Marubeni

Data Sheet

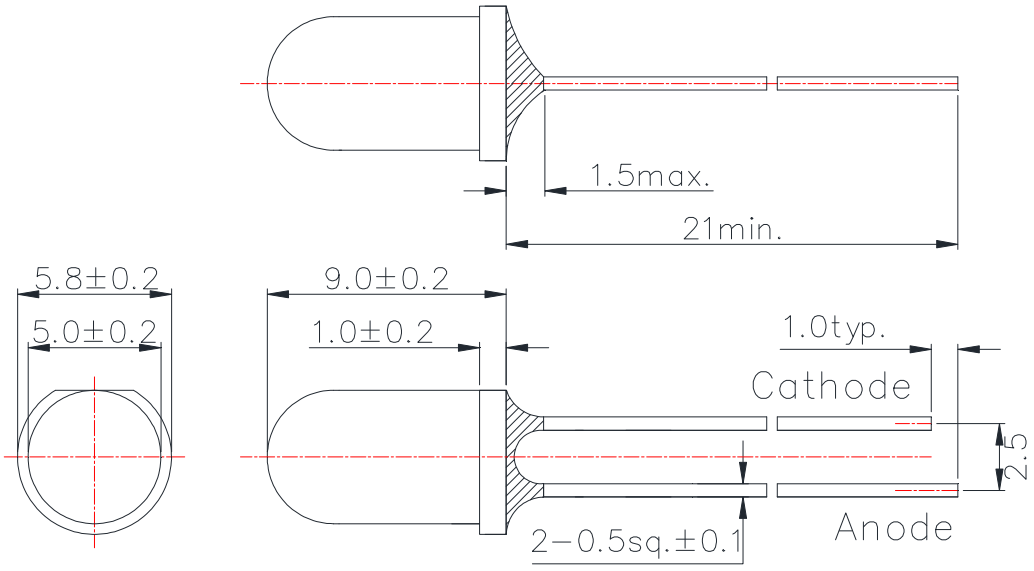
2021.01

PRELIMINARY

# L1300D-01

Infrared LED Lamp

## Outline and Internal Circuit




(Unit : mm)

## Features

· Chip Material : InGaAsP

· Chip Dimension : 350um * 350um

· Number of Chips : 1pce

· Peak Wavelength : 1300nm typ.

· Package Type : ·5mm clear molding

· Lead Frame : Soldered (Lead Free)

· Lens : Epoxy Resin

Marubeni

# L1300D-01

## 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 | Rthjs | 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)

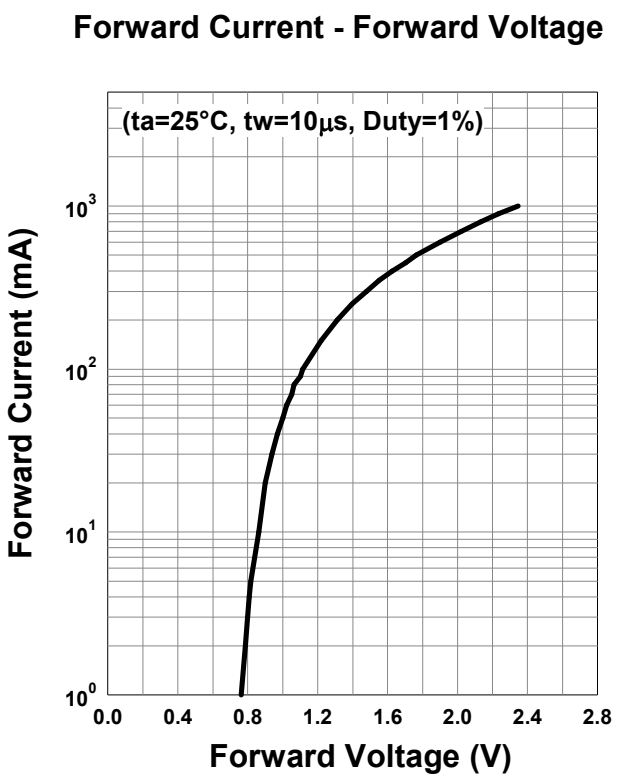
(*: 100% testing, **: reference value)

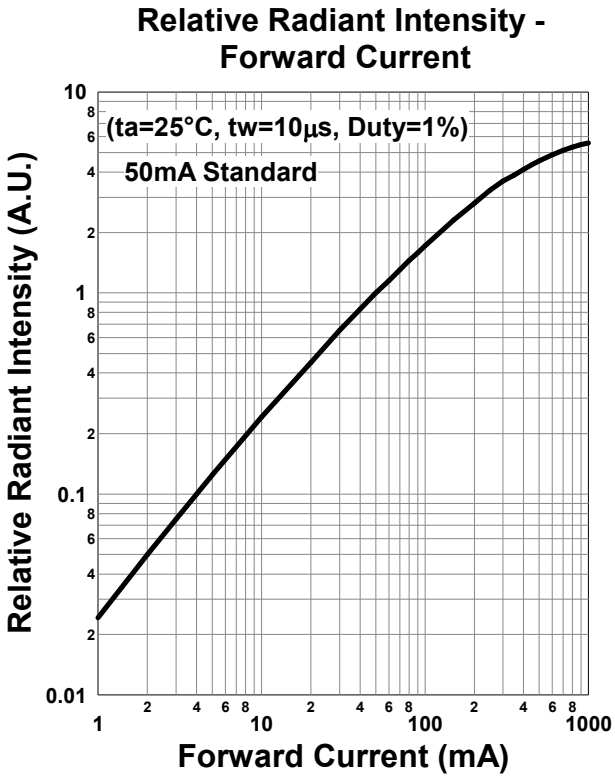
| Parameter | Symbol | Min | Typ | Max | Unit | Test Condition |
|---|---|---|---|---|---|---|
| Forward Voltage | VF | | 1.0 | 1.3 | V | IF=50mA* |
| | VFP | | 2.3 | | | IFP=1A** |
| Reverse Current | IR | | | 10 | uA | VR=5V* |
| Total Radiated Power | PO | 6.9 | 10.5 | | mW | IF=50mA* |
| | | | 58 | | | IFP=1A** |
| Radiant Intensity | IE | | 82 | | mW/sr | IF=50mA** |
| | | | 450 | | | IFP=1A** |
| Peak Wavelength | λp | 1270 | | 1330 | nm | IF=50mA* |
| Half Width | Δλ | | 80 | | nm | IF=50mA** |
| Viewing Half Angle | θ1/2 | | ±11 | | deg. | IF=50mA** |
| Rise Time | tr | | 60 | | ns | IF=50mA** |
| Fall Time | tf | | 30 | | ns | IF=50mA** |

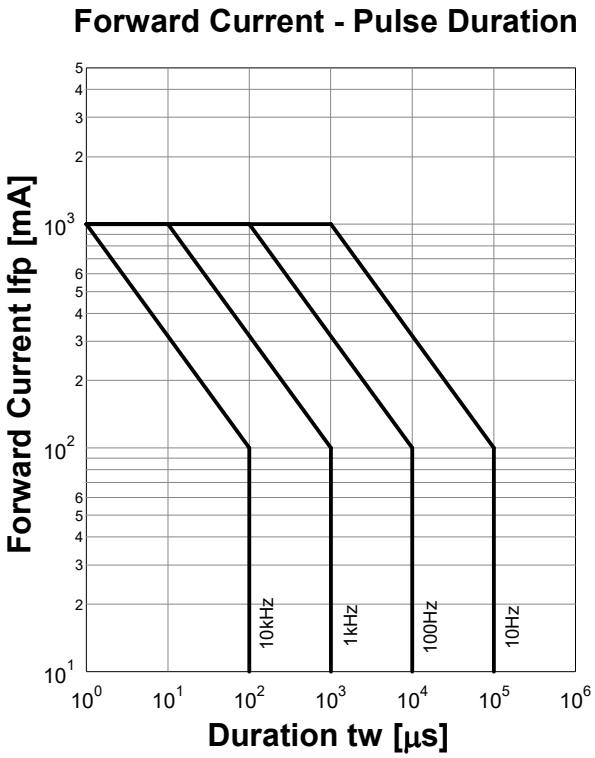
‡ Radiated Power is measured by G8370-85.

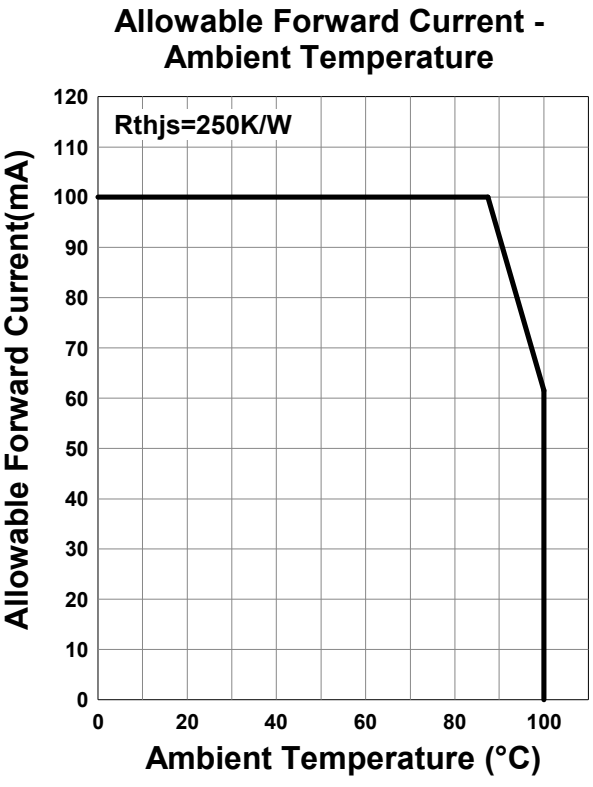
‡ Radiant Intensity is measured by Ando Optical Multi Meter AQ2140 & AQ2742.

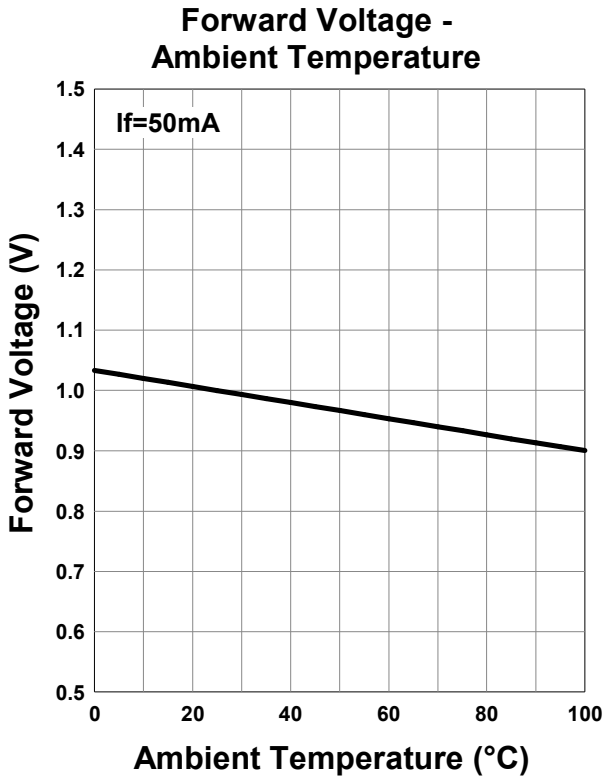
Typical Characteristic Curves

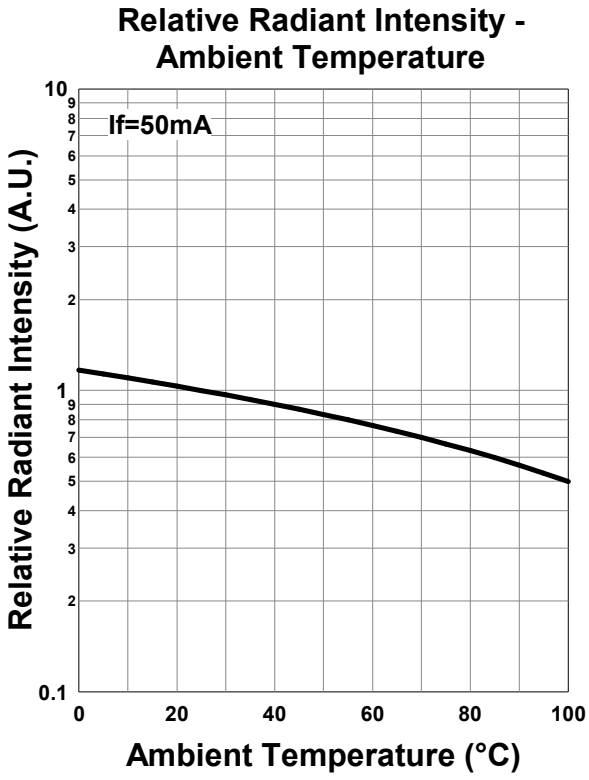


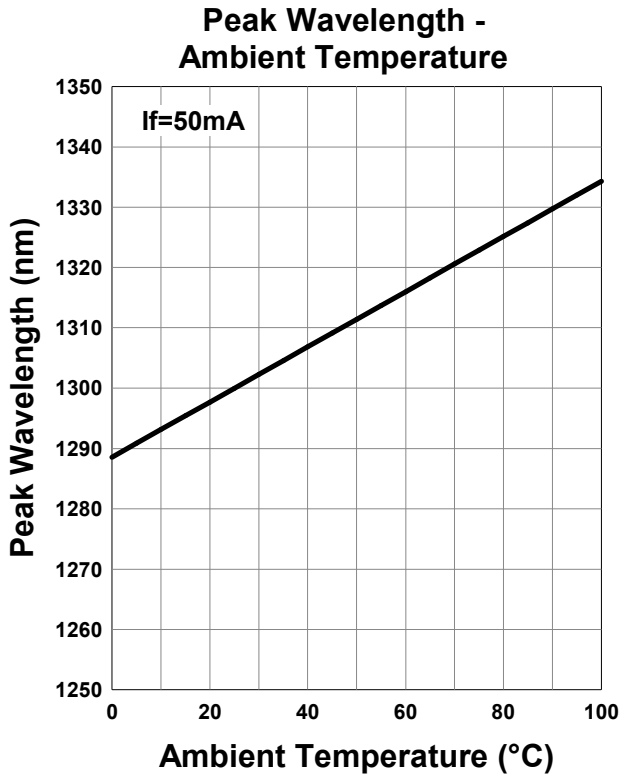




Forward Voltage -
Ambient Temperature
If=50mA
Forward Voltage (V)
1.5
1.4
1.3
1.2
1.1
1.0
0.9
0.8
0.7
0.6
0.5
0
20
40
60
80
100
Ambient Temperature (°C)

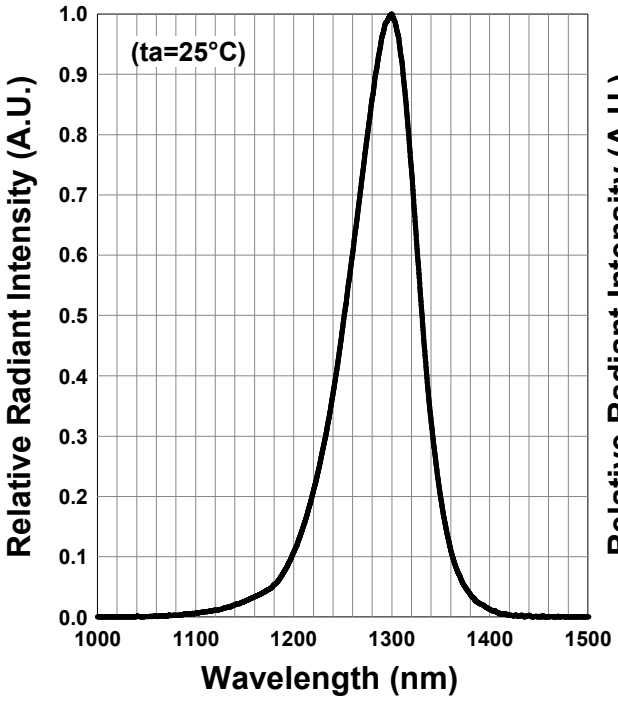

Relative Radiant Intensity -
Ambient Temperature
If=50mA
Relative Radiant Intensity (A.U.)
10
9
8
7
6
5
4
3
2
1
0.1
0
20
40
60
80
100
Ambient Temperature (°C)


Peak Wavelength -
Ambient Temperature
If=50mA
Peak Wavelength (nm)
1350
1340
1330
1320
1310
1300
1290
1280
1270
1260
1250
0
20
40
60
80
100
Ambient Temperature (°C)

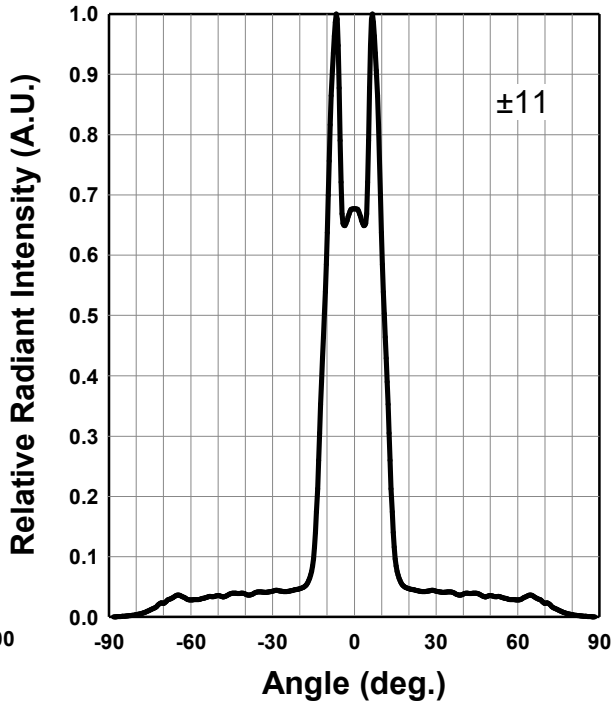
Marubeni

# L1300D-01

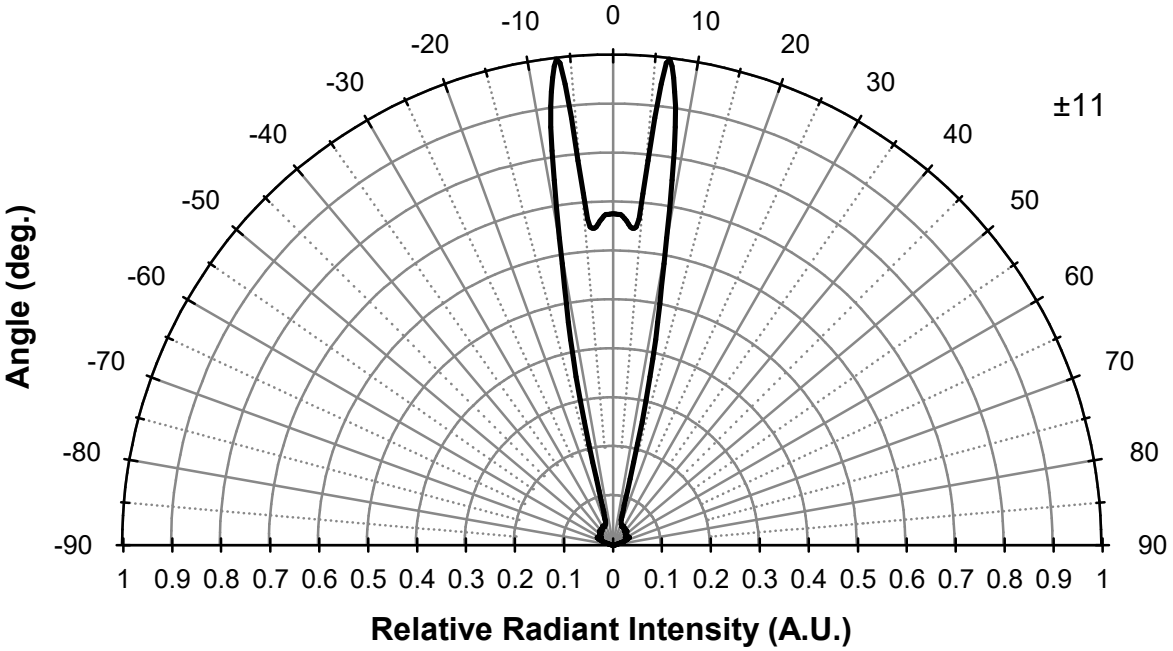
## Relative Spectral Emission




## Radiation Characteristics




## Radiation Characteristics



## 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.