

# Data Sheet

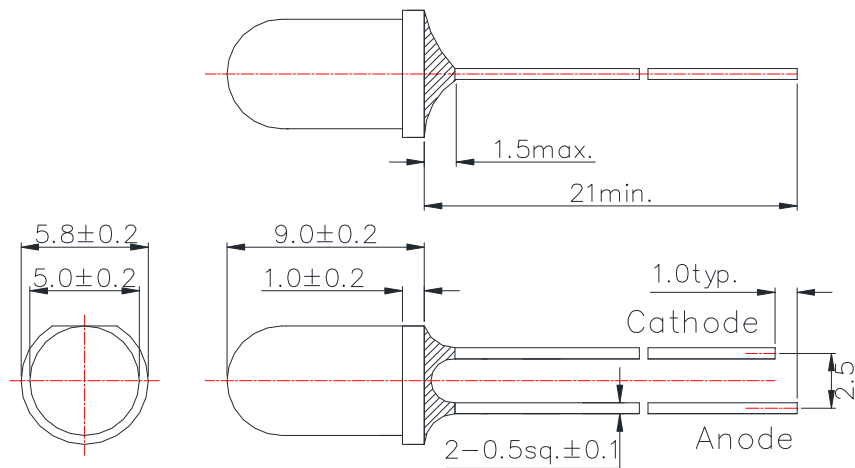
PRELIMINARY

## L1550S-01

Infrared LED Lamp

USHIO

### Outline and Internal Circuit



(Unit : mm)

### Features

- Chip Material : InGaAsP
- Chip Dimension : 300um \*300um
- Number of Chips : 1pce
- Peak Wavelength : 1550nm typ.
- Package Type :  $\phi 5$ mm clear molding
- Lead Frame : Soldered (Lead Free)
- Lens : Epoxy Resin

### Application

## Absolute Maximum Ratings (Tc=25°C)

| Item                  | Symbol | Ratings    | Unit |
|-----------------------|--------|------------|------|
| Power Dissipation     | PD     | 130        | mW   |
| Forward Current       | IF     | 100        | mA   |
| Pulse Forward Current | IFP    | 1000       | mA   |
| Reverse Voltage       | VR     | 5          | V    |
| Thermal Resistance    | Rthja  | 250        | K/W  |
| Junction Temperature  | Tj     | 120        | °C   |
| Operating Temperature | Topr   | -40 ~ +100 | °C   |
| Storage Temperature   | Tstg   | -40 ~ +100 | °C   |
| Soldering Temperature | TSOL   | 265        | °C   |

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

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

## Optical and Electrical Characteristics (Tc=25°C)

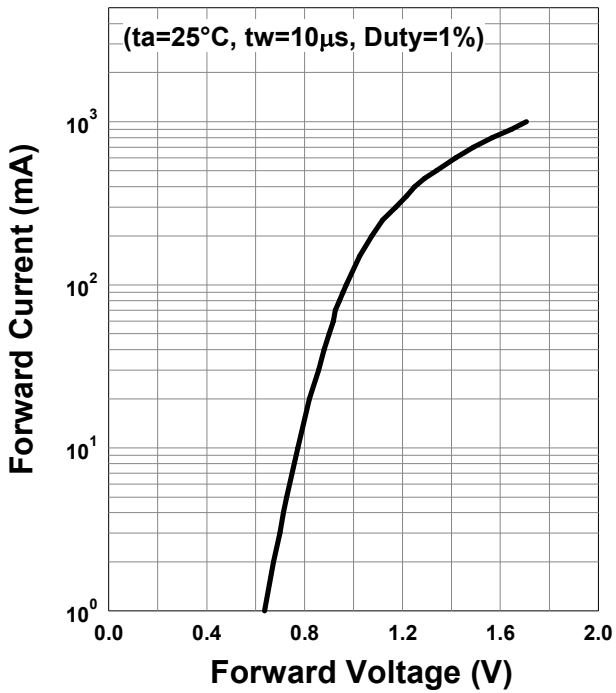
| Parameter            | Symbol          | Min  | Typ      | Max  | Unit  | Test Condition |
|----------------------|-----------------|------|----------|------|-------|----------------|
| Forward Voltage      | VF              |      | 0.9      | 1.3  | V     | IF=50mA        |
|                      | VFP             |      | 1.7      |      |       | IFP=1A         |
| Total Radiated Power | PO              |      | 3.8      |      | mW    | IF=50mA        |
|                      |                 |      | 21       |      |       | IFP=1A         |
| Radiant Intensity    | IE              |      | 58       |      | mW/sr | IF=50mA        |
|                      |                 |      | 320      |      |       | IFP=1A         |
| Peak Wavelength      | $\lambda_p$     | 1500 |          | 1600 | nm    | IF=50mA        |
| Half Width           | $\Delta\lambda$ |      | 120      |      | nm    | IF=50mA        |
| Viewing Half Angle   | $\theta_{1/2}$  |      | $\pm 16$ |      | deg.  | IF=50mA        |
| Rise Time            | tr              |      | 30       |      | ns    | IF=50mA        |
| Fall Time            | tf              |      | 70       |      | ns    | IF=50mA        |

‡ Radiated Power is measured by G8370-85.

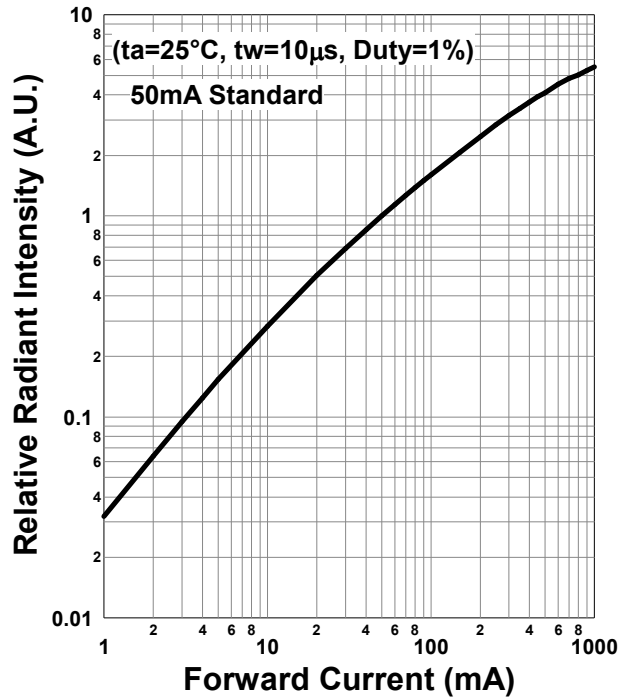
‡ Radiant Intensity is measured by Ando Optical Multi Meter AQ2140 & AQ2742.

## Typical Characteristic Curves

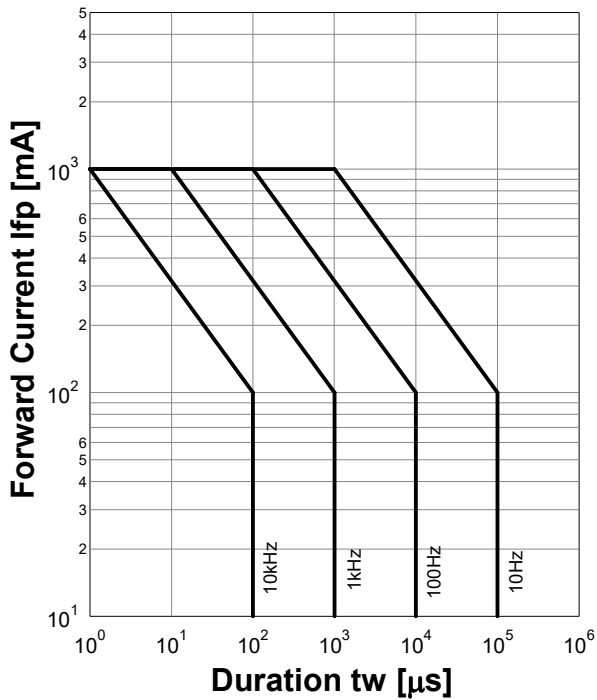
### Forward Current - Forward Voltage



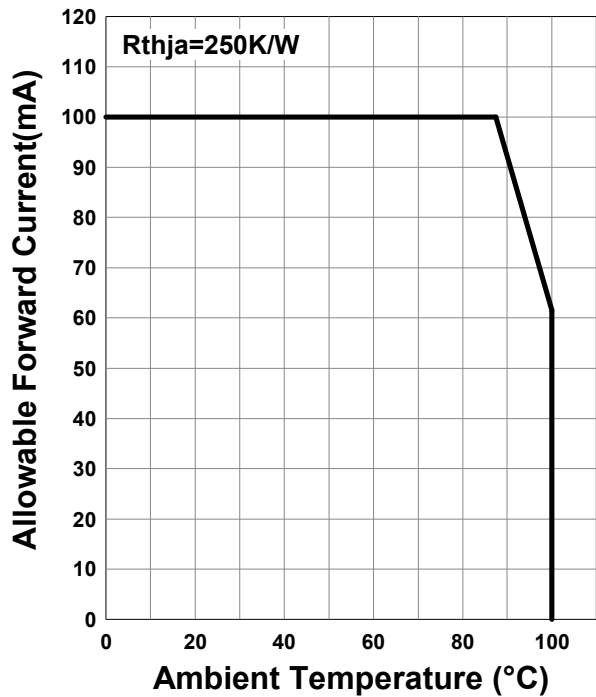
### Relative Radiant Intensity - Forward Current



### Forward Current - Pulse Duration

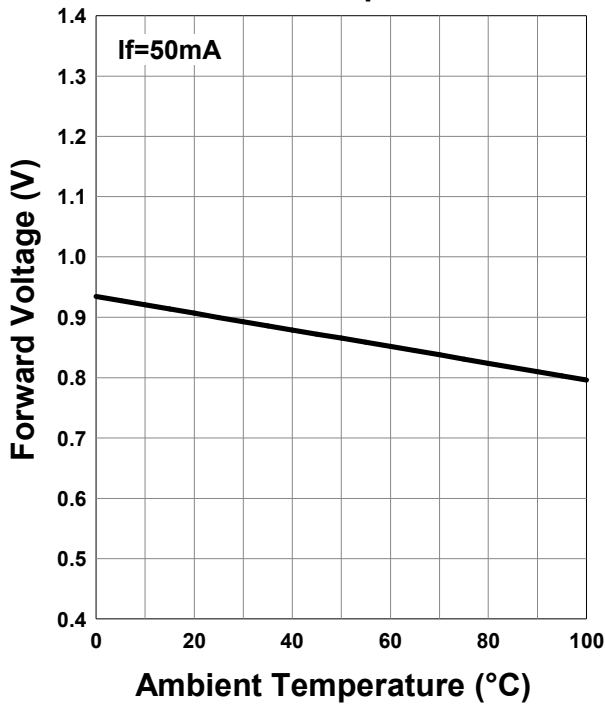


### Allowable Forward Current - Ambient Temperature

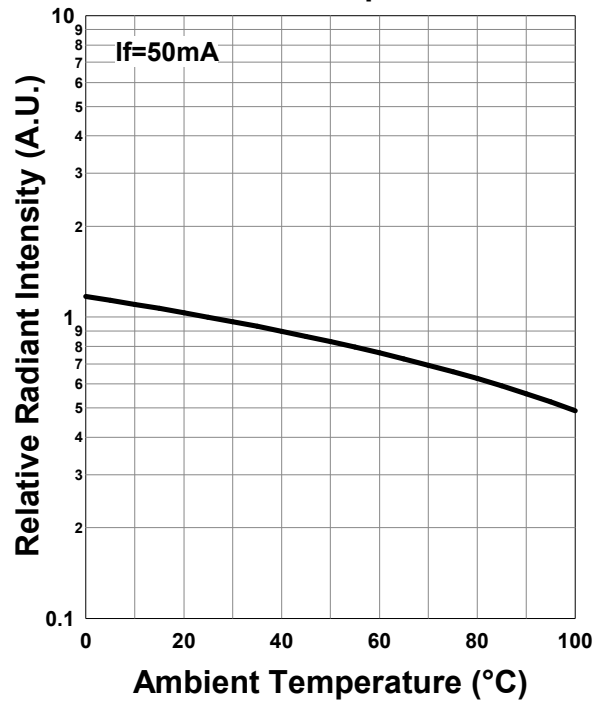


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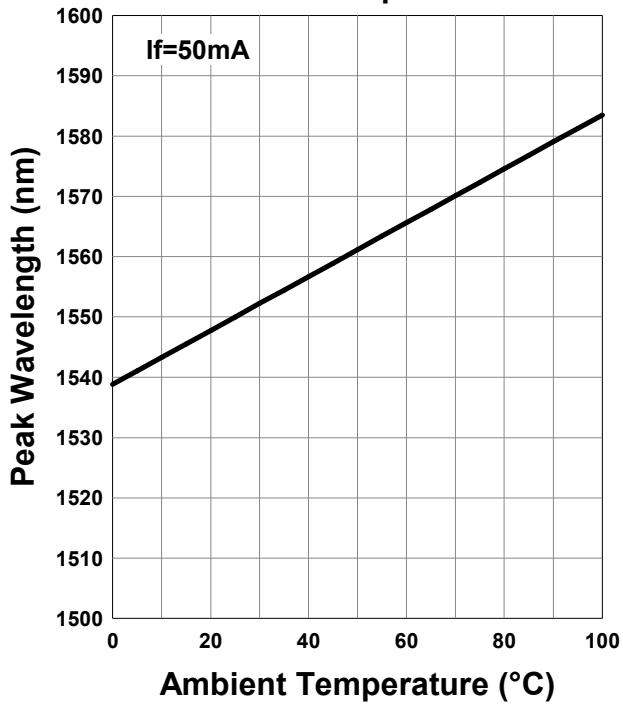
**Forward Voltage - Ambient Temperature**



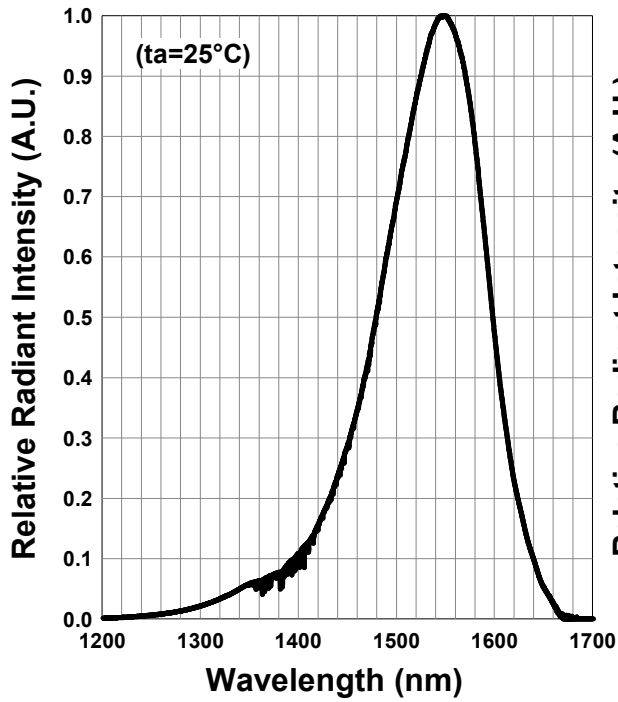
**Relative Radiant Intensity - Ambient Temperature**



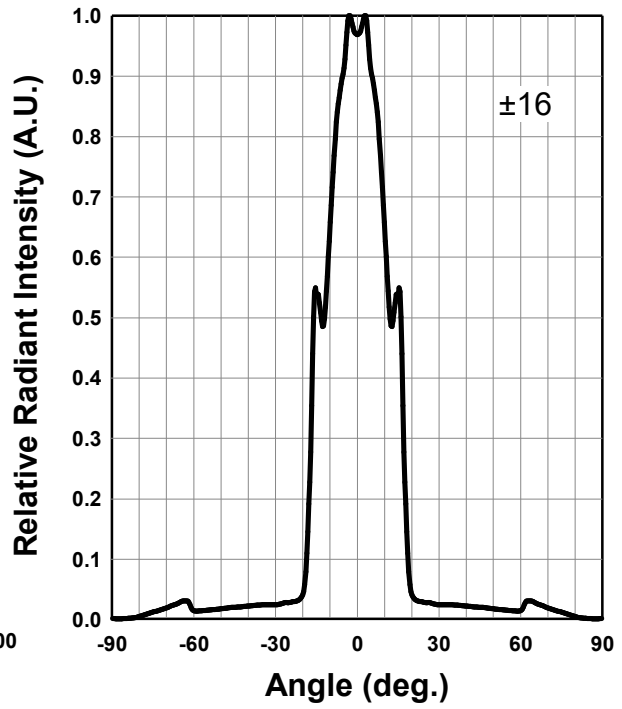
**Peak Wavelength - Ambient Temperature**



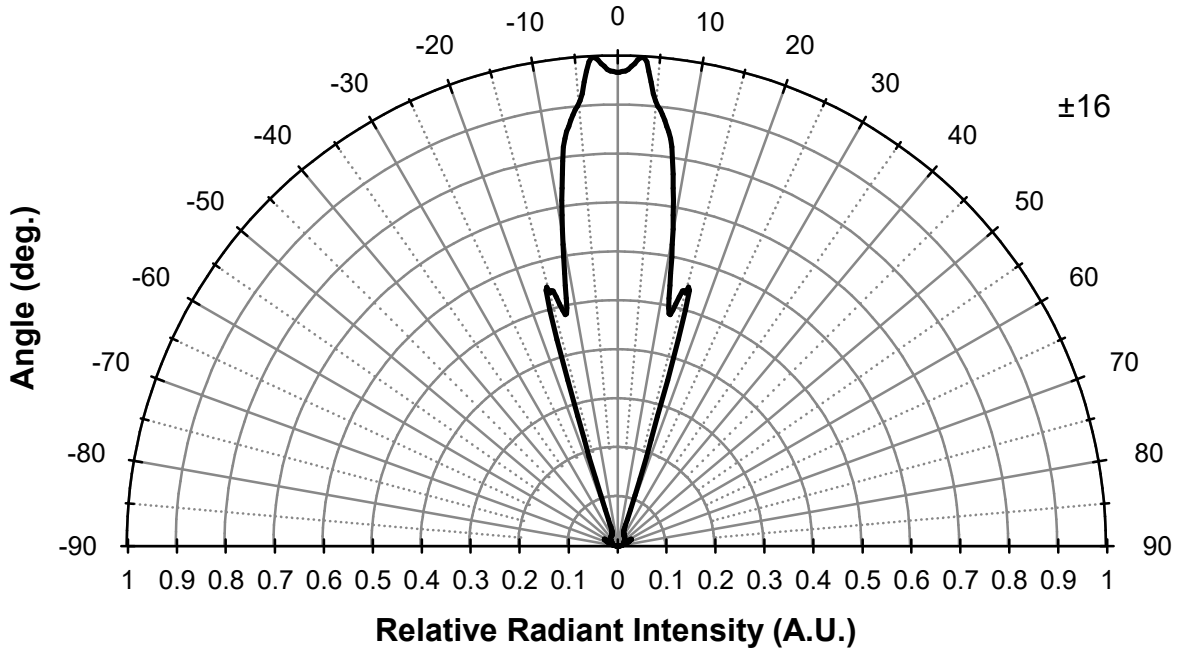
### Relative Spectral Emission



### Radiation Characteristics



### Radiation Characteristics



## Disclaimer

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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.

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\*Effective July 2016, Ushio Epitex Inc. is now USHIO OPTO SEMICONDUCTORS, INC.