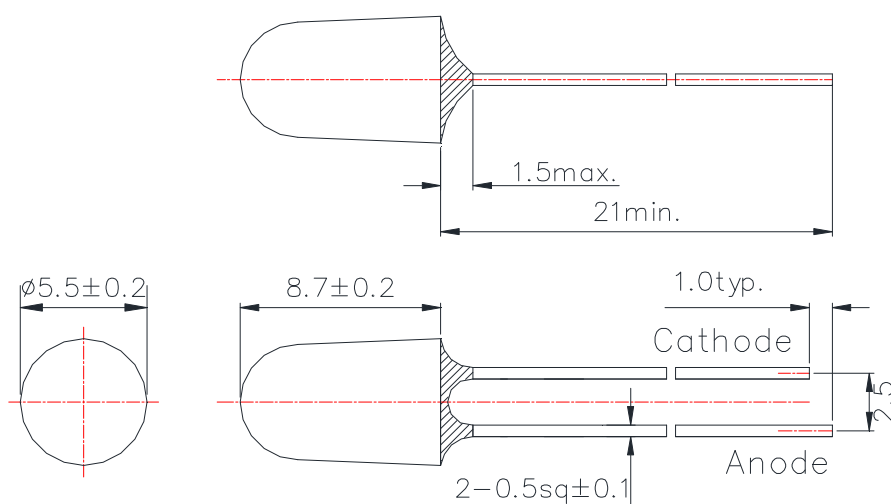


# L870D-06

## Infrared LED Lamp

### Outline and Internal Circuit



(Unit : mm)

### Features

- Chip Material : AlGaAs
- Chip Dimension : 350um \* 350um
- Number of Chips : 1pce
- Peak Wavelength : 870nm typ.
- Package Type : .5mm clear molding
- Lead Frame : Soldered (Lead Free)
- Lens : Epoxy Resin

Absolute Maximum Ratings (Tc=25°C)

| Item                  | Symbol | Ratings    | Unit |
|-----------------------|--------|------------|------|
| Power Dissipation     | PD     | 200        | mW   |
| Forward Current       | IF     | 100        | mA   |
| Pulse Forward Current | IFP    | 1000       | mA   |
| Reverse Voltage       | VR     | 5          | V    |
| Thermal Resistance    | Rthjs  | 190        | K/W  |
| Junction Temperature  | Tj     | 120        | °C   |
| Operating Temperature | Topr   | -40 ~ +100 | °C   |
| Storage Temperature   | Tstg   | -40 ~ +100 | °C   |

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

‡Soldering condition : Refer to technical support information on the website.

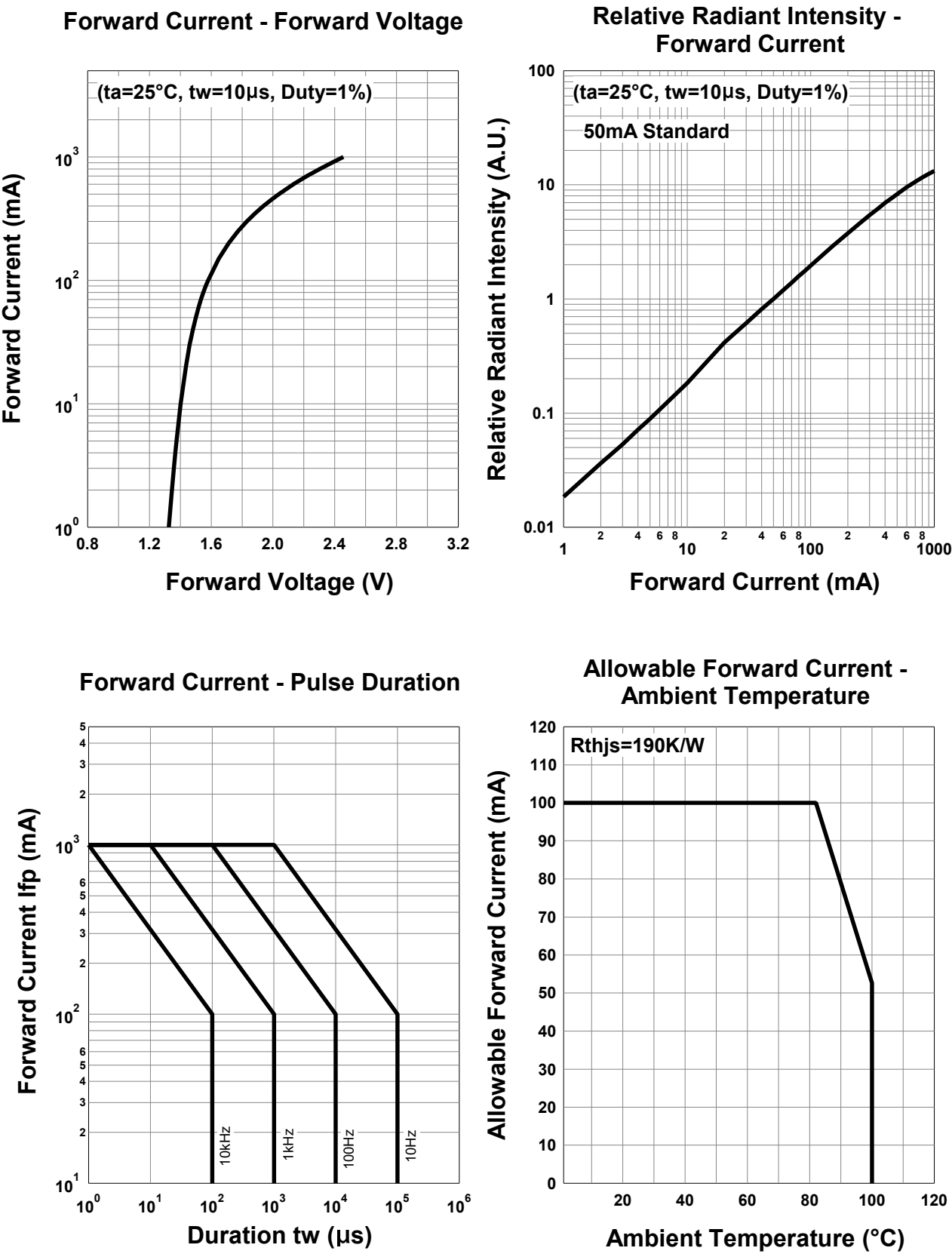
Optical and Electrical Characteristics (Tc=25°C) (\*: 100% testing, \*\*: reference value)

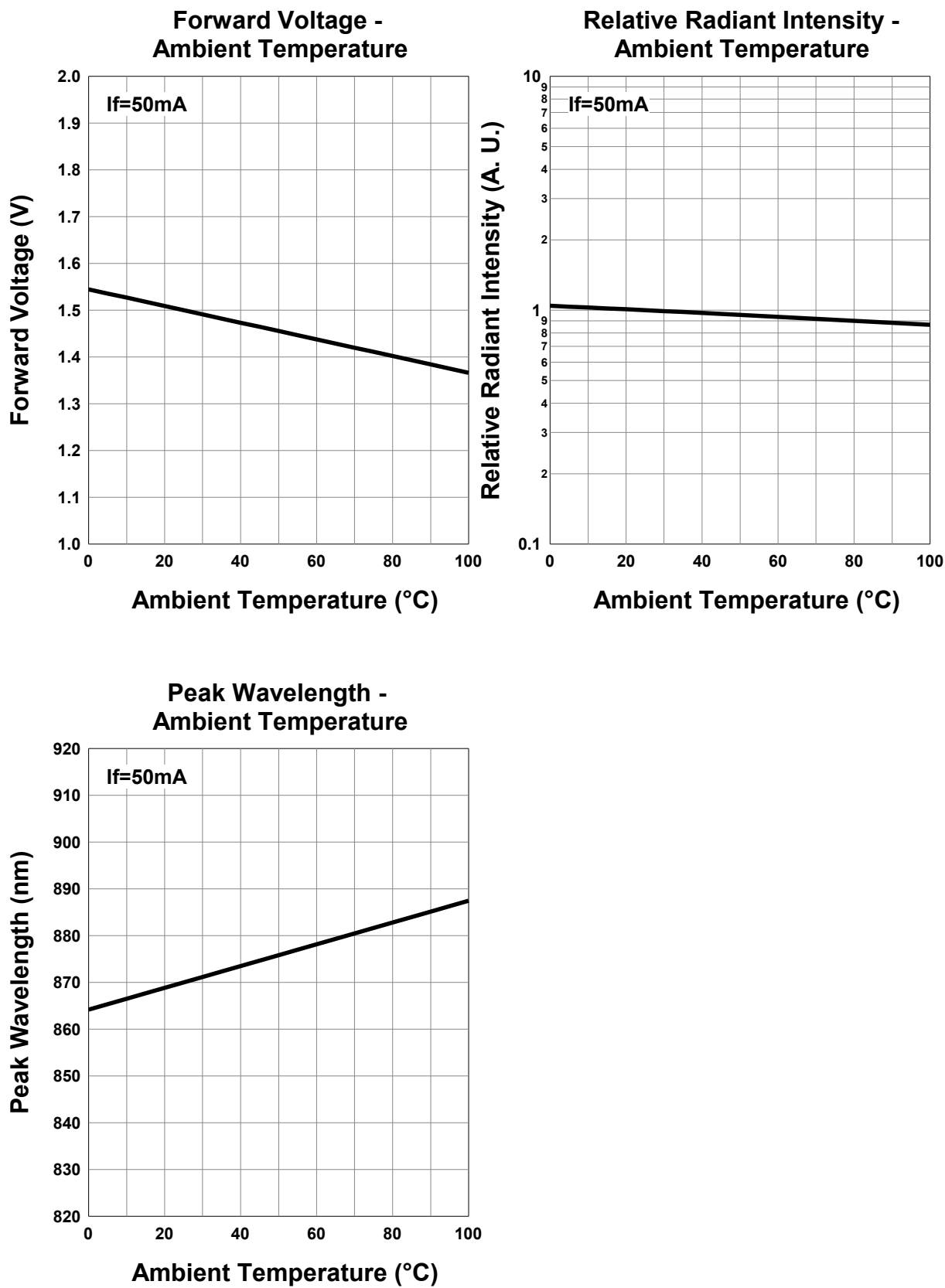
| Parameter            | Symbol | Min | Typ  | Max | Unit  | Test Condition |
|----------------------|--------|-----|------|-----|-------|----------------|
| Forward Voltage      | VF     |     | 1.5  | 2.0 | V     | IF=50mA*       |
|                      | VFP    |     | 2.4  |     |       | IFP=1A**       |
| Reverse Current      | IR     |     |      | 10  | uA    | VR=5V*         |
| Total Radiated Power | PO     | 21  | 30   |     | mW    | IF=50mA*       |
|                      |        |     | 400  |     |       | IFP=1A**       |
| Radiant Intensity    | IE     |     | 470  |     | mW/sr | IF=50mA**      |
|                      |        |     | 6300 |     |       | IFP=1A**       |
| Peak Wavelength      | λp     | 860 |      | 880 | nm    | IF=50mA*       |
| Half Width           | Δλ     |     | 30   |     | nm    | IF=50mA**      |
| Viewing Half Angle   | θ1/2   |     | ±3   |     | deg.  | IF=50mA**      |
| Rise Time            | tr     |     | 10   |     | ns    | IF=50mA**      |
| Fall Time            | tf     |     | 10   |     | ns    | IF=50mA**      |

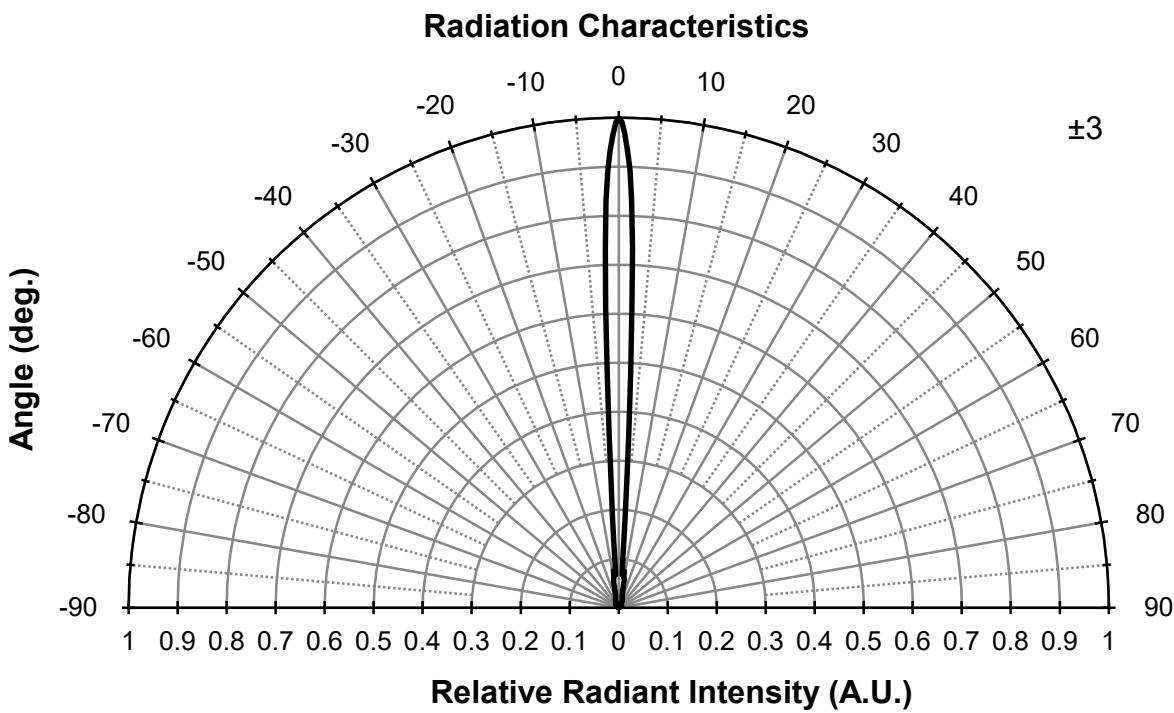
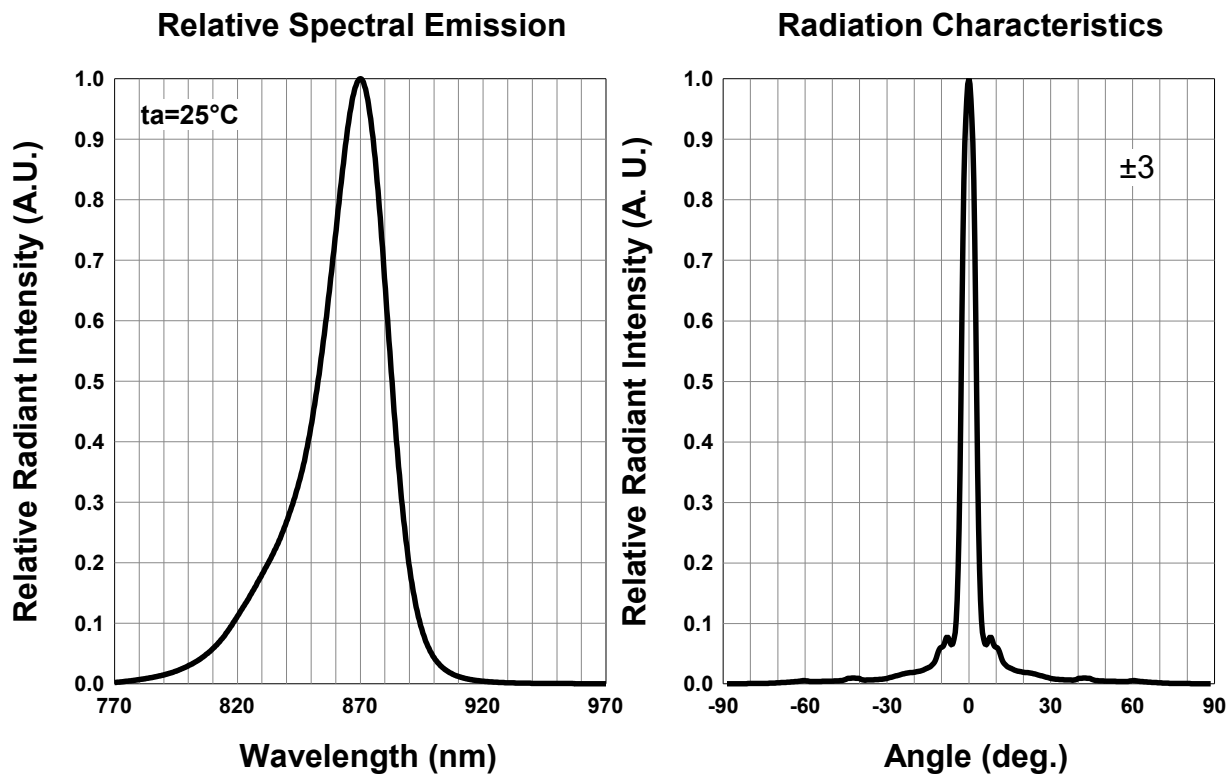
‡ Radiated Power is measured by S3584-08.

‡ Radiant Intensity is measured by CIE127-2007 Condition B. (used the updated measurement jig in 2024)

Typical Characteristic Curves







## Disclaimer

Product specifications and data shown in this product catalog are subject to change without notice for the purposes of improving product performance, reliability, design, or otherwise.

Product data and parameters in this catalog are typical values based on reasonably up-to-date measurements.

Product data and parameters may vary by user application and over time.

Products shown in this catalog are intended to be used for general electronic equipment. Products are not guaranteed for applications where product malfunction or failure may cause personal injury or death, including but not limited to life-supporting / saving devices, medical devices, safety devices, airplanes, aerospace equipment, automobiles, traffic control systems, and nuclear reactor control systems.

## Technical Support Information

The product is manufactured by USHIO Inc. and the spec information is also from USHIO Inc.

