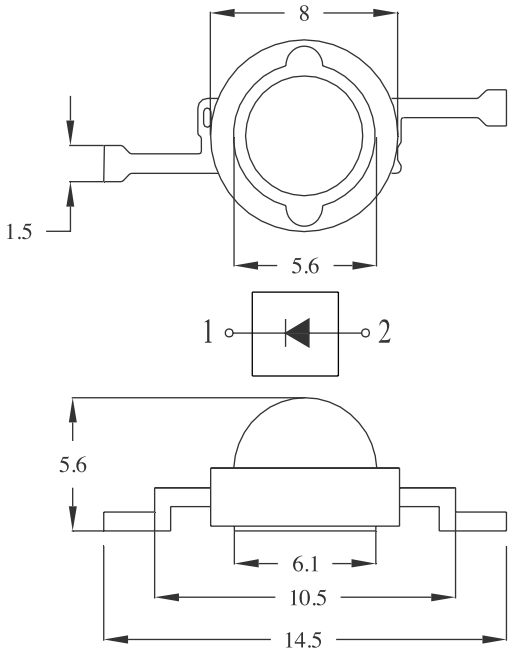
1W White High Power LED

RoHS Compliant

Package Dimensions:



All dimensions are in mm
Tolerance: ±0.25mm

Features:

- Excellent transiting heat from LED chip operating under 350mA
- High luminous output
- No UV

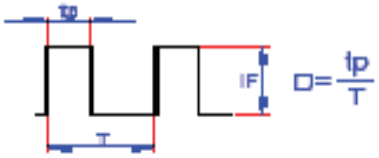
Applications:

- Reading lights
- Portable flashlight
- Uplighters & downlighters
- Garden lighting
- LCD backlights / light guides
- General lightingPortable flashlight

Absolute Maximum Ratings at Ta=25°C

Parameter	Rating	Unit
LED Junction Temperature	120	°C
Reverse Voltage	5	V
D.C. Forward Current	350	mA
Pulsed Forward Current (tp ≤ 100μs, Duty cycle = 0.005) × 1	700	mA
Operating Temperature Range	-40 to +75	°C
Storage Temperature Range	-40 to +100	°C
Soldering Temperature	Reflow Soldering : 260°C for 10sec Hand Soldering: 350°C for 3sec.	
Electric Static Discharge (HBM)	6,000	V

Duty Cycle:



- Proper current derating must be observed to maintain junction temperature below the maximum.
- All products no sensitive to ESD damage (6000 Volts by HBM condition)
- 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.
- For best results the customer needs to provide proper control of the thermal path, protect against electrical overstress conditions and ensure they are properly attached to the heat sink.
- It is strongly recommended that the temperature of lead does not exceed 55°C.
- It is strongly recommended to apply an electrically isolated heat conducting film between the slug and contact surfaces

Electrical & Optical Characteristics

Parameter		Symbol	Values			Unit
			Min.	Typ.	Max.	
Luminous Flux	FULL	Φv	67	110	143	lm
	Rank T1		67		77	
	Rank T2		77		87	
	Rank U1		87		100	
	Rank U2		100		113	
	Rank V1		113		127	
	Rank V2		127		143	
Forward Voltage	Rank V01	Vf	2.7		3	V
	Rank V02		3		3.25	
	Rank V03		3.25		3.5	
	Rank V04		3.5		3.75	
	Rank V05		3.75		4	
CIE Chromaticity Coordinates: X Axis		IF=350mA		0.3447		
CIE Chromaticity Coordinates: Y Axis		IF=350mA		0.3553		
Correlated Colour Temperature		CCT		5,000		
Thermal resistance Junction to Case		$R\theta_{J-C}$		8		
Temperature Coefficient of Forward Voltage		$\Delta V_F / \Delta T$		-2		
Reverse Current		I_R			50	μA
Viewing Angle at 50% IV		$2\theta_{1/2}$		130		deg

Notes: 1. The data is tested by an IS tester.
2. Customer's special requirements are also welcome.

Typical Electrical & Optical Characteristics Curves:

(25°C Ambient temperature unless otherwise noted)

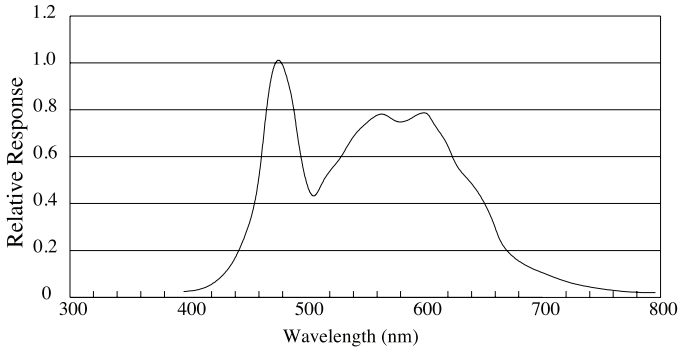
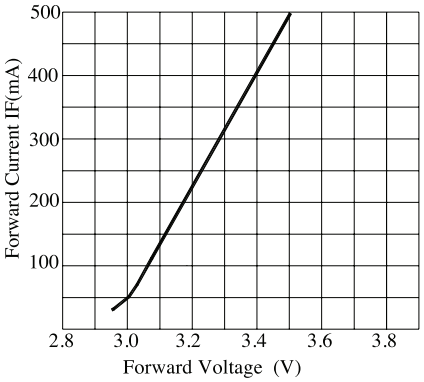
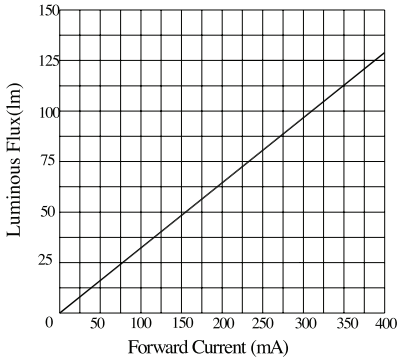


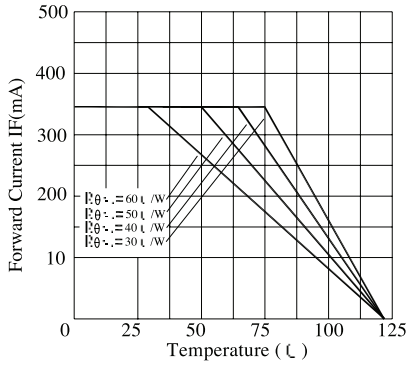
Fig.1 WHITE LED Spectrum VS. WAVELENGTH



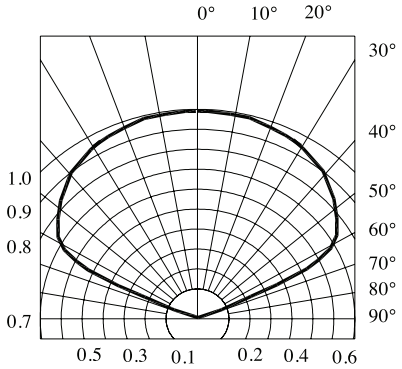
Forward Current VS. Applied Voltage



Forward Current VS. Luminous Flux



Ambient Temperature VS. Forward Current



Radiation Diagram

Chromaticity Coordinates Specifications for Bin Grading:

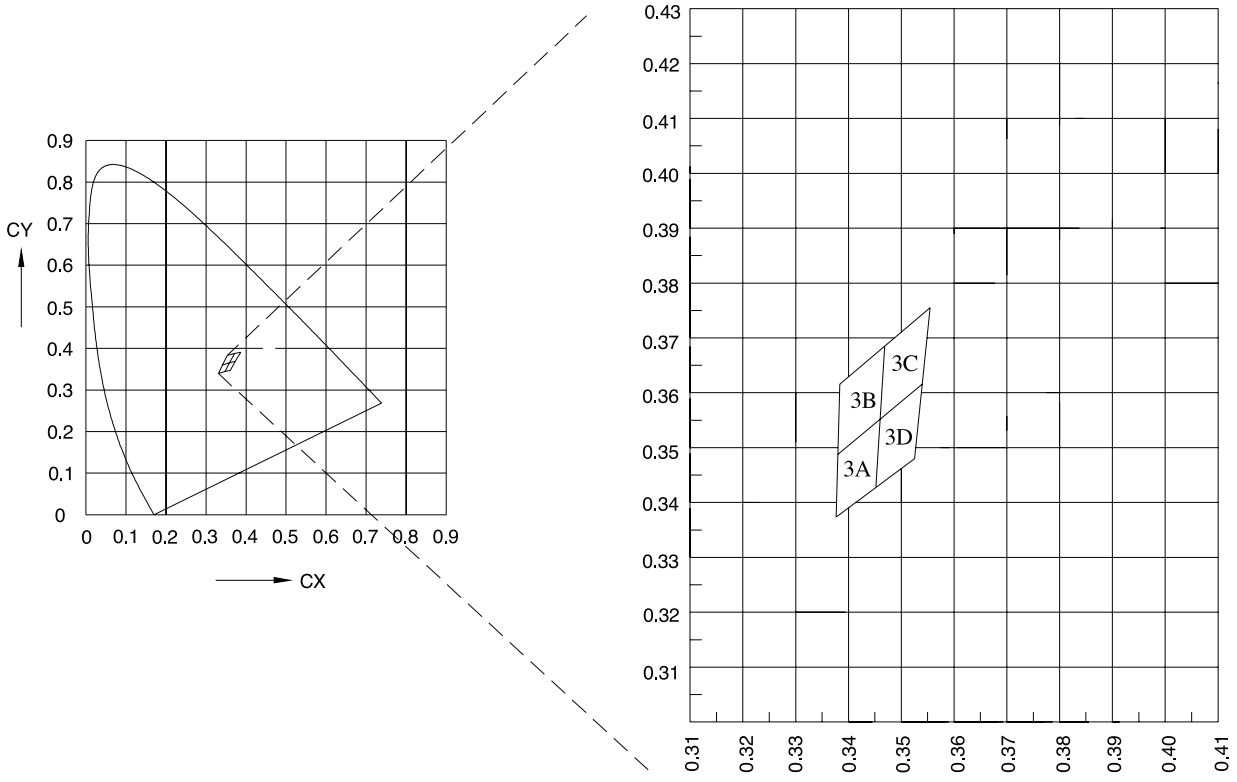
Colour Ranks (IF=350mA. Ta=25°C)

Bin	Rank				
3A	X	0.3371	0.3451	0.3440	0.3428
	Y	0.3490	0.3554	0.3428	0.3369
3B	X	0.3376	0.3463	0.3451	0.3371
	Y	0.3616	0.3687	0.3554	0.3490
3C	X	0.3463	0.3551	0.3533	0.3451
	Y	0.367	0.3760	0.3620	0.3554
3D	X	0.3451	0.3533	0.3515	0.3440
	Y	0.3554	0.3620	0.3487	0.3428

Note: X. Y

Tolerance each Bin limit is ±0.01

Chromaticity Coordinates & Bin Grading Diagram:



Recommended Storage Environment:

- Temperature: 5°C ~ 30°C (41°F ~ 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

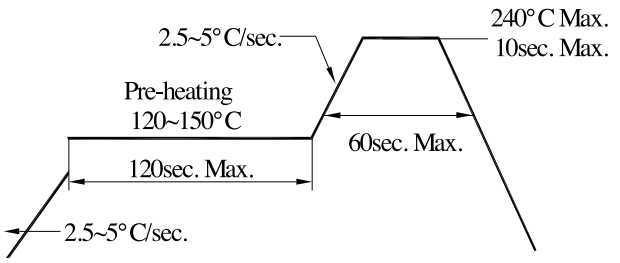
Reflow Soldering				
	Lead Solder	**Lead-free Solder**		
Pre-heat	120 ~ 150°C	180 ~ 200°C	Temperature	350°C max.
Pre-heat Time	120sec. max.	120sec. max.	Soldering time	3sec max. (one time only)
Peak Temperature	240°C max.	260°C max.		
Soldering Time	10sec. max.	10sec. max.		
Condition	Refer to temperature-profile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

*After reflow soldering rapid cooling should be avoided.

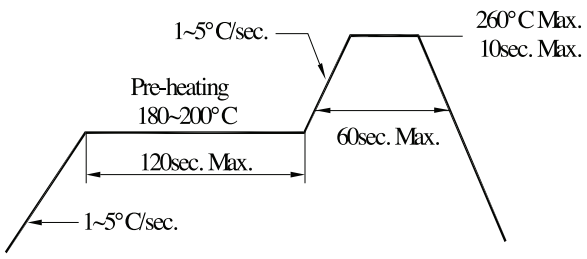
Temperature-profile (surface of circuit board):

Use the conditions shown under figure.

＜1 : Lead Solder＞



＜2 : Lead-free Solder＞



Part Number Table

LED Chip		Lens Colour	Part Number
Material	**Emitting Colour**		
InGaN / Metal Alloy	White	Water clear	703-0142