



HUIYUAN OPTO-ELECTRONIC CO.,LTD.

## TECHNOLOGY DATA SHEET & SPECIFICATIONS

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MODEL: 5013K3T-BA



### Features

- High reliability
- High radiant intensity
- Peak wavelength  $\lambda_p=940\text{nm}$
- Low forward voltage
- Pb free

### Descriptions

- HYLED Infrared Emitting Diode is a high intensity diode, molded in a blue transparent plastic package
- The device is spectrally matched with phototransistor, photodiode and infrared receiver module

### Usage Notes:

- Surge will damage the LED
- When using LED, it must use a protective resistor in series with DC current about 20mA

### Applications

- Free air transmission system
- Infrared remote control units with high power requirement
- Smoke detector
- Infrared applied system



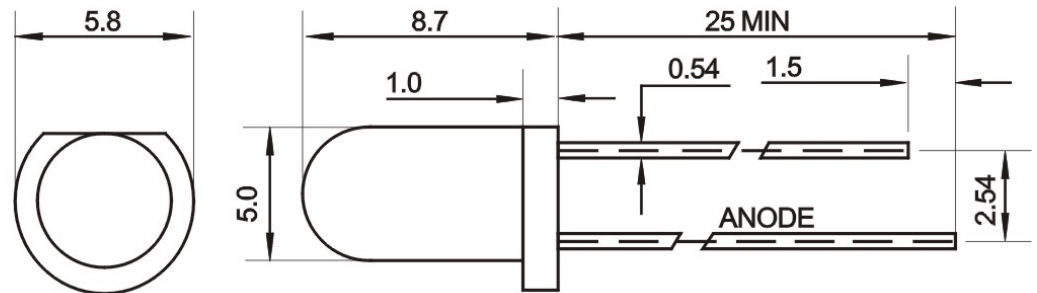
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### Device Selection Guide

| LED Part No. | Chip     |               | Lens Color       |
|--------------|----------|---------------|------------------|
|              | Material | Emitted Color |                  |
| 5013K3T-BA   | AlGaAs   | Infrared      | Blue Transparent |

### Package Dimensions



UNIT:mm

### Notes:

- \*Other dimensions are in millimeters, tolerance is 0.25mm except being specified.
- \*Protruded resin under flange is 1.5mm Max LED.
- \*Bare copper alloy is exposed at tie-bar portion after cutting.



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### Electro-Optical Characteristics (T<sub>a</sub>=25℃)

| Parameter                | Symbol            | Min. | Typ. | Max. | Unit  | Test Condition |
|--------------------------|-------------------|------|------|------|-------|----------------|
| Radiant intensity        | E <sub>e</sub>    | 4    | ---  | 12   | mW/Sr | IF=20mA(Note1) |
| Viewing Angle            | 2θ <sub>1/2</sub> | ---  | 30   | ---  | Deg   | (Note 2)       |
| Peak Emission Wavelength | λ <sub>p</sub>    | ---  | 940  | ---  | nm    | IF=20mA        |
| Spectral Line Half-Width | Δλ                | 15   | 20   | 25   | nm    | IF=20mA        |
| Forward Voltage          | V <sub>F</sub>    | 1.2  | ---  | 1.5  | V     | IF=20mA        |
| Reverse Current          | I <sub>R</sub>    | ---  | ---  | 10   | μA    | VR=5V          |

### Note:

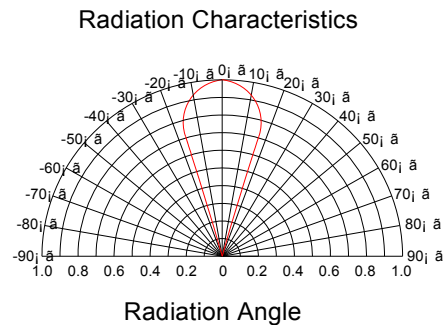
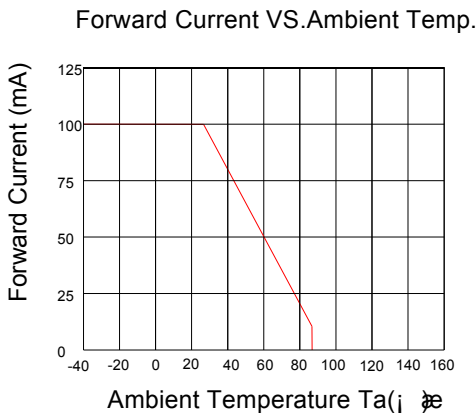
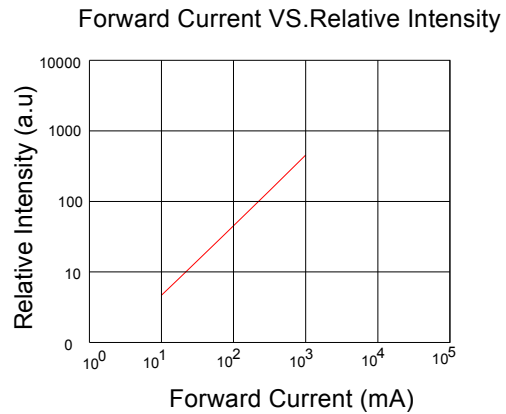
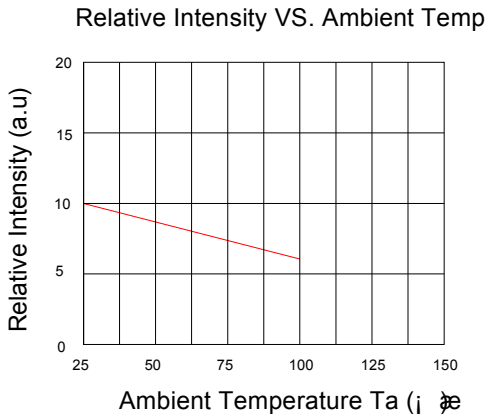
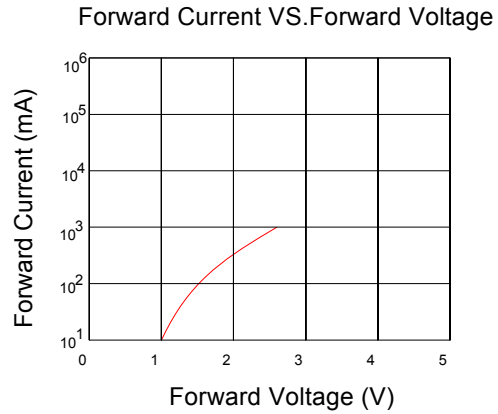
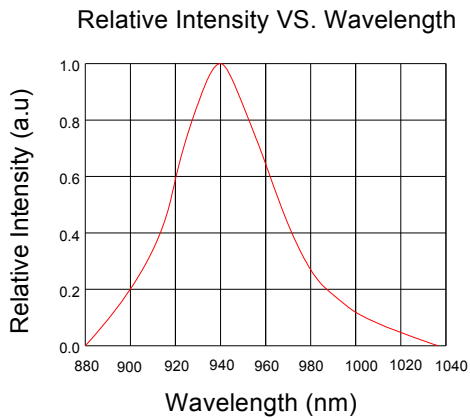
1. Luminous intensity is measured with a light sensor and filter combination that approximates the CIE eye-response curve.
2. θ<sub>1/2</sub> is the off-axis angle at which the luminous intensity is half the axial luminous intensity.



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Typical Electro-Optical Characteristics Curves





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### Notes

1. Above specification may be changed without notice. Hyled will reserve authority on material change for above specification.
2. When using this product, please observe the absolute maximum ratings and the instructions for using outlined in these specification sheets. Hyled assumes no responsibility for any damage resulting from use of the product which does not comply with the absolute maximum ratings and the instructions included in these specification sheets.
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