

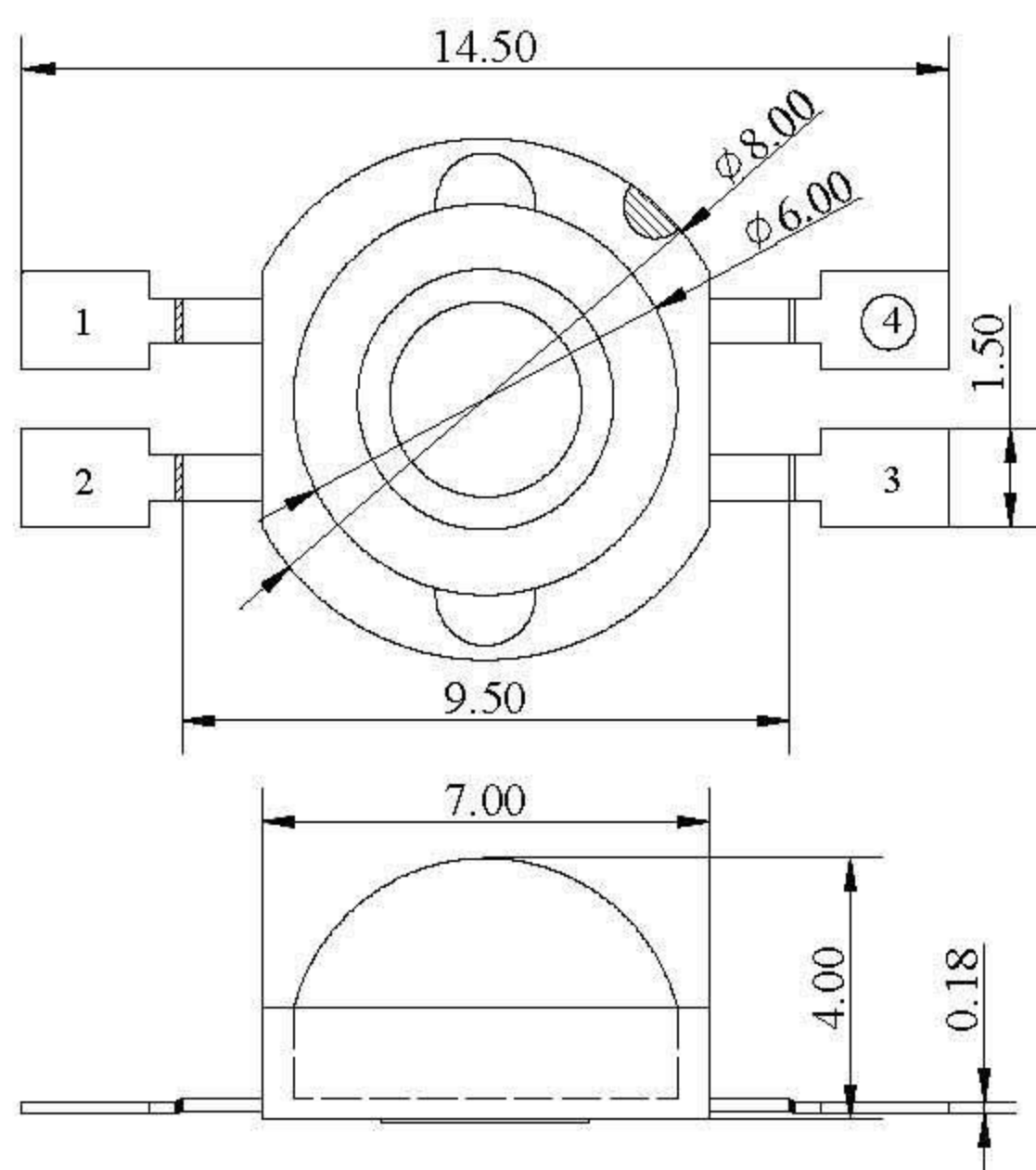
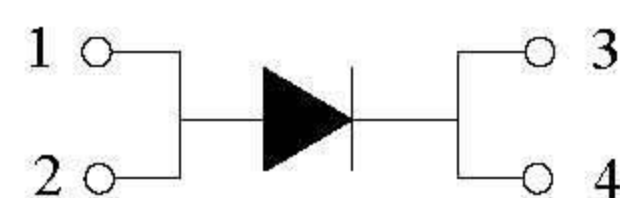
## < Features >

- \*Excellent Transiting Heat from LED Chip Operating under 1500mA
- \*High Luminous Output
- \*No UV

## < Typical Applications >

- \*Reading Lights
- \*Portable Flashlight
- \*Uplighters and Downlighters
- \*Garden lighting
- \*LCD Backlights/Light Guides
- \*General Lighting

## Package Dimensions

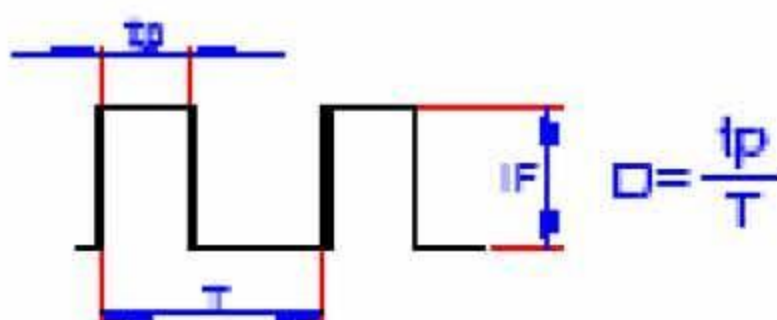


\* All dimensions are in mm. \*Tolerance : +/-0.25mm.

**Absolute Maximum Ratings at Ta=25°C :**

| Parameter                                                          | Rating                                                                  | Unit |
|--------------------------------------------------------------------|-------------------------------------------------------------------------|------|
| LED Junction Temperature                                           | 120                                                                     | °C   |
| Reverse Voltage                                                    | 5                                                                       | V    |
| D.C. Forward Current                                               | 1500                                                                    | mA   |
| Pulsed Forward Current ; $t_p \leq 100\mu s$ , Duty cycle=0.005)*1 | 2000                                                                    | mA   |
| Operating Temperature Range                                        | -40 to +75                                                              | °C   |
| Storage Temperature Range                                          | -40 to +105                                                             | °C   |
| Soldering Temperature                                              | Reflow Soldering: 260°C for 10 sec.<br>Hand Soldering: 350°C for 3 sec. |      |
| Electric Static Discharge Threshold (HBM)                          | 6000                                                                    | V    |

**Duty Cycle :**



**Notes:**

- 1、 Proper current derating must be observed to maintain junction temperature below the maximum .
- 2、 All products not sensitive to ESD damage(6000 Volts by HBM condition).
- 3、 Be careful with a powered up current limited power supply, because of current spikes during power up and/or connection. Best practice is to connect the LED then turn up the voltage gradually. People building their own power supplies should design for minimum current spikes during power up and connection.
- 4、 For best results the customer needs to provide proper control of the thermal path ,protect against electrical overstress conditions, and ensure that emitters are properly attached to the mcpcb/heat sink.

Characteristics at  $I_f=1500\text{mA}$ ,  $V_r=5\text{V}$  ( $T_a=25^\circ\text{C}$ ) :

| Parameter                                  |          | Symbol                | Values |      |      | Units                      |
|--------------------------------------------|----------|-----------------------|--------|------|------|----------------------------|
|                                            |          |                       | Min.   | Typ. | Max. |                            |
| Luminous Flux                              | FULL     | $\Phi_v$              | 113    | 150  | 248  | lm                         |
|                                            | Rank V   |                       | 113    | --   | 147  |                            |
|                                            | Rank W   |                       | 147    | --   | 191  |                            |
|                                            | Rank X   |                       | 191    | --   | 248  |                            |
| Forward voltage                            | FULL     | VF                    | 2.7    | 3.3  | 4.25 | V                          |
|                                            | Rank V01 |                       | 2.7    | --   | 3.0  |                            |
|                                            | Rank V02 |                       | 3.0    | --   | 3.25 |                            |
|                                            | Rank V03 |                       | 3.25   | --   | 3.5  |                            |
|                                            | Rank V04 |                       | 3.5    | --   | 3.75 |                            |
|                                            | Rank V05 |                       | 3.75   | --   | 4.0  |                            |
|                                            | Rank V06 |                       | 4.0    | --   | 4.25 |                            |
| Correlated Colour Temperature              | FULL     | CCT                   | 2700   | 3200 | 3700 | $^\circ\text{K}$           |
|                                            | Rank W   |                       | 2700   | --   | 3200 |                            |
|                                            | Rank X   |                       | 3200   | --   | 3700 |                            |
| Thermal Resistance Junction to Case        |          | $R_{\theta_{JC}}$     | --     | 10   | --   | $^\circ\text{C/W}$         |
| Temperature Coefficient of Forward Voltage |          | $\Delta V_F/\Delta T$ | --     | -2   | --   | $\text{mV}/^\circ\text{C}$ |
| Reverse Current                            |          | $I_R$                 | --     | --   | 50   | $\mu\text{A}$              |
| Viewing angle at 50% IV                    |          | $2\theta_{1/2}$       | --     | 60   | --   | Deg.                       |

**Notes :**

1. Flux is measured with an accuracy of  $\pm 15\%$ .
2. Forward voltage is measured with an accuracy of  $\pm 0.15\text{V}$ .
3. CCT selection acc.to CCT groups and an accuracy of  $\pm 300^\circ\text{K}$ .

## Typical Electrical/Optical Characteristic Curves

(25°C Ambient Temperature Unless Otherwise Noted)

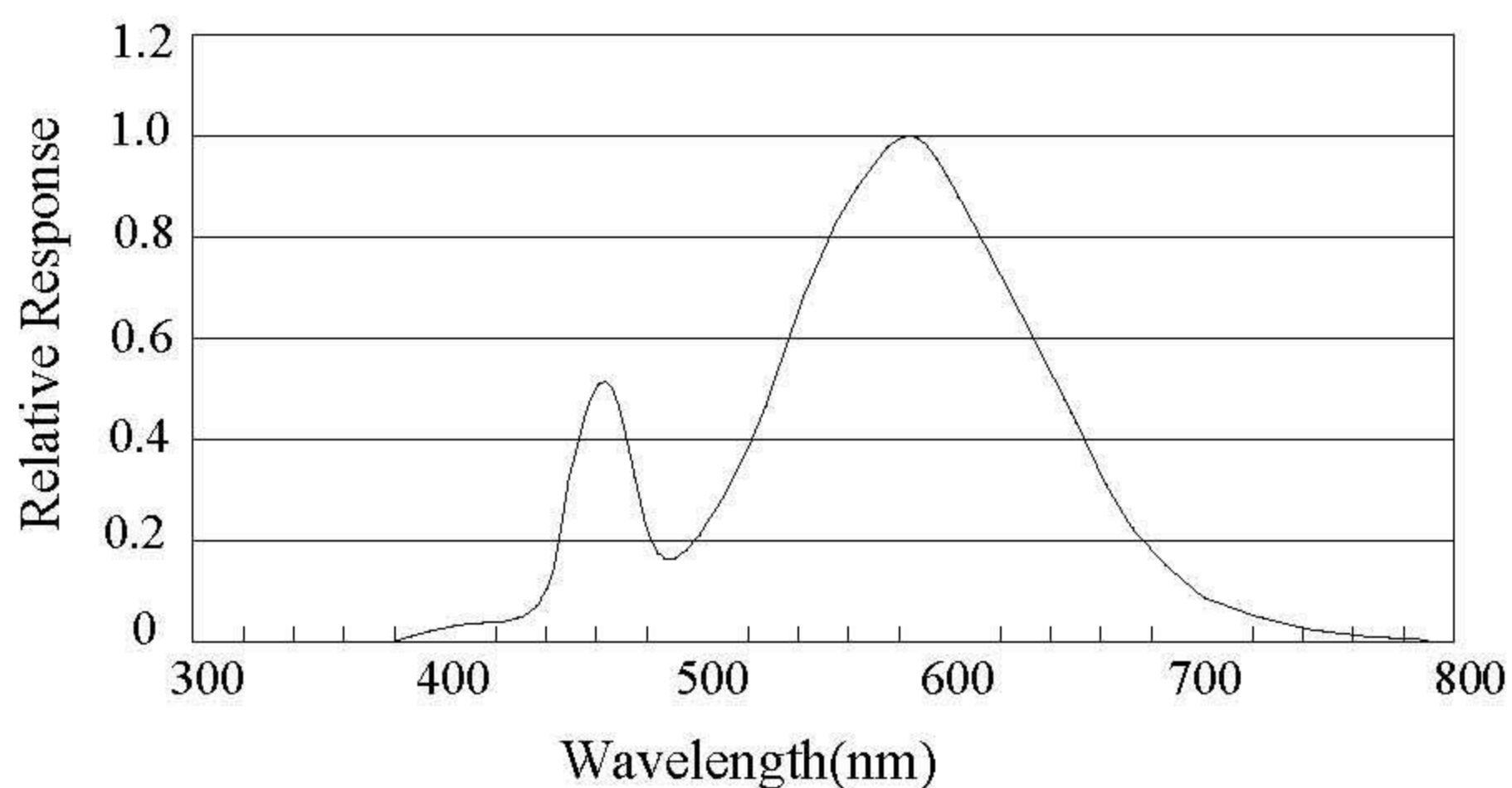
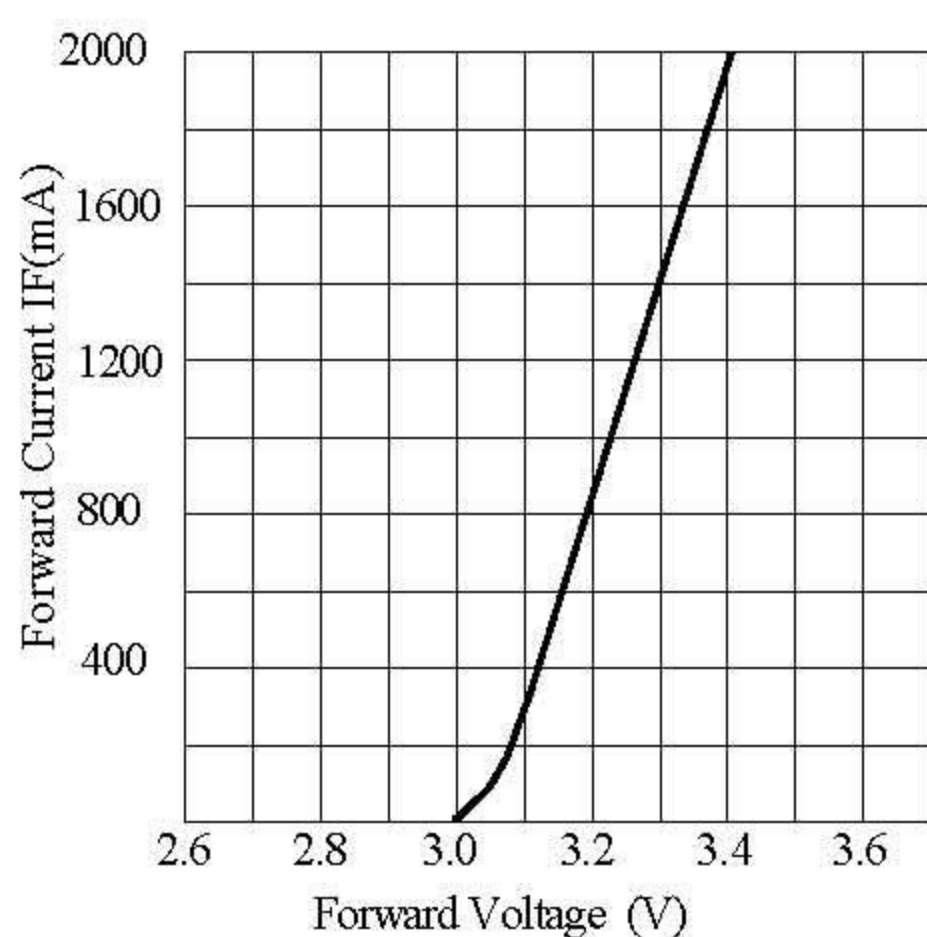
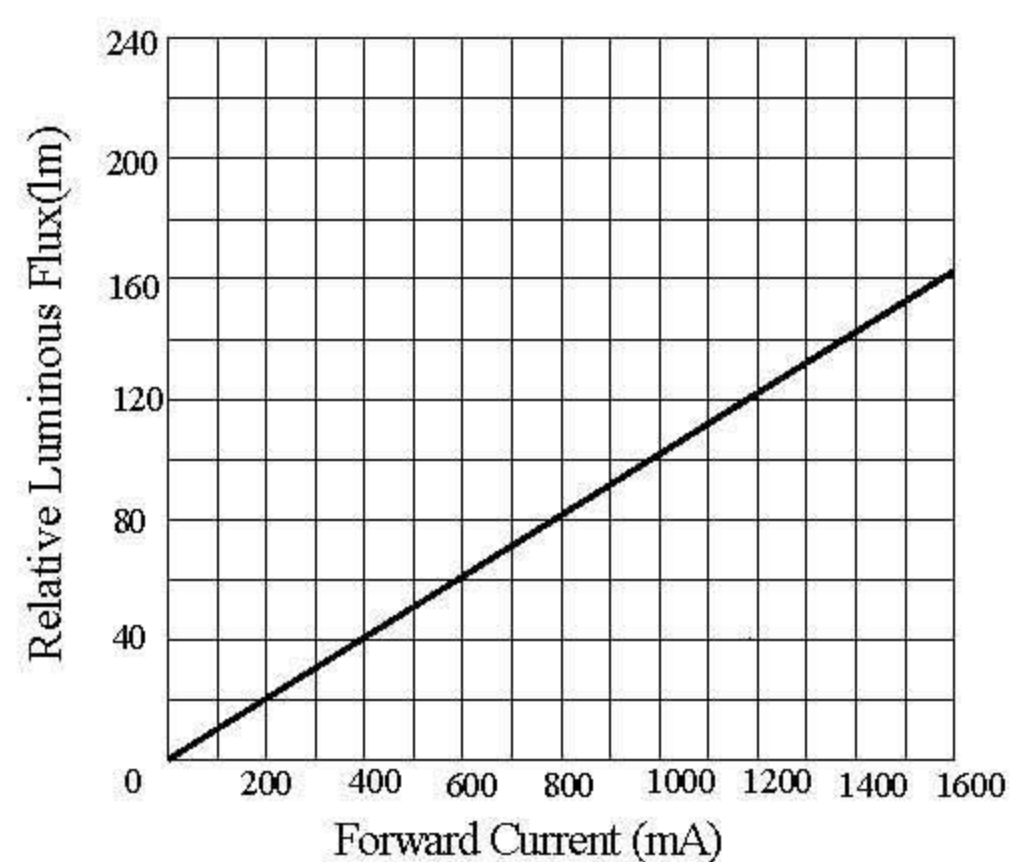


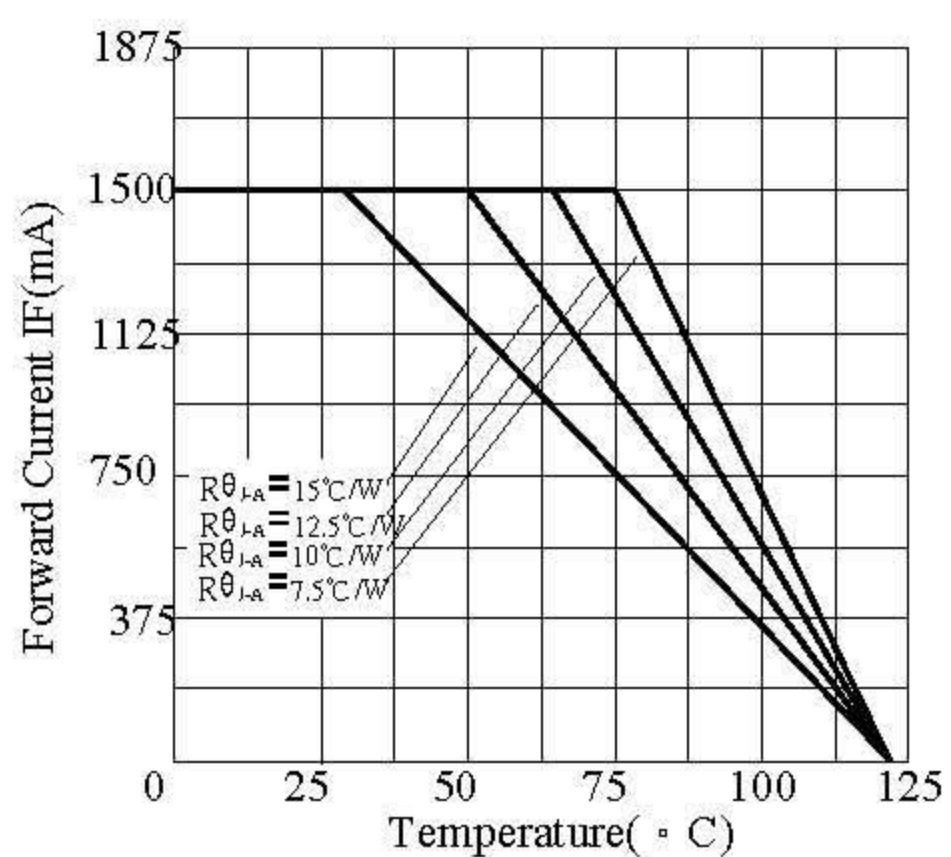
Fig.1 WHITE LED Spectrum VS. WAVELENGTH



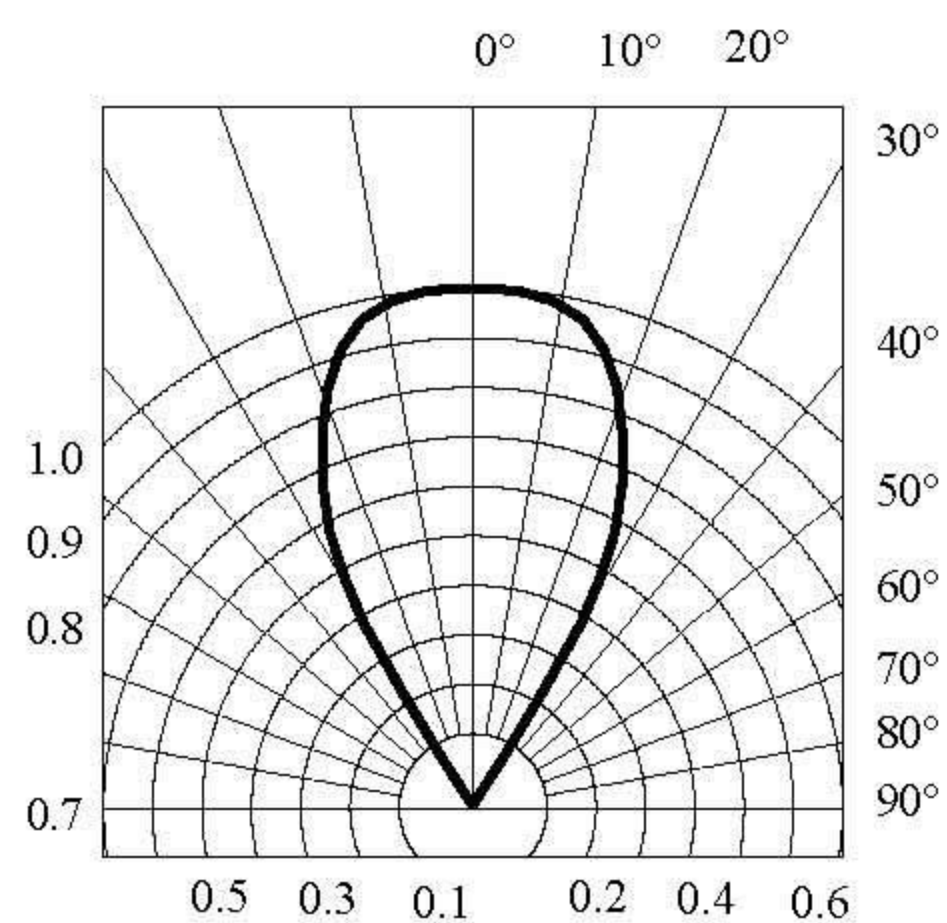
Forward Current VS. Applied Voltage



Forward Current VS. Luminous Flux



Ambient Temperature VS. Forward Current



Radiation Diagram

## PRECAUTION IN USE

### Storage

**Recommended storage environment**

**Temperature:** 5°C ~ 30°C (41°F ~ 86°F)

**Humidity:** 60% RH Max.

**Use within 7 days after opening of sealed vapor/ESD barrier bags.**

**If the moisture absorbent material (silica gel) has faded away or the LEDs have exceeded the storage time, baking treatment should be performed using the following conditions.**

**Baking treatment : 60±5°C for 24 hours.**

**Fold the opened bag firmly and keep in dry environment.**

### Soldering

| Hand Soldering |                               |
|----------------|-------------------------------|
| Temperature    | 350°C Max.                    |
| Soldering time | 3sec. Max.<br>(one time only) |

### [ Recommended soldering pad design ]

Use the following conditions shown in the figure.

