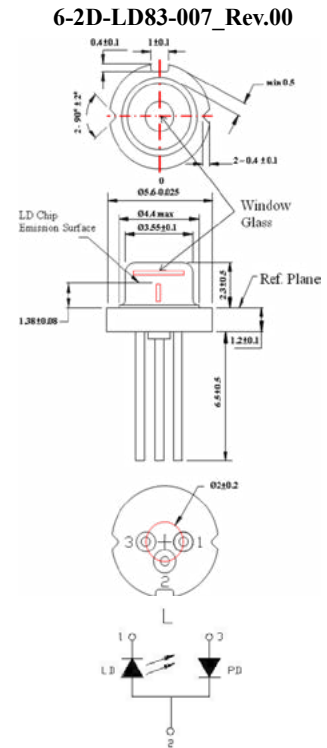
High temperature operation
Small far field angle

Applications

Light source for sensor
Industry

Absolute maximum ratings

Parameter	Symbol	Condition	Rating	Unit
Light output power	P _O	CW	160	mW
Reverse voltage (LD)	V _{RL}	-	2	V
Reverse voltage(PD)	V _{RD}	-	30	V
Forward current(PD)	I _{FD}	-	10	mA
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	Po=150mW
Threshold current	I _{th}	-	70	90	mA	
Operating current	I _{op1}	-	220	260	mA	Po=150mW
Operating voltage	V _{op}	-	1.8	2.4	V	Po=150mW
Differential efficiency	η	0.8	1.0	-	mW/mA	Po=100-150mW
Monitor current	I _m	0.2	0.7	1.3	mA	Po=150mW, VRD=5V
Parallel divergence angle	θ //	5	7	12	deg	Po=150mW
Perpendicular divergence angle	θ ⊥	-	14	20	deg	
Parallel FFP deviation angle	Δ θ //	-3	0	3	deg	
Perpendicular FFP deviation angle	Δ θ ⊥	-3	0	3	deg	
Emission point accuracy	Δ xΔyΔz	-80	0	80	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.

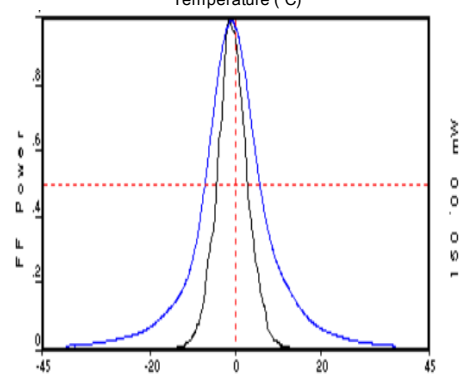
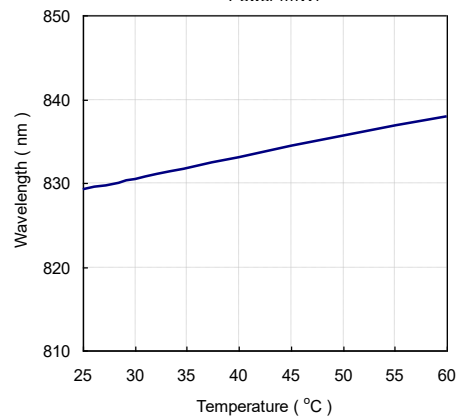
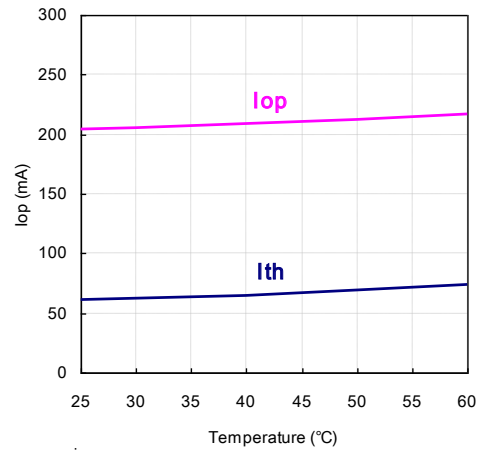
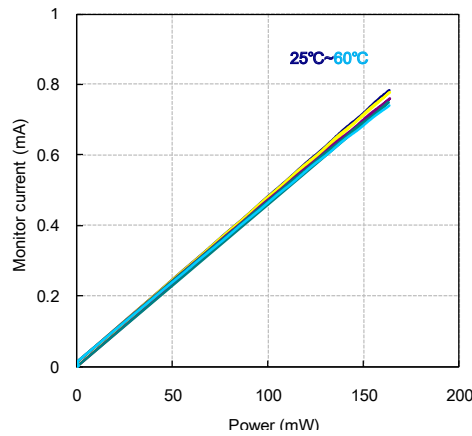
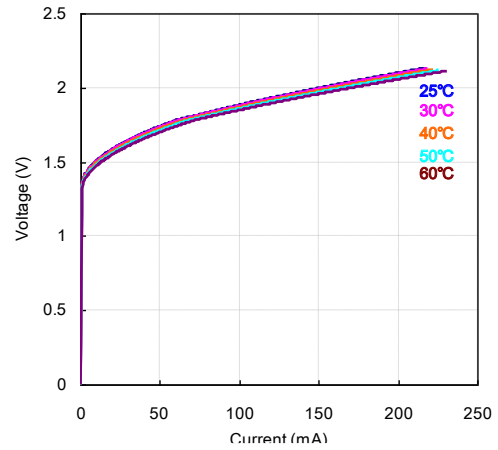
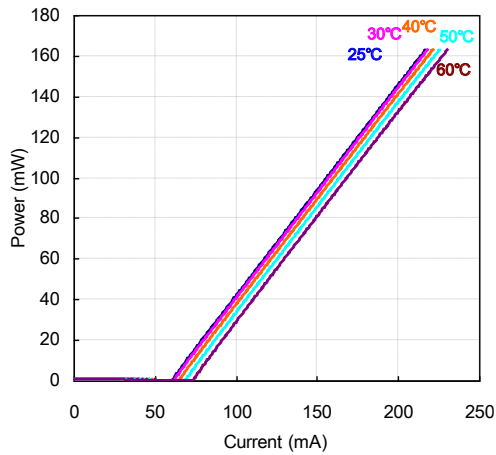
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6-2D-LD83-007_Rev.00

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