



L870-__UP (LN870-__UP) Infrared LED Lamp

This series of L870-__UP is a GaAlAs LED mounted on a lead frame and encapsulated in various types of epoxy lens which offer different design settings. On forward bias, it emits a high power radiation of typical 22W with a peak wavelength at 870nm.

1) Specifications

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|---------------------|-------------------|
| (1) Chip material | AlGaAs |
| (2) Peak wavelength | 870nm |
| (3) Package | Clear epoxy resin |
| (4) Lead frame | Soldered |

2) Absolute Maximum Ratings

Item	Symbol	Maximum Rated Value	Unit	Ambient Temperature
Power Dissipation	P _D	160	mW	T _a =25°C
Forward Current	I _F	100	mA	T _a =25°C
Pulse Forward Current	I _{FP}	1000	mA	T _a =25°C
Reverse Voltage	V _R	5	V	T _a =25°C
Operating Temperature	T _{OPR}	-30 ~ +85	°C	T _a =25°C
Storage Temperature	T _{STG}	-30 ~ +100	°C	
Soldering Temperature	T _{SOL}	260	°C	

3) Electro-Optical Characteristics [T_a=25°C]

Item	Symbol	Condition	Minimum	Typical	Maximum	Unit
Forward Voltage	V _F	I _F =50mA		1.50	1.7	V
Reverse Current	I _R	V _R =5V			10	uA
Total Radiated Power	P _O	I _F =50mA	18.0	22.0		mW
Peak Wavelength	λ _P	I _F =50mA		870		nm
Half Width	Δλ	I _F =50mA		35		nm
Rise Time	t _r	I _F =50mA		15		ns
Fall Time	t _f	I _F =50mA		10		ns

4) Characteristics of Brightness [T_a=25°C]

Type	Viewing Half Angle	Radiant Intensity I _F =50mA unit: mW/sr			Outer Dimension	
		Minimum	Typical	Maximum	Dimension	Figure
L870-01UP	±10°		90		φ5	1
L870-02UP	±5°		130		φ5	2
L870-03UP	±15°		70		φ5	3
L870-04UP	±20°		50		φ5	4
L870-05UP	±40°		15		φ5	5
L870-06UP	±7°		150		φ5	6
L870-09UP	±25°(Long)		60		φ5	7
	±15°(Short)				Oval	
L870-33UP	±15°		50		φ3	9
L870-36UP	±30°		30		φ3	10

‡ Radiant Intensity is measured by Tektronix J-16.

‡ Total Radiated Power is measured by Photodyne #500.