

AlGaAs Infrared Laser Diode

ADL-78032FR

DATE : 2008/03/04 Ver 4.0

★ 780nm 3mW 70 °C Open Package

★ Ideal for CD optical pick-up head

• **Features**

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

• **Applications**

1. CD player/ROM optical pick up

• **Absolute maximum ratings**

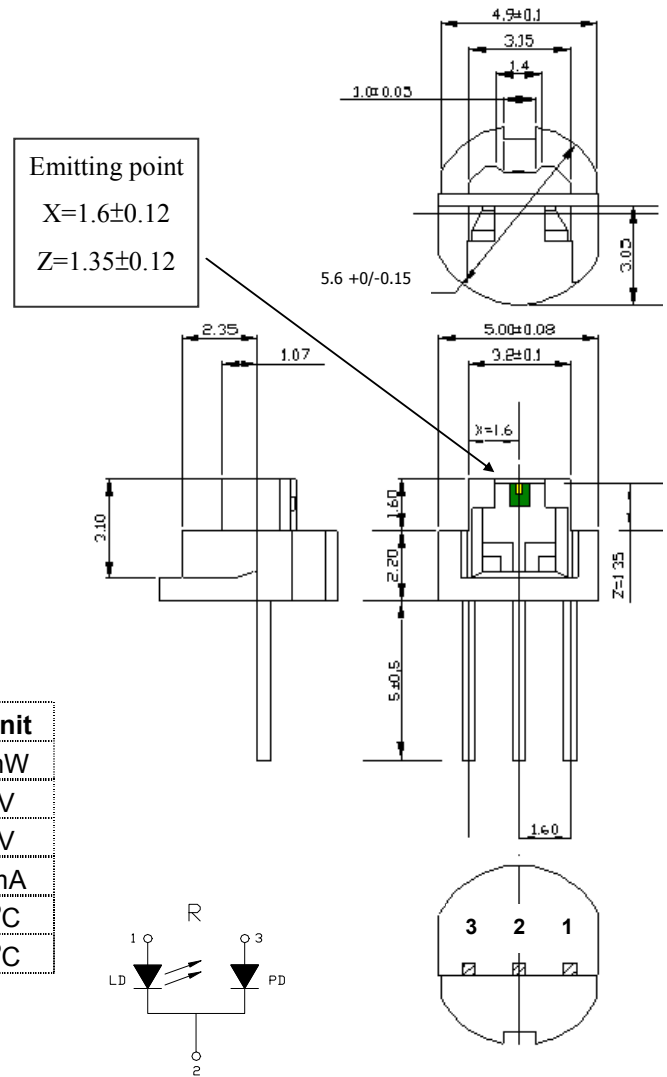
Parameter	Symbol	Condition	Rating	Unit
Light output power	P_o	CW	5	mW
Reverse voltage (LD)	V_{RL}	-	2	V
Reverse voltage (PD)	V_{RD}	-	30	V
Forward current (PD)	I_{FD}	-	10	mA
Case temperature	T_c	-	-10~+70	°C
Storage temperature	T_s	-	-40~+85	°C

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

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Peak wavelength	λ	770	790	805	nm	$P_o=3\text{mW}$
Threshold current	I_{th}	-	36	45	mA	
Operating current	I_{op}	-	45	55	mA	$P_o=3\text{mW}$
High temperature operating current	$I_{op,H}$	-	-	80	mA	$P_o=3\text{mW}$, Case=70°C
Operating voltage	V_{op}	-	1.8	2.3	V	$P_o=3\text{mW}$
Differential efficiency	η	0.2	0.4	0.8	mW/mA	$P_o=1\text{-}3\text{mW}$
Monitor current	I_m	0.08	0.25	0.4	mA	$P_o=3\text{mW}$, $V_{RD}=5\text{V}$
Parallel divergence angle	$\theta_{ }$	8	10	15	deg	
Perpendicular divergence angle	θ_{\perp}	20	38	45	deg	
Parallel FFP deviation angle	$\Delta\theta_{ }$	-3	-	3	deg	$P_o=3\text{mW}$
Perpendicular FFP deviation angle	$\Delta\theta_{\perp}$	-3	-	3	deg	
Emission point accuracy	$\Delta x \Delta y \Delta z$	-120	-	120	μm	

• **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.