

# L870-40K00

stem type LED with epoxy resin lens

L870-40K00 is an AlGaAs LED mounted on TO-46 stem with epoxy resin lens , being designed for wide viewing angle.

It emits a spectral band of radiation at 870nm and is 40mW typ of output power.

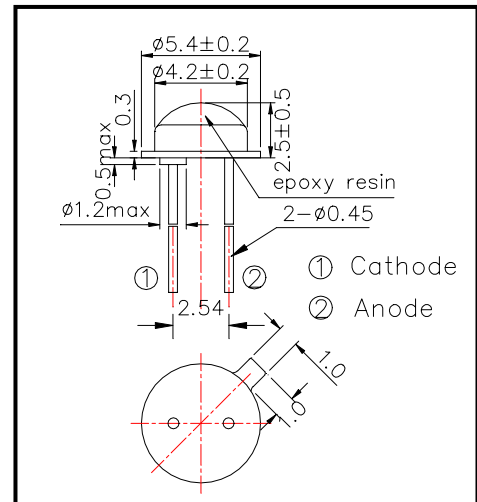
### ◆Features

- 1) Wide viewing angle
- 2) High Reliability

### ◆Specifications

- |                     |                           |
|---------------------|---------------------------|
| 1) Product Name     | Infrared LED Lamp         |
| 2) Type No.         | L870-40K00                |
| 3) Chip Spec.       |                           |
| (1) Material        | AlGaAs                    |
| (2) Peak Wavelength | 870nm                     |
| 4) Package          |                           |
| (1) Type            | TO-46 stem with reflector |
| (2) Lens            | Epoxy resin lens          |

### ◆Outer dimension (Unit: mm)



### ◆Absolute Maximum Ratings

Item	Symbol	Maximum Rated Value	Unit	Ambient Temperature
Power Dissipation	P <sub>D</sub>	160	mW	T <sub>a</sub> =25°C
Forward Current	I <sub>F</sub>	100	mA	T <sub>a</sub> =25°C
Pulse Forward Current	I <sub>FP</sub>	1000	mA	T <sub>a</sub> =25°C
Reverse Voltage	V <sub>R</sub>	5	V	T <sub>a</sub> =25°C
Junction Temperature	T <sub>J</sub>	100	°C	
Thermal Resistance	R <sub>thja</sub>	240	K/W	
Operating Temperature	T <sub>OPR</sub>	-30 ~ +80	°C	
Storage Temperature	T <sub>STG</sub>	-30 ~ +100	°C	
Soldering Temperature	T <sub>SOL</sub>	265	°C	

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

‡Soldering condition: Soldering condition must be completed within 3 seconds at 265°C

### ◆Electro-Optical Characteristics

Item	Symbol	Condition	Minimum	Typical	Maximum	Unit
Forward Voltage	V <sub>F</sub>	I <sub>F</sub> =50mA DC		1.45	1.60	V
		I <sub>F</sub> =100mA, t <sub>p</sub> =20ms		1.50	1.70	
Reverse Current	I <sub>R</sub>	V <sub>R</sub> =5V			10	uA
Total Radiated Power	P <sub>O</sub>	I <sub>F</sub> =50mA DC	15.0	20.0		mW
		I <sub>F</sub> =100mA, t <sub>p</sub> =20ms		40.0		
Radiant Intensity	I <sub>E</sub>	I <sub>F</sub> =50mA DC		8		mW/sr
		I <sub>F</sub> =100mA, t <sub>p</sub> =20ms		16		
Peak Wavelength	λ <sub>P</sub>	I <sub>F</sub> =50mA DC	860	870	880	nm
Half Width	Δλ	I <sub>F</sub> =50mA DC		40		nm
Viewing Half Angle	θ <sub>1/2</sub>	I <sub>F</sub> =50mA DC		±60		deg.
Rise Time	t <sub>r</sub>	I <sub>F</sub> =50mA DC		15		ns
Fall Time	t <sub>f</sub>	I <sub>F</sub> =50mA DC		10		ns

‡Total Radiated Power is measured by Photodyne #500

‡Radiant Intensity is measured by Tektronix J-6512.