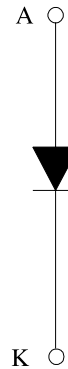
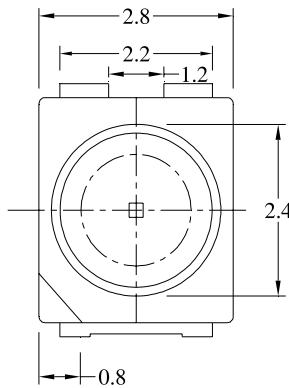
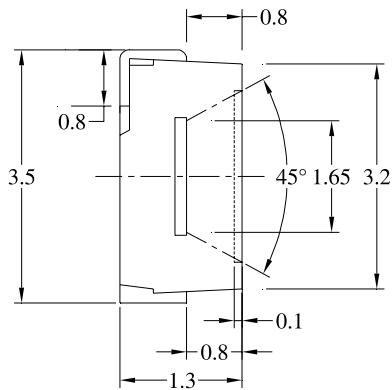


# 3.2mm × 2.8mm 0.5W SMD Type



## Package Dimensions:



All dimensions are in mm  
Tolerance:  $\pm 0.25\text{mm}$

## Absolute Maximum Ratings at $T_a=25^\circ\text{C}$

Parameter	Symbol	Rating	Unit
Power Dissipation	$P_D$	600	mW
LED Junction Temperature		120	$^\circ\text{C}$
Reverse Voltage	$V_R$	5	V
D.C. Forward Current	$I_f$	150	mA
Pulsed Forward Current (1 / 10 Duty Cycle, 0.1ms Pulse Width)	$I_f$ (Peak)	300	mA
Operating Temperature Range	$T_{opr.}$	-40 to +75	$^\circ\text{C}$
Storage Temperature Range	$T_{stg.}$	-40 to +105	$^\circ\text{C}$
Soldering Temperature	$T_{sld.}$	Reflow Soldering: $260^\circ\text{C}$ for 10sec. Hand Soldering: $350^\circ\text{C}$ for 3sec.	
Electric Static Discharge Threshold (HBM)	ESD	6,000	V

## Electrical & Optical Characteristics:

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Luminous Flux	$\Phi_v$	$I_f = 150\text{mA}$	13.9	23	-	lm
Forward Voltage	$V_f$	$I_f = 150\text{mA}$	-	3.2	4	V
Correlated Colour Temperature	WA	$I_f = 150\text{mA}$	5,000	-	5,250	K
	WB		5,250	-	5,500	
	WC		5,500	-	5,750	
	WD		5,750	-	6,000	
Colour Rendering Index (Ra)	CRI	$I_f = 150\text{mA}$	-	64	-	Ra
Reverse Current	$I_r$	$V_r = 5\text{V}$	-	-	50	$\mu\text{A}$
Viewing Angle	$2\theta_{1/2}$	$I_f = 150\text{mA}$	-	120	-	deg

# 3.2mm × 2.8mm 0.5W SMD Type



## Typical Electrical & Optical Characteristics Curves: (25°C Ambient temperature unless otherwise noted)

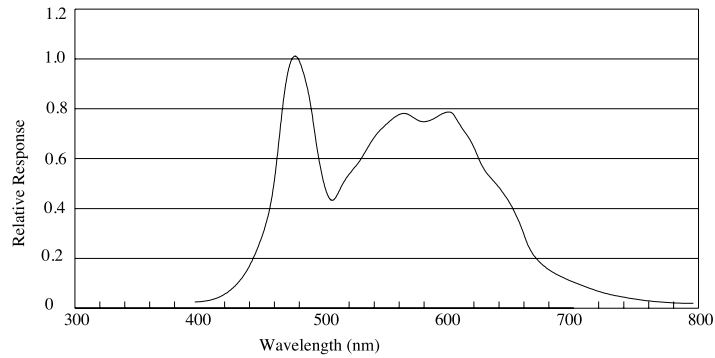
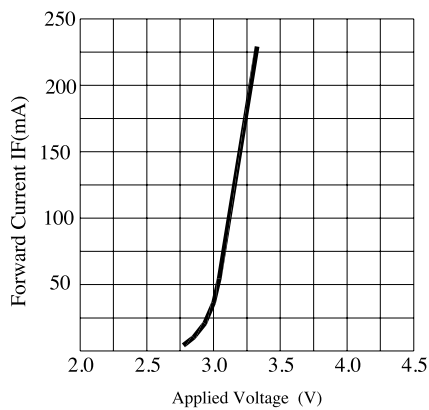
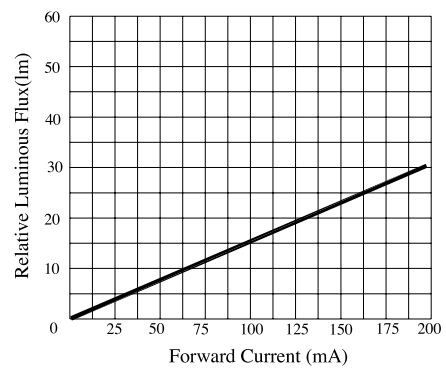


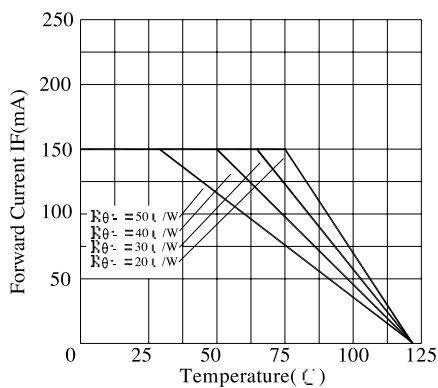
Fig.1 WHITE LED Spectrum VS. WAVELENGTH



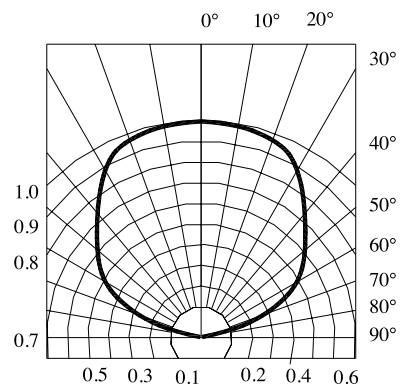
Forward Current VS. Applied Voltage



Forward Current VS. Luminous Intensity



Ambient Temperature VS. Forward Current



Radiation Diagram

# 3.2mm × 2.8mm 0.5W SMD Type



## Recommended Storage Environment:

- Temperature: 5°C to 30°C (41°F to 86°F)
- Humidity: 60% RH Max.
- Use within 7 days after opening of sealed vapour/ESD barrier bags

If moisture absorbent material (silica gel) has faded away or 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	12°C ~ 150°C	180°C ~ 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		

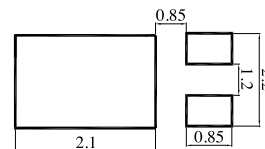
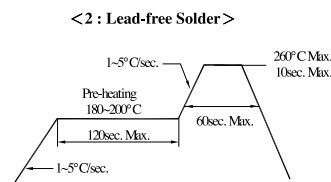
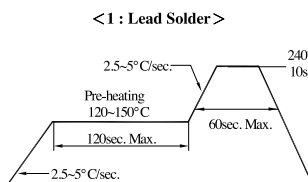
\*After reflow soldering rapid cooling should be avoided.

## Temperature-profile (surface of circuit board)

Use the conditions shown under figure.

## Recommended Soldering Pad Design:

Use the conditions shown under figure.



## Part Number Table

LED Chip		Lens Colour	Part Number
Material	Emitting Colour		
InGaN / Al <sub>2</sub> O <sub>3</sub>	White	Yellow diffused	703-1033

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