

# L870-33UP (LN870-33UP) Infrared LED Lamp

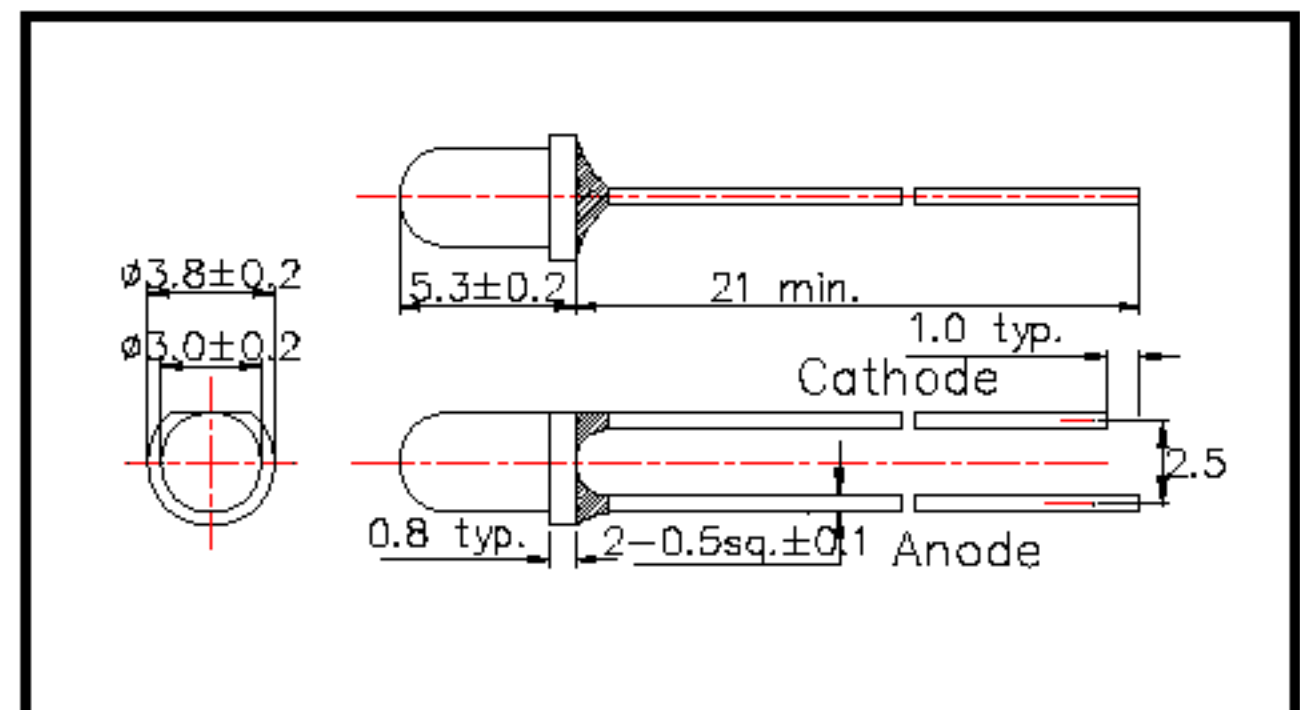
L870-33UP is an AlGaAs LED mounted on a lead frame with a clear epoxy lens.

On forward bias it emits a spectral band of radiation, which peaks at 870nm.

### ◆ Specifications

|                     |                    |
|---------------------|--------------------|
| 1) Product Name     | Infrared LED Lamp  |
| 2) Type No.         | L870-33UP          |
| 3) Chip             |                    |
| (1) Chip Material   | AlGaAs             |
| (2) Chip Size       | 0.4mm*0.4mm        |
| (3) Peak Wavelength | 870nm typ.         |
| 4) Package          |                    |
| (1) Type            | Φ3mm clear molding |
| (2) Resin Material  | Epoxy Resin        |

### ◆ 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 |
| Operating Temperature | T <sub>OPR</sub> | -30 ~ +85           | °C   |                      |
| Storage Temperature   | T <sub>STG</sub> | -30 ~ +100          | °C   |                      |
| Soldering Temperature | T <sub>SOL</sub> | 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 [T<sub>a</sub>=25°C]

| Item                 | Symbol           | Condition                                   | Minimum | Typical | Maximum | Unit  |
|----------------------|------------------|---|---------|---------|---------|-------|
| Forward Voltage      | V <sub>F</sub>   | I <sub>F</sub> =50mA DC                     |         | 1.50    | 1.70    | V     |
|                      |                  | I <sub>F</sub> =100mA, t <sub>p</sub> =20ms |         | 1.55    | 1.90    |       |
| 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                     | 18.0    | 22.0    |         | mW    |
|                      |                  | I <sub>F</sub> =100mA, t <sub>p</sub> =20ms |         | 44.0    |         |       |
| Radiant Intensity    | I <sub>E</sub>   | I <sub>F</sub> =50mA DC                     | 25      | 50      |         | mW/sr |
|                      |                  | I <sub>F</sub> =100mA, t <sub>p</sub> =20ms |         | 100     |         |       |
| 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                     |         | ±15     |         | 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.

### MUEVO-Vertrieb

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