

ADL-78051TL

AlGaAs Infrared Laser Diode

★780nm 5mW 60 °C Reliable Operation!

• Features

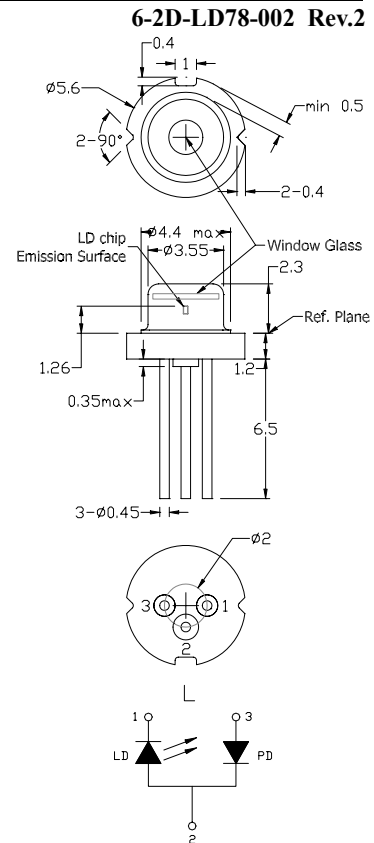
1. Low operating current
2. High efficiency
3. Better power budget for optical design

• 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	λ	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	η	0.4	0.5	0.7	mW/mA	$P_o=3\text{--}5\text{mW}$
Monitor current	I_m	0.1	0.35	1.0	mA	$P_o=5\text{mW}$, $V_{RD}=5\text{V}$
Parallel divergence angle	$\theta_{ }$	8	10	12	deg	$P_o=5\text{mW}$
Perpendicular divergence angle	θ_{\perp}	25	29	32	deg	
Parallel FFP deviation angle	$\Delta\theta_{ }$	-2	-	+2	deg	
Perpendicular FFP deviation angle	$\Delta\theta_{\perp}$	-2	-	+3	deg	
Emission point accuracy	$\Delta x \Delta y \Delta z$	-80	-	+80	μm	
Astigmatism	As	-	5	10	μm	
Droop	Δ^P	-	5	10	%	

• Precautions

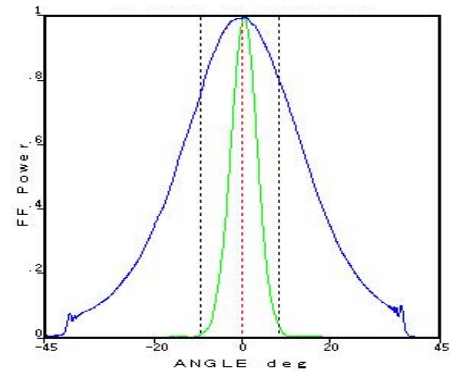
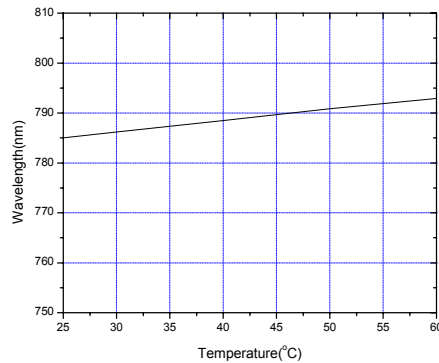
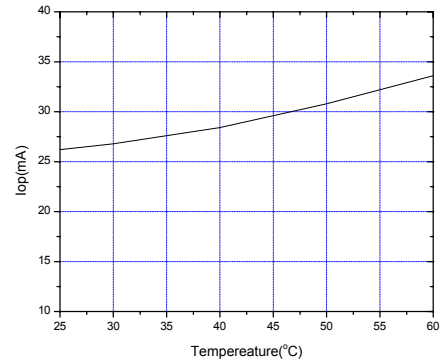
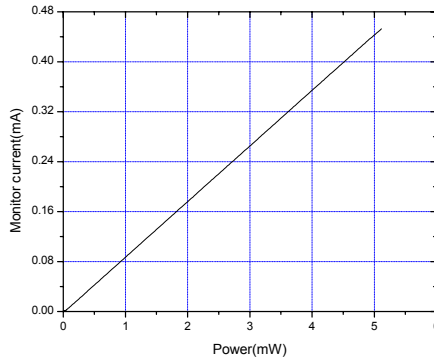
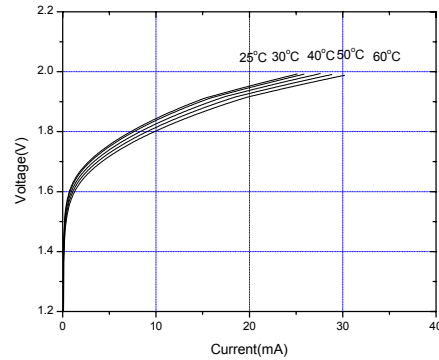
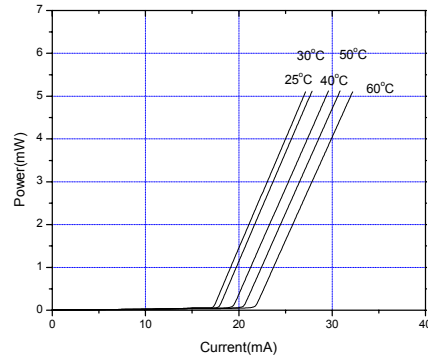
- * Do not operate the device above maximum ratings. Doing so may cause unexpected and permanent damage to the device.
- * Take precautions to avoid electrostatic discharge and/or momentary power spikes. A change in the characteristics of the laser or premature failure may result.
- * Proper heat sinking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

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6-2D-LD78-002 Rev.2



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