

L850-33UP (LN850-33UP) Infrared LED Lamp

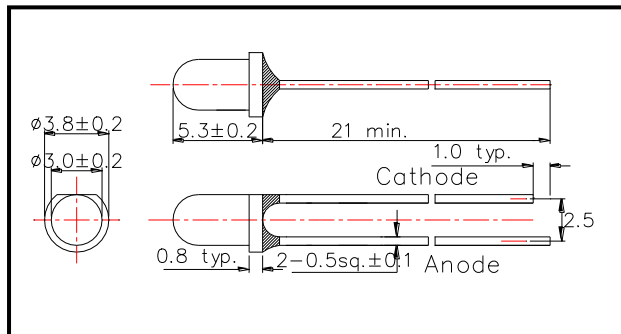
L850-33UP is an AlGaAs LED mounted on a lead frame with a clear epoxy lens.

On forward bias it emits a spectral band of radiation, which peaks at 850nm.

◆ Specifications

- 1) Product Name Infrared LED Lamp
- 2) Type No. L850-33UP
- 3) Chip
- (1) Chip Material AlGaAs
- (2) Peak Wavelength 850nm typ.
- 4) Package
- (1) Type Φ3mm clear molding
- (2) Resin Material Epoxy Resin
- (3) Lead Frame Soldered

◆ Outer dimension (Unit : mm)



◆ Absolute Maximum Ratings

Item	Symbol	Maximum Rated Value	Unit	Ambient Temperature
Power Dissipation	P_D	160	mW	$T_a = 25^\circ\text{C}$
Forward Current	I_F	100	mA	$T_a = 25^\circ\text{C}$
Pulse Forward Current	I_{FP}	1000	mA	$T_a = 25^\circ\text{C}$
Reverse Voltage	V_R	5	V	$T_a = 25^\circ\text{C}$
Junction Temperature	T_J	100	$^\circ\text{C}$	
Thermal Resistance	R_{thja}	250	K/W	
Operating Temperature	T_{OPR}	$-30 \sim +85$	$^\circ\text{C}$	
Storage Temperature	T_{STG}	$-30 \sim +100$	$^\circ\text{C}$	
Soldering Temperature	T_{SOL}	265	$^\circ\text{C}$	

‡Pulse Forward Current condition: Duty=1% and Pulse Width=10 μ s.

‡Soldering condition: Soldering condition must be completed within 3 seconds at 265 $^\circ\text{C}$

‡Thermal resistance: junction – ambient, leads 7mm, soldered on PCB.

◆ Electro-Optical Characteristics

Item	Symbol	Condition	Minimum	Typical	Maximum	Unit
Forward Voltage	V_F	$I_F = 50\text{mA DC}$		1.45	1.60	V
		$I_F = 100\text{mA}, t_p = 20\text{ms}$		1.50	1.8	
Reverse Current	I_R	$V_R = 5\text{V}$			10	μA
Total Radiated Power	P_O	$I_F = 50\text{mA DC}$	18.0	24.0		mW
		$I_F = 100\text{mA}, t_p = 20\text{ms}$		48.0		
Radiant Intensity	I_E	$I_F = 50\text{mA DC}$		50		mW/sr
		$I_F = 100\text{mA}, t_p = 20\text{ms}$		100		
Peak Wavelength	λ_P	$I_F = 50\text{mA DC}$	835	850	865	nm
Half Width	$\Delta\lambda$	$I_F = 50\text{mA DC}$		45		nm
Viewing Half Angle	$\theta_{1/2}$	$I_F = 50\text{mA DC}$		± 15		deg.
Rise Time	t_r	$I_F = 50\text{mA DC}$		15		ns
Fall Time	t_f	$I_F = 50\text{mA DC}$		10		ns

‡Total Radiated Power is measured by Photodyne #500

‡Radiant Intensity is measured by Tektronix J-6512