

# L870F-06-50 Infrared LED Lamp for High Current Drive

L870F-06-50 is an AlGaAs LED mounted on a lead frame with a clear epoxy lens.

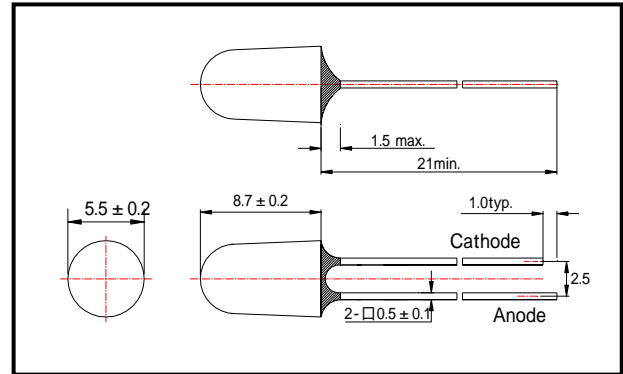
On forward bias it emits a spectral band of radiation, which peaks at 850nm.

These devices are intended to be operated at pulsed current of 1A under typical 3.4V for stable long life.

## ◆ Specifications

|                     |                    |
|---------------------|--------------------|
| 1) Product Name     | Infrared LED Lamp  |
| 2) Type No.         | L870F-06-50        |
| 3) Chip             |                    |
| (1) Chip Material   | AlGaAs             |
| (2) Chip Dimension  | 500umx500um        |
| (3) Peak Wavelength | 870nm typ.         |
| 4) Package          |                    |
| (1) Type            | Φ5mm 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     | PD     | 150                 | mW   | Ta=25°C             |
| Forward Current       | IF     | 100                 | mA   | Ta=25°C             |
| Pulse Forward Current | IFP    | 1500                | mA   | Ta=25°C             |
| Reverse Voltage       | VR     | 10                  | V    | Ta=25°C             |
| Operating Temperature | TOPR   | -30 ~ +85           | °C   |                     |
| Storage Temperature   | TSTG   | -30 ~ +100          | °C   |                     |
| Soldering Temperature | TSOL   | 260                 | °C   |                     |

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

‡Soldering condition: Soldering condition must be completed within 3 seconds at 260°C

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

| Item                   | Symbol | Condition         | Minimum | Typical | Maximum | Unit  |
|------------------------|--------|-------------------|---------|---------|---------|-------|
| Forward Voltage        | VF     | IF=50mA DC        |         | 1.43    | 1.50    | V     |
| Pulsed Forward Voltage | VF     | IFP=1A            |         | 3.4     | 4.0     | V     |
| Reverse Current        | IR     | VR=10V            |         |         | 10      | uA    |
| Total Radiated Power   | PO     | IF=50mA DC        | 18.0    | 22.0    |         | mW    |
|                        |        | IF=100mA, tp=20ms |         | 44.0    |         |       |
| Radiant Intensity      | IE     | IF=50mA DC        | 90      | 130     |         | mW/sr |
|                        |        | IF=100mA, tp=20ms |         | 260     |         |       |
| Peak Wavelength        | λP     | IF=50mA DC        | 860     | 870     | 880     | nm    |
| Half Width             | Δλ     | IF=50mA DC        |         | 40      |         | nm    |
| Viewing Half Angle     | θ 1/2  | IF=50mA DC        |         | ±8      |         | deg.  |
| Rise Time              | tr     | IF=50mA DC        |         | 15      |         | ns    |
| Fall Time              | tf     | IF=50mA DC        |         | 10      |         | ns    |

‡Total Radiated Power is measured by Photodyne #500

‡Radiant Intensity is measured by Tektronix J-6512.