

# AlGaAs Infrared Laser Diode

## ADL-78051TL

6-2D-LD78-002 Rev.2

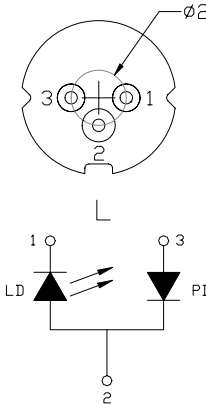
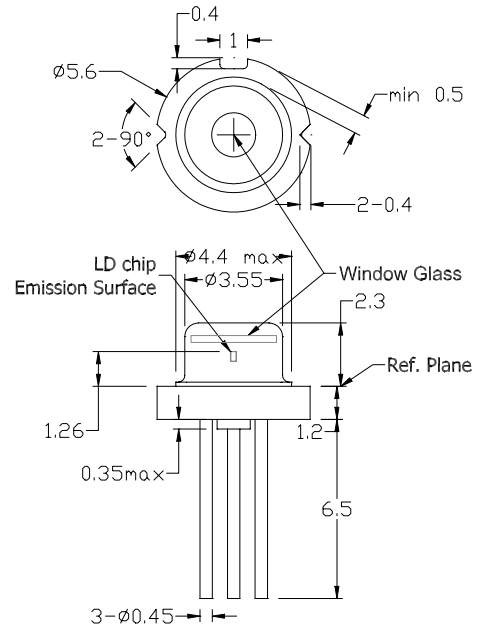
★780nm 5mW 60 °C Reliable Operation!

### •Features

1. Low operating current
2. High efficiency
3. Better power budget for optical design

### •Applications

1. Laser printer light source



### •Absolute maximum ratings

Parameter	Symbol	Condition	Rating	Unit
Light output power	$P_O$	CW	5	mW
Reverse voltage (LD)	$V_{RL}$	-	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
Peak wavelength	$\lambda$	770	785	795	nm	$P_o=5\text{mW}$
Threshold current	$I_{th}$	10	20	25	mA	
Operating current	$I_{op}$	-	28	40	mA	$P_o=5\text{mW}$
High temperature operating current	$I_{op,H}$	-	-	60	mA	$P_o=5\text{mW}$ , Case=60°C
Operating voltage	$V_{op}$	-	1.8	2.2	V	$P_o=5\text{mW}$
Differential efficiency	$\eta$	0.4	0.5	0.7	mW/mA	$P_o=3\sim 5\text{mW}$
Monitor current	$I_m$	0.1	0.35	1.0	mA	$P_o=5\text{mW}$ , $V_{RD}=5\text{V}$
Parallel divergence angle	$\theta_{\parallel}$	8	10	12	deg	
Perpendicular divergence angle	$\theta_{\perp}$	25	29	32	deg	
Parallel FFP deviation angle	$\Delta\theta_{\parallel}$	-2	-	+2	deg	
Perpendicular FFP deviation angle	$\Delta\theta_{\perp}$	-2	-	+3	deg	$P_o=5\text{mW}$
Emission point accuracy	$\Delta x \Delta y \Delta z$	-80	-	+80	$\mu\text{m}$	
Astigmatism	As	-	5	10	$\mu\text{m}$	
Droop	$\Delta^P$	-	5	10	%	

### •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.

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

**Arima**  
LASERS

