

L850-__ __US (LN850-__ __US) Infrared LED Lamp

This series of L850-__ __US 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 36mW with a peak wavelength at 850nm.

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	850nm		

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	1.7	V
		IF=100mA, tp=20ms		1.55	1.9	
Reverse Current	IR	VR=5V			10	uA
Total Radiated Power	PO	IF=50mA DC	18.0	22.0		mW
		IF=100mA, tp=20ms		44.0		
Peak Wavelength	λ_P	IF=50mA DC		850		nm
Half Width	$\Delta\lambda$	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
L850-01US	±10°		150		Φ5	1
L850-02US	±5°		2200		Φ5	2
L850-03US	±15°		120		Φ5	3
L850-04US	±20°		80		Φ5	4
L850-05US	±40°		24		Φ5	5
L850-06US	±7°		240		Φ5	6
L850-09US	±25°(Long)		90		Φ5	7
	±15°(Short)			Oval		
L850-33US	±15°		70		Φ3	9
L850-36US	±30°		40		Φ3	10

‡ Radiant Intensity is measured by Tektronix J-16.

‡ Total Radiated Power is measured by Photodyne #500.