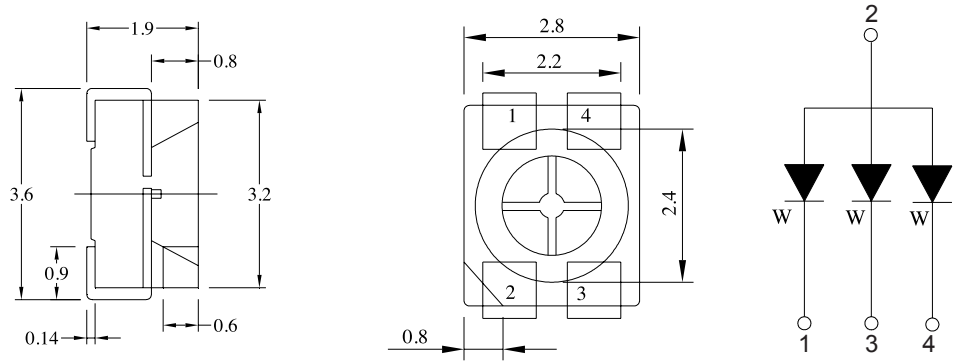
3mm × 2mm 0.2W
SMD Type

Package Dimensions:



RoHS Compliant

All dimensions are in mm
Tolerance: ±0.25mm

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Rating	Unit
Power Dissipation*	P_D	120	mW
Reverse Voltage*	V_R	5	V
D.C. Forward Current*	If	30	mA
Pulsed Forward Current (1 / 10 Duty Cycle, 0.1ms Pulse Width)*	If (Peak)	100	mA
Operating Temperature Range	Topr.	-40 to +100	°C
Storage Temperature Range	Tstg.	-40 to +100	°C
Soldering Temperature	Tsld.	Reflow Soldering: 260°C for 10sec. Hand Soldering: 350°C for 3sec.	
Electric Static Discharge Threshold (HBM)*	ESD	6,000	V

* The values are based on 1 die performance.

Electrical & Optical Characteristics:

Parameter		Symbol	Condition	Min.	Typ.	Max.	Unit
Luminous Intensity*2		Iv	If = 20mA*1	3,159	5,500	-	mcd
Luminous Flux*2		Φv	If = 20mA*1	-	11,300	-	mlm
Forward Voltage*2		Vf	If = 20mA*1	-	3.2	4	V
Correlated Colour Temperature*2	25	CCT	If = 20mA*1	2,500	-	2,600	K
	26			2,600	-	2,700	
	27			2,700	-	2,900	
Colour Rendering Index (Ra)*2		CRI	If = 20mA*1	-	64	-	Ra
Reverse Current*1		Ir	Vr=5V*1	-	-	50	μA
Viewing Angle*2		2θ ½	If = 20mA*1	-	120	-	deg

Note: 1. The data is tested by an IS tester
2. Customer's special requirements are also welcome.
3. *1 For each die
4. *2 When all LED dies are operated simultaneously

Typical Electrical & Optical Characteristics Curves:

(25°C Ambient temperature unless otherwise noted)

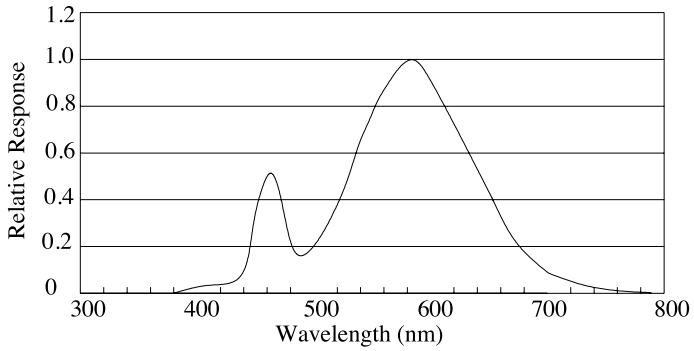
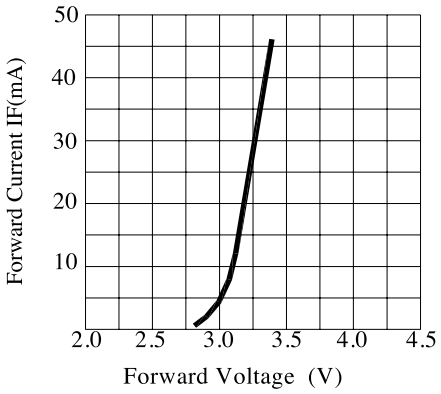
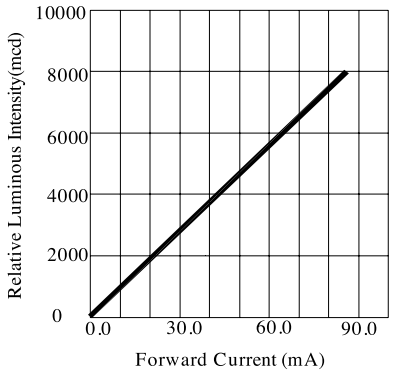


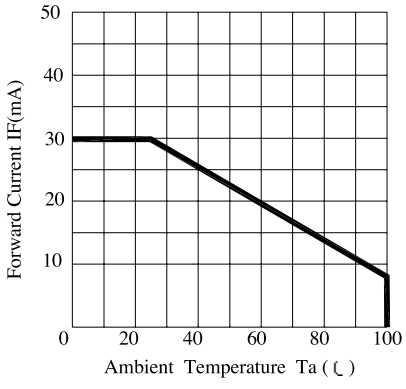
Fig.1 WHITE LED Spectrum VS. WAVELENGTH



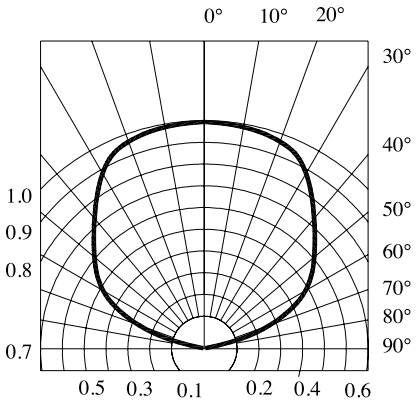
Forward Current VS. Applied Voltage



Forward Current VS. Luminous Intensity



Ambient Temperature VS. Forward Current



Radiation Diagram

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

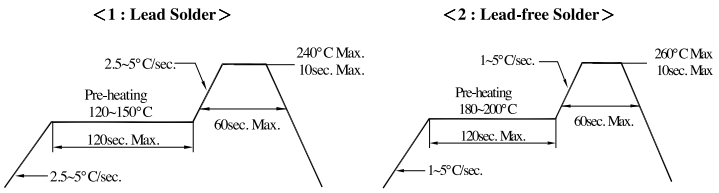
Soldering

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 1		

*After reflow soldering rapid cooling should be avoided.

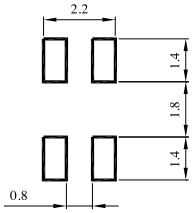
Temperature-profile (surface of circuit board)

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 / Sapphire	Warm White	Water clear	703-1032