

# AlGaAs Infrared Laser Diode

## ADL-83Z51TL

### 830nm 150mW High Power Operation

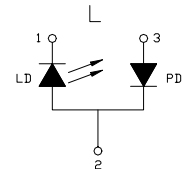
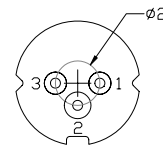
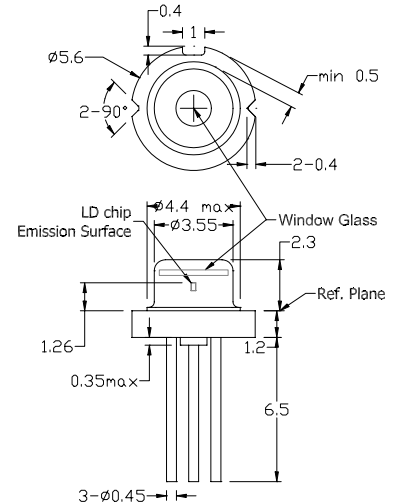
6-2D-LD85-020\_REV.00

#### •Features

1. High temperature operation
2. Small far field angle

#### •Applications

1. Light source for sensor
2. Industry



#### •Absolute maximum ratings

Parameter	Symbol	Condition	Rating	Unit
Light output power	$P_O$	CW	160	mW
Reverse voltage (LD)	$V_{RI}$	-	2	V
Reverse voltage (PD)	$V_{RD}$	-	30	V
Forward current (PD)	$I_{FD}$	-	10	mA
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 (CW)
Peak wavelength	$\lambda$	820	830	840	nm	$P_o=150\text{mW}$
Threshold current	$I_{th}$	-	70	90	mA	
Operating current	$I_{op}$	-	230	260	mA	
Operating voltage	$V_{op}$	-	2.2	2.5	V	
Differential efficiency	$\eta$	0.7	0.9	-	mW/mA	$P_o=150\text{mW}, V_{RD}=0\text{V}$
Monitor current	$I_m$	0.15	0.9	2.15	mA	
Parallel divergence angle	$\theta_{  }$	5	7	12	deg	$P_o=150\text{mW}$
Perpendicular divergence angle	$\theta_{\perp}$	-	14	20	deg	
Parallel FFP deviation angle	$\Delta\theta_{  }$	-3	0	+3	deg	$P_o=150\text{mW}$
Perpendicular FFP deviation angle	$\Delta\theta_{\perp}$	-3	0	+3	deg	
Emission point accuracy	$\Delta x \Delta y \Delta z$	-80	0	+80	um	

#### •Precautions

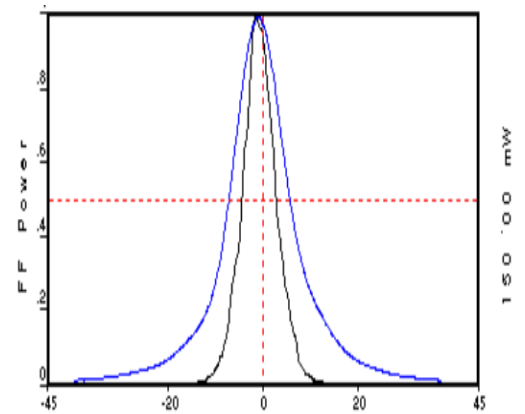
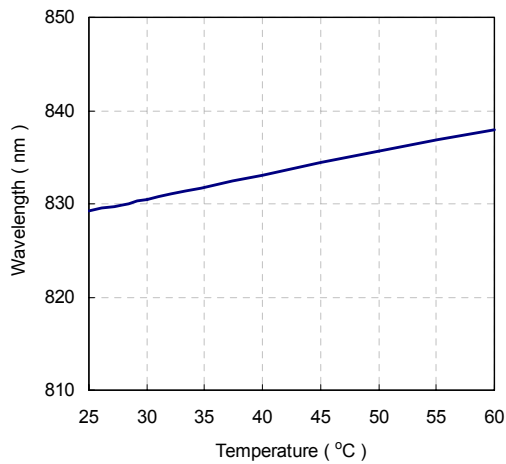
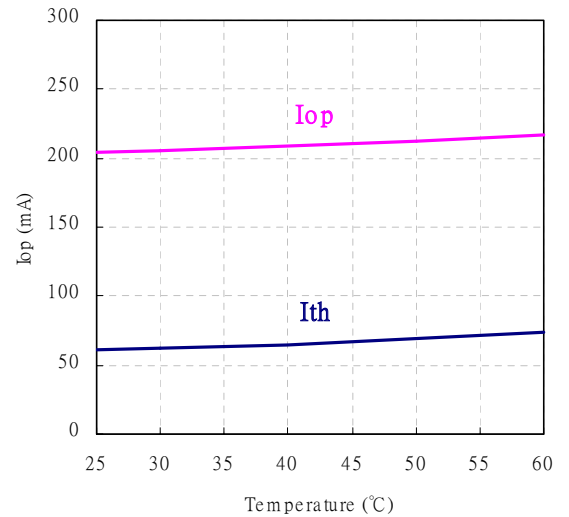
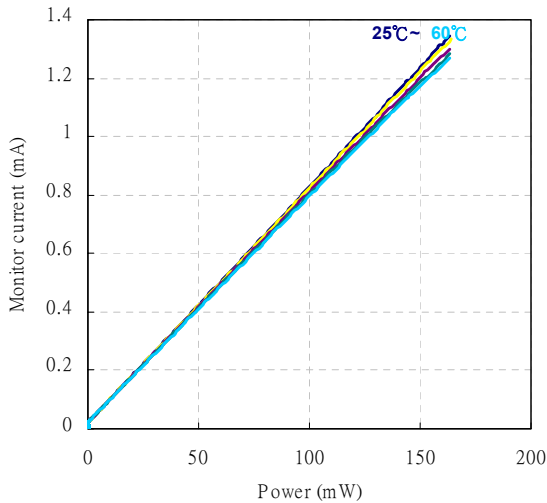
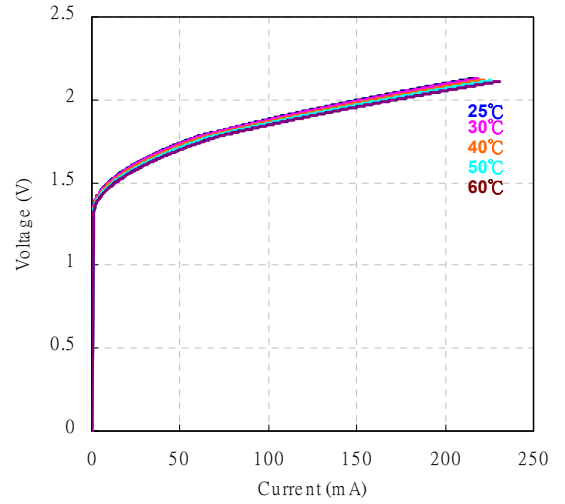
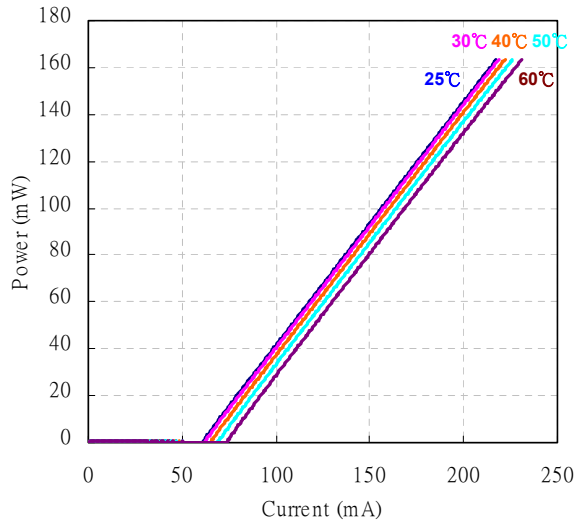
- Do not operate the device above maximum ratings. Doing so may cause unexpected and permanent damage to the device.
- Take precautions to avoid electrostatic discharge and/or momentary power spikes. A change in the characteristics of the laser or premature failure may result.
- Proper heat sinking of 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

\* For reference only. Contents above are subject to change without notice.

# AlGaAs Infrared Laser Diode

## ADL-83Z51TL

6-2D-LD85-020\_REV.00



\* For reference only. Contents above are subject to change without notice.