



AlGaInP Visible Laser Diode

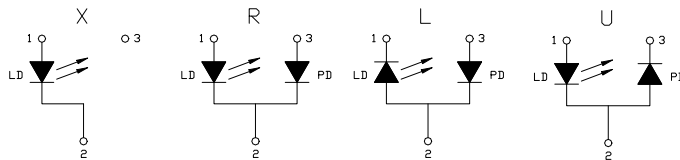
ADL-65401TX/R/L/U

650nm 40mW 60°C
Reliable High Power Operation

• Applications

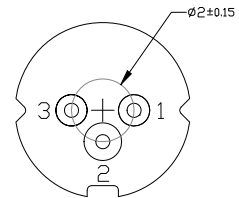
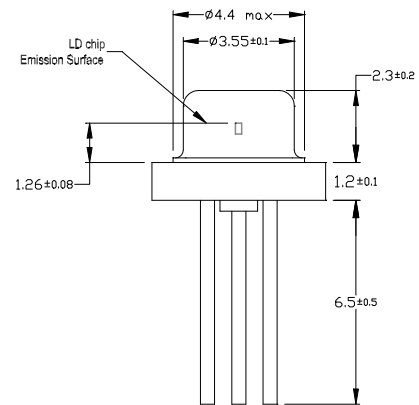
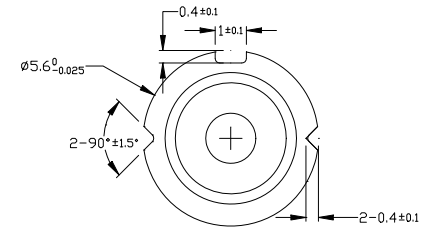
Light source for high power industrial & medical applications

• Pin connections



• Absolute maximum ratings

Parameter	Symbol	Condition	Rating	Unit
Light output power	P_o	CW	55	mW
Reverse voltage (LD)	V_{RL}	CW	2	V
Reverse voltage (PD)	V_{RD}	-	30	V
Forward current (PD)	I_{FD}	-	10	mA
Case temperature	T_c	CW	-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	645	655	665	nm	
Threshold current	I_{th}	30	40	50	mA	$P_o=40\text{mW CW}$
Operating current	I_{op}	-	80	100	mA	Kink free
Operating voltage	V_{op}	2.0	2.45	3.0	V	
Differential efficiency	η	0.7	1.0	1.4	mW/mA	$P_o=35-40\text{mW}$
Monitor current (For R,L,U type)	I_m	0.05	0.1	0.5	mA	$P_o=40\text{mW}, V_{RD}=5\text{V}$
Parallel divergence angle	$\theta_{//}$	6	10	15	deg	
Perpendicular divergence angle	θ_{\perp}	15	20	25	deg	
Parallel FFP deviation angle	$\Delta\theta_{//}$	-2	0	2	deg	$P_o=40\text{mW}$
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 the maximum rating condition, even momentarily. It may cause unexpected permanent damage to the device.
- Semiconductor laser device is very sensitive to electrostatic discharge. High voltage spike current may change the characteristics of the device, or malfunction at any time during its service period. Therefore, proper measures for preventing electrostatic discharge are strongly recommended.
- Effective heat sink can help the device operates under a more relax condition; as a result, a more stable characteristics and better reliability can be achieved. So it is recommended that always apply proper heat sink before the device is operating.
- Do not look into the laser beam directly by bare eyes. The laser beam may cause severe damage to human eyes.



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