



RoHS Compliant

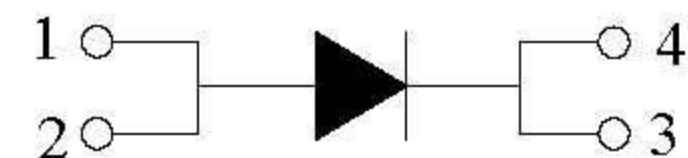
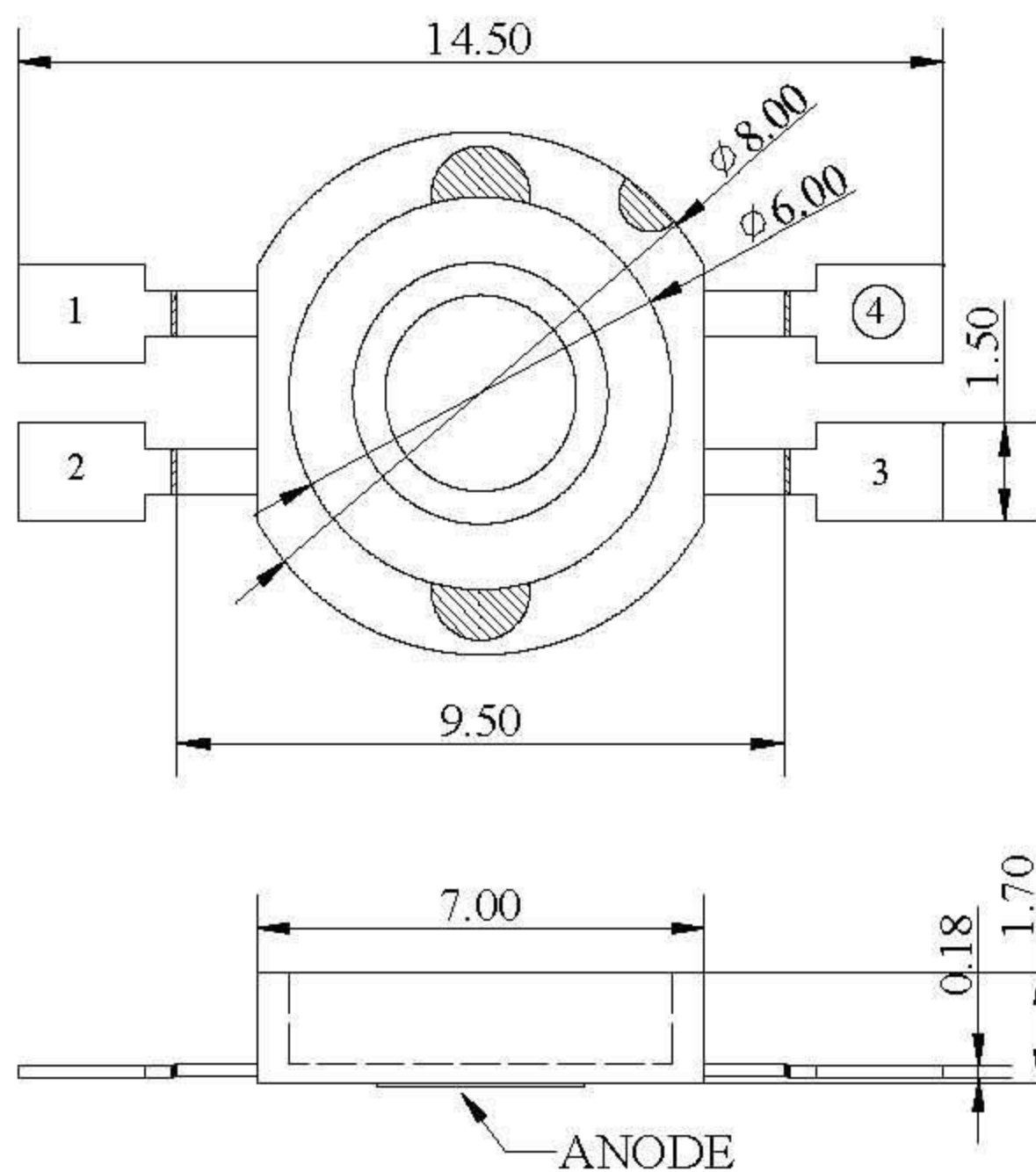
## < Features >

- \*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

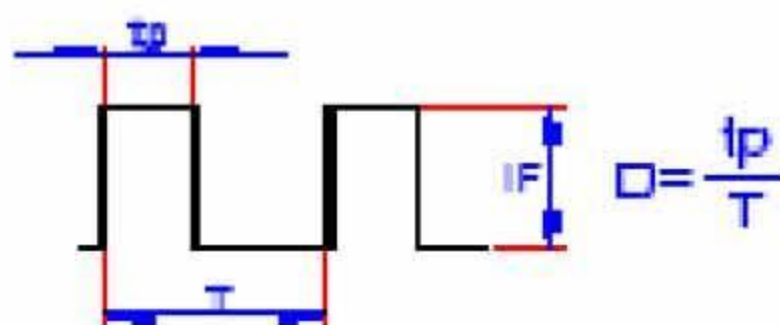


\* All dimensions are in mm. \*Tolerance : +/-0.25mm.

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 ; $t_p \leq 100\mu s, \text{Duty cycle}=0.005$ )*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. 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	$\Phi_v$	147	200	323	lm
	Rank W		147	--	191	
	Rank X		191	--	249	
	Rank Y		249	--	323	
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		5000	6500	9000	° K
	Rank W-1		5000	--	5500	
	Rank W-2		5500	--	6000	
	Rank X-1		6000	--	6500	
	Rank X-2		6500	--	7000	
	Rank Y-1		7000	--	7500	
	Rank Y-2		7500	--	8000	
	Rank Z-1		8000	--	8500	
	Rank Z-2		8500	--	9000	
Thermal Resistance Junction to Case		$R_{\theta_{J-C}}$	--	10	--	$^\circ\text{C}/\text{W}$
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		$2\theta_{1/2}$	--	120	--	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)

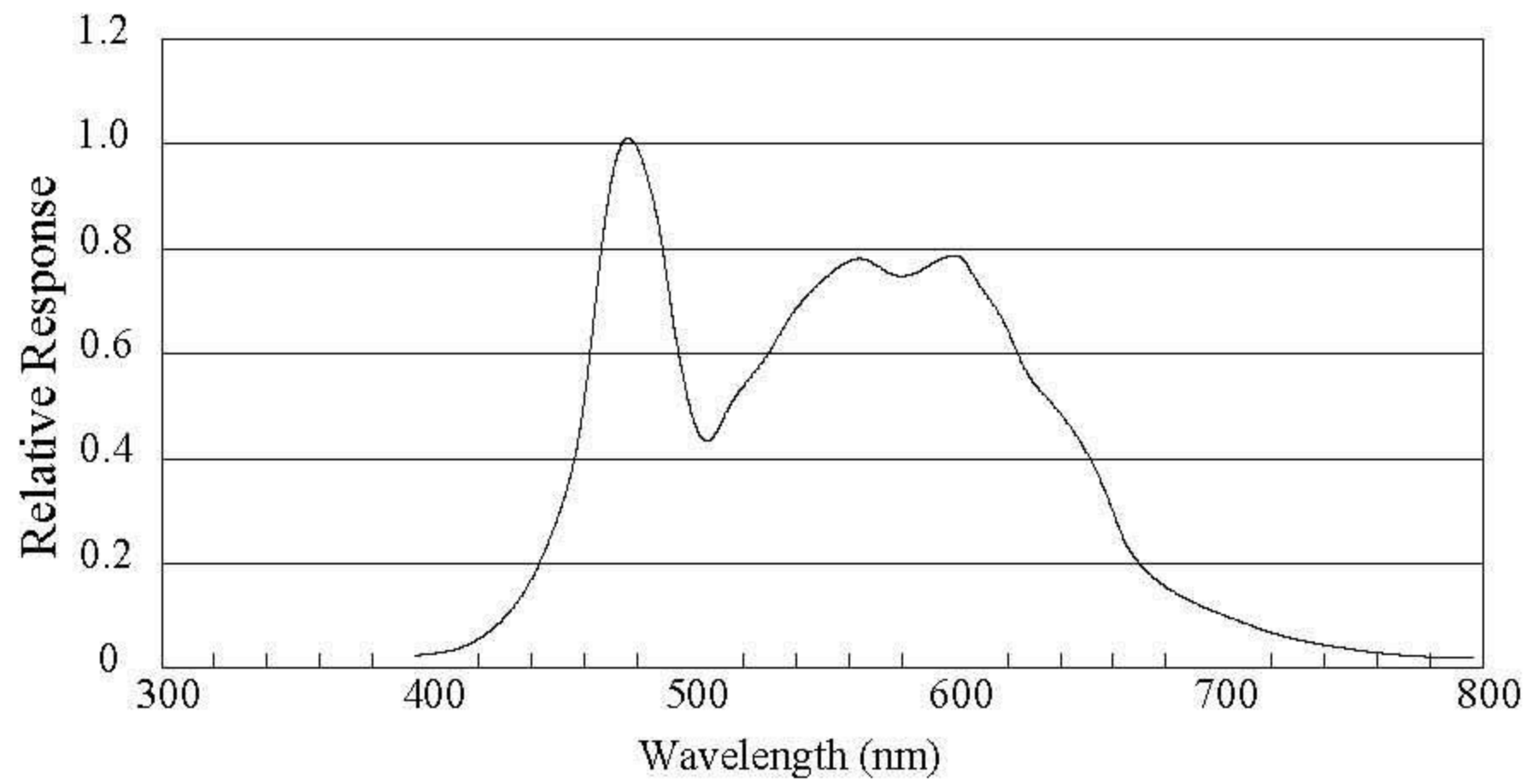
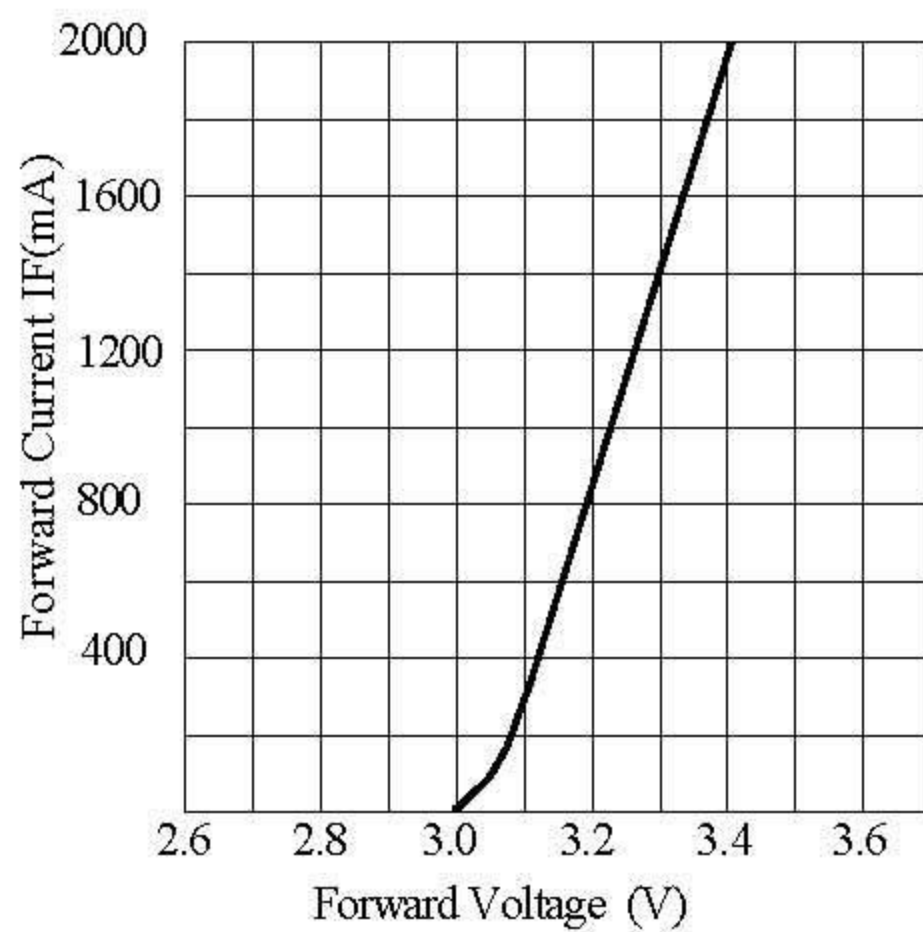
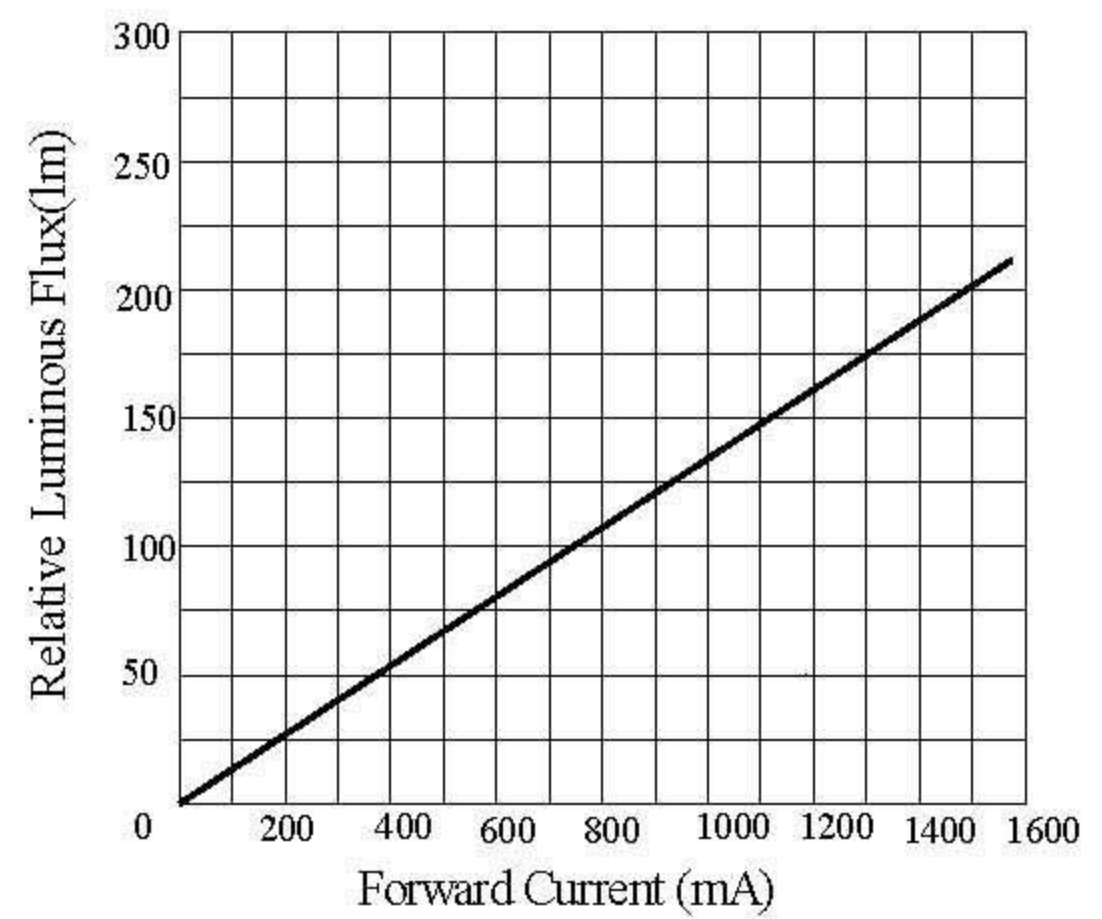


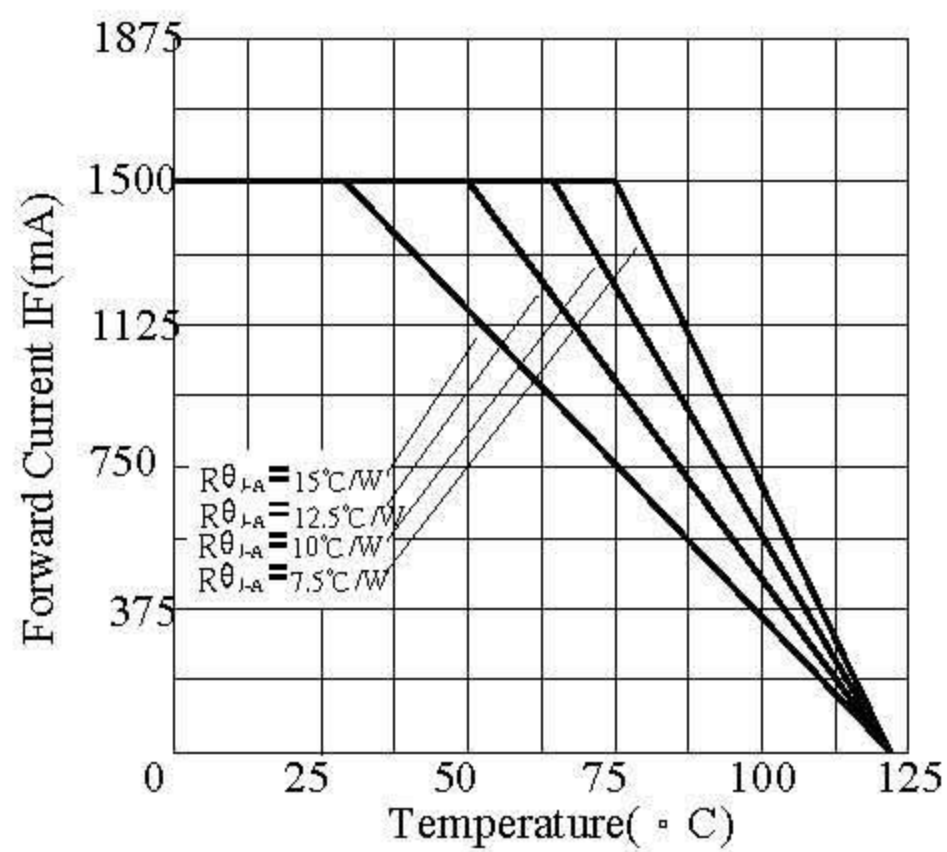
Fig.1 WHITE LED Spectrum VS. WAVELENGTH



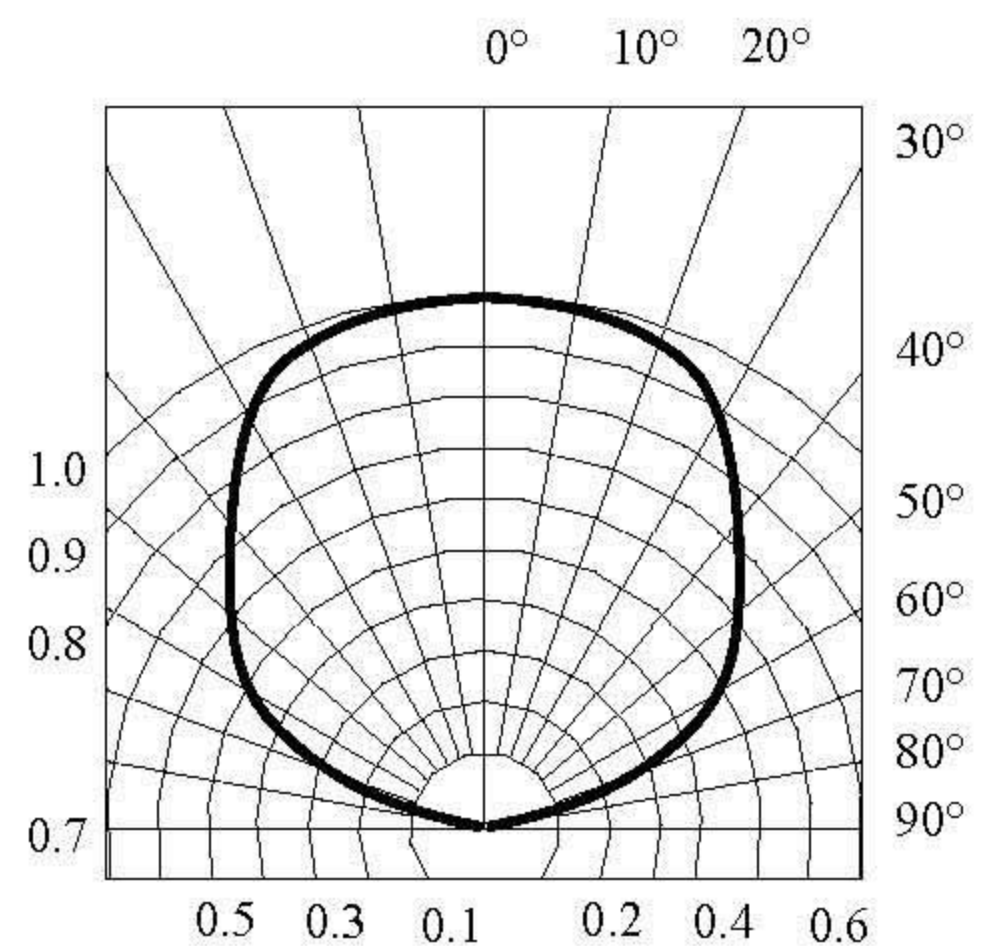
Forward Current VS. Applied Voltage



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

	Reflow Soldering		Hand Soldering	
	Lead Solder	Lead – free Solder		
Pre-heat	120~150°C	180~200°C	Temperature	350°C Max.
Pre-heat time	120sec. Max.	120sec. Max.	Soldering time	3sec. Max. (one time only)
Peak temperature	240°C Max.	260°C Max.		
Soldering time	10sec. Max.	10sec. Max.		
Condition	refer to Temperature- profile 1	refer to Temperature- profile 2		

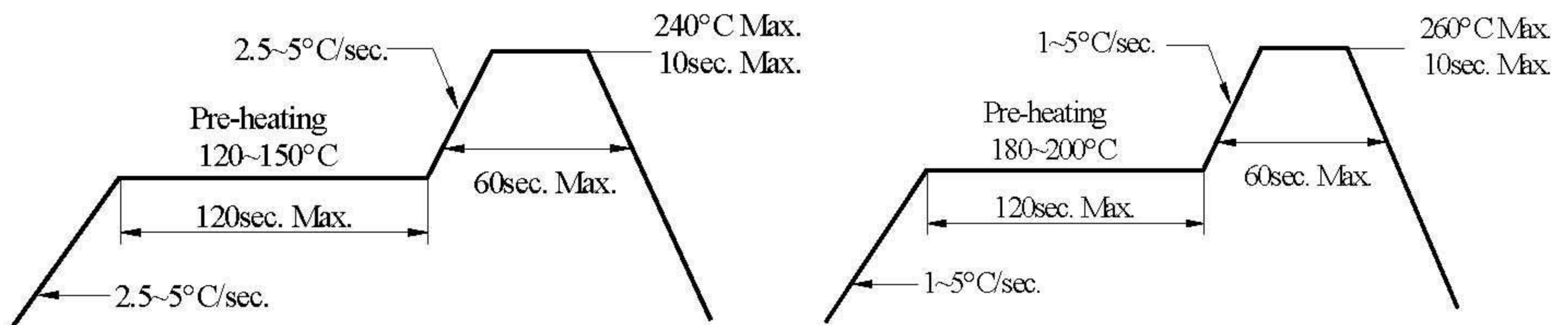
\*After reflow soldering rapid cooling should be avoided.

[Temperature-profile (Surface of circuit board)]

Use the conditions shown to the under figure.

<1 : Lead Solder>

<2 : Lead-free Solder>



[ Recommended soldering pad design ]

Use the following conditions shown in the figure.

