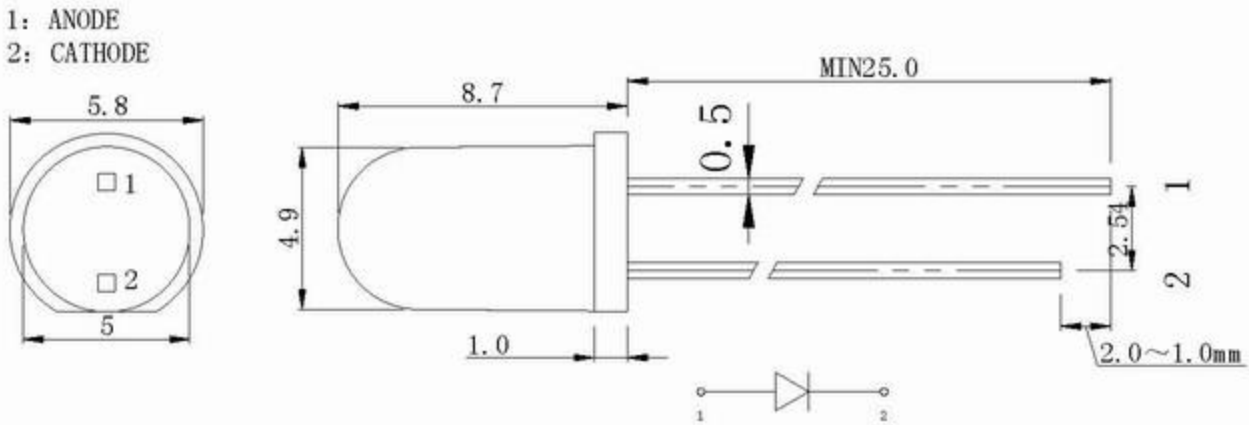
### Features

- Mechanically and spectrally matchend to the phototransistor.
- Rohs compliant.

### Package Dimensions

### Description

This devices are made with TS GaAs.




| Torlerance Grade | Dimension Torlerance (UNIT:mm) | | | |
|---|---|---|---|---|
| | 0.5~3 | 3~6 | 6~30 | 30~120 |
| Medium(m) | ±0.1 | ±0.2 | ±0.3 | ±0.5 |

| Chip | | Lens Color |
|---|---|---|
| Material | Emitting Color | Water Clear |
| GaAs | / | |

## Selection Guide

| Part No | Launch Apart (m) IF=50mA | | Viewing Angle |
|---|---|---|---|
| | Min | Typ | 2θ1/2 |
| 503IR3C-L3 | -- | 20 | 15 |

Note:

1. 2θ1/2 is the angle from optical centerline where the luminous intensity is 1/2 the optical centerline value.

2.Tolerance of measurement of luminous intensity±15%.

## Electrical / Optical Characteristics at TA=25°C

| Item | Symbol | Min | Typ | Units | Test Conditions |
|---|---|---|---|---|---|
| Forward Voltage | VF | 1.2 | 1.5 | V | IF=50mA |
| Reverse Current | IR | -- | 10 | uA | |
| Peak Spectral Wavelength | λ D | -- | 940 | nm | |
| Spectral Bandwidth | Δ λ 1/2 | -- | 50 | nm | |
| | | | | | |

Note:

1.Tolerance of measurement of forward voltage±0.1V.

2.Tolerance of measurement of peak Wavelength±2.0nm.

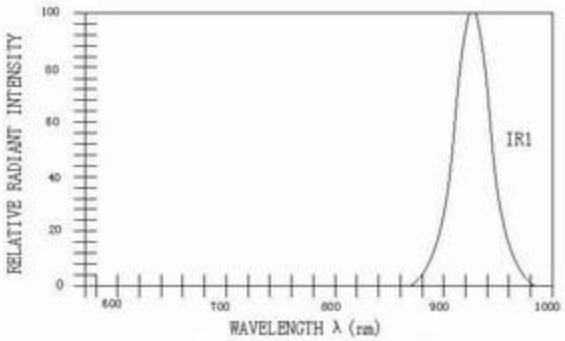
## Absolute Maximum ratings at Ta=25℃

| Parameter | Symbol | IR1 | Units |
|---|---|---|---|
| Power Dissipation | Pt | 100 | mW |
| DC Forward Current | IF | 50 | mA |
| Peak Forward Current[1] | $i_{FS}$ | 300 | mA |
| Operating Temperature | -30℃~80℃ | | |
| Storage Temperature | -30℃~80℃ | | |

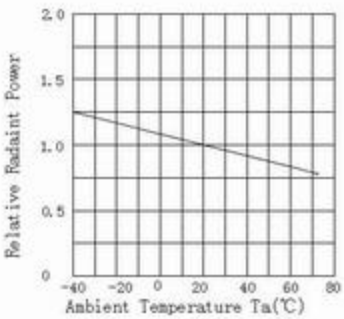
Note:

1.IFP Conditions：Pulse Width≤10msec

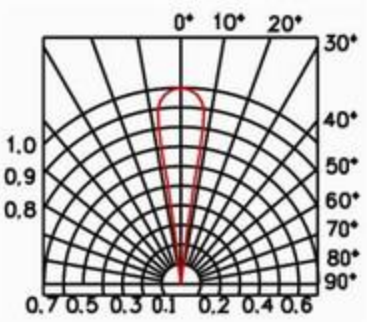
2.Tsol Conditions：3mm from the base of the epoxy bulb



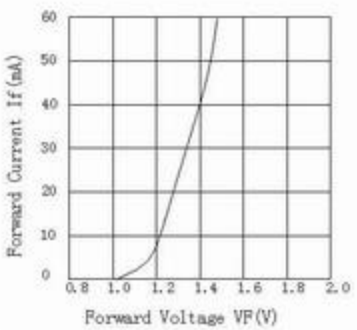

Forward Current vs. Forward Voltage



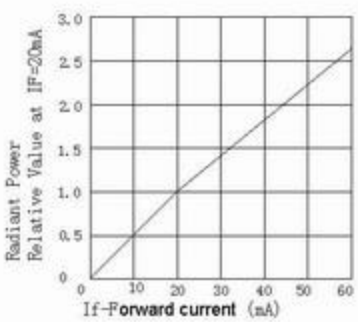

Radint Power Vs. Ambient Temperature




Spatial Distribution




Forward Current Vs. Forward Voltage




Radint Power Vs Forward Current

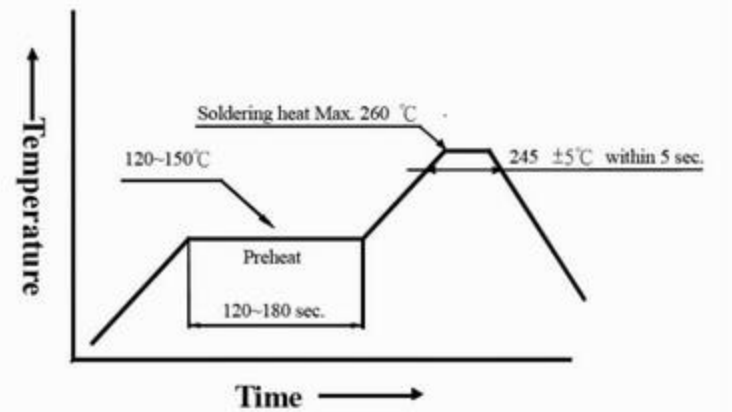
If special sorting is required (e.g.binning based on forward voltage or radiant intensity/luminous flux),the typical accuracy of the sorting process is as follows:

1. Radiant intensity/Luminous Flux:±15%.
2. Forward Voltage:±0.1V.

Note:Accuracy may depend on the sorting parameters.

## Soldering:

1. Manual Of Soldering
   The temperature of the iron tip should not be higher than 260℃(500℉) and Soldering within 3 seconds per solder-land is to be observed.
2. DIP soldering (Wave Soldering):
   Preheating:120℃~150℃,within 120~180 sec.
   Operation heating:245℃±5℃ within 5 sec.260℃(Max)
   Gradual Cooling (Avoid quenching).




## Handling:

Care must be taken not to cause to the epoxy resin portion of LED while it is exposed to high temperature.
Care must be taken not rub the epoxy resin portion of LED with hard or sharp article such as the sand blast and the metal hook.
Care must be taken there should be more than 3mm from jointing point to the epoxy resin.

## Notes for designing:

Care must be taken to provide the current limiting resistor in the circuit so as to drive the LED within the rated figures .Also caution should be taken not to overload LED with exorbitant voltage at the turning ON and OFF of the circuit.
When using the pulse drive care must be taken to keep the average current within the rated figures .Also the circuit should be designed so as be subjected to reverse voltage when turning off the LED.

## Storage:

In order to avoid the absorption of moisture . it is recommended to solder LED as soon as possible after unpacking the sealed envelope.

If the envelope is still packed to store it in the environment as following:
Temperature:-5℃~45℃(23℉~113℉)Humidity : RH 60% Max.