

# L870F-\_\_U Infrared LED Lamp

This series of L870F-\_\_U is lower forward voltage LED such less than 4V at IF=1A.

This is composed of GaAlAs material die and lead frame with encapsulated epoxy lens, in various types for offering different design settings.

On forward bias, it emits a high power radiation of typical 48mW with a peak wavelength at 870nm.

## 1) Specifications

(1) Chip material	AlGaAs	(4) Package	Clear epoxy resin
(2) Chip Size	0.4mm*0.4mm	(5) Lead frame	Soldered
(3) Peak wavelength	870nm		

## 2) Absolute Maximum Ratings

Item	Symbol	Maximum Rated Value	Unit	Ambient Temperature
Power Dissipation	PD	150	mW	Ta=25°C
Forward Current	IF	100	mA	Ta=25°C
Pulse Forward Current	IFP	1000	mA	Ta=25°C
Reverse Voltage	VR	5	V	Ta=25°C
Operating Temperature	TOPR	-30 ~ +85	°C	Ta=25°C
Storage Temperature	TSTG	-30 ~ +100	°C	
Soldering Temperature	TSOL	260	°C	

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

Item	Symbol	Condition	Minimum	Typical	Maximum	Unit
Forward Voltage	VF	IF=50mA DC		1.45	1.55	V
		IF=100mA, tp=20ms		1.55	1.75	
Pulse Forward Voltage	VFP	IF=1A		3.5	4.0	
Reverse Current	IR	VR=5V			10	uA
Total Radiated Power	PO	IF=50mA DC	18.0	24.0		mW
		IF=100mA, tp=20ms		48.0		
Peak Wavelength	λP	IF=50mA DC		870		nm
Half Width	Δλ	IF=50mA DC		40		nm
Rise Time	tr	IF=50mA DC		15		ns
Fall Time	tf	IF=50mA DC		10		ns

## 4) Characteristics of Radiant Intensity [Ta=25°C]

Type	Viewing Half Angle	Radiant Intensity IF=100mA, tp=20ms unit: mW/sr			Outer Dimension	
		Minimum	Typical	Maximum	Dimension	Figure
L870F-01U	±10°		190		Φ5	1
L870F-02U	±5°		270		Φ5	2
L870F-03U	±15°		150		Φ5	3
L870F-04U	±20°		110		Φ5	4
L870F-05U	±40°		32		Φ5	5
L870F-06U	±7°		300		Φ5	6
L870F-09U	±25°(Long)		150		Φ5	7
	±15°(Short)			Oval		
L870F-31U					Φ3	8
L870F-33U	±15°		110		Φ3	9
L870F-34U					Φ3	10
L870F-36U	±30°		70		Φ3	11
L870F-41U					Φ4	12
L870F-42U					Φ4	12

‡ Radiant Intensity is measured by Tektronix J-16.

‡ Total Radiated Power is measured by Photodyne #500.