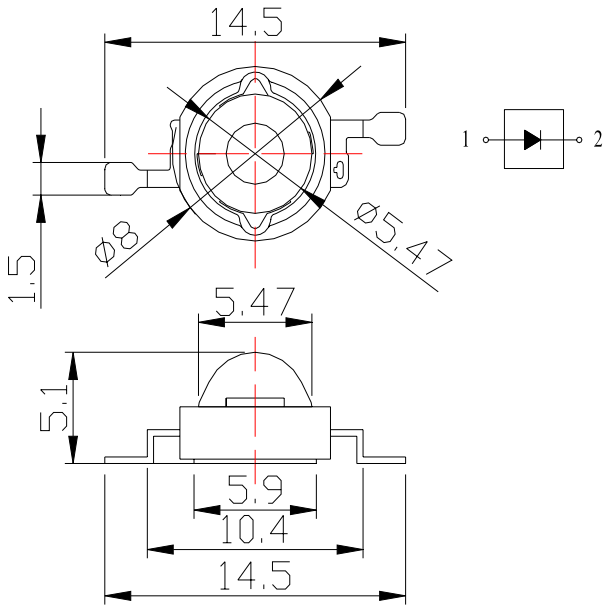
1W High Power LED

RoHS Compliant

Package Dimensions:



* All dimensions are in mm
* Tolerance: ±0.6mm unless otherwise noted.

Ant Part No.	LED Chip		Lens Colour
	Material	Colour Coordinates	
703-0146	InGaN / Al2O3	True Green	Water clear

Absolute Maximum Ratings at Ta=25°C:

Parameter	Rating	Unit
Power Dissipation	1365	mW
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	Dip Soldering: 260°C for 10sec. Hand Soldering: 350°C for 3sec.	
Electric Static Discharge Threshold (HBM)	6000	V

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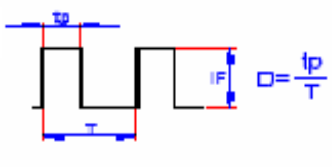
Duty Cycle:



Notes:

1. Proper current derating must de 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 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 the emitters are properly attached to the mcpcb/heat sink.
5. It is recommended that the temperature of lead does not exceed 55 °C.
6. It is recommendded to apply an electrically isolated heat conductive film between slug and contact surfaces.

Electrical & Optical Characteristics:

Parameter		Symbol	Condition	Value			Unit
				Min.	Typ.	Max.	
Luminous Flux	FULL	Φv[1]	IF = 700 mA	-	84	-	lm
	Rank L1			80	-	90	
	Rank L2			90	-	100	
Forward Voltage	Rank V1	VF	IF = 700 mA	2.9	-	3.1	V
	Rank V2			3.1	-	3.3	
	Rank V3			3.3	-	3.5	
	Rank V4			3.5	-	3.7	
	Rank V5			3.7	-	3.9	
Dominant Wavelength		λd	IF = 700 mA	515	-	520	nm
				520	-	525	
				525	-	530	
				530	-	535	
Reverse Current		IR	Vr = 5V	-	-	50	μA
View Angle at 50% IV		2θ½	IF = 700 mA	-	130	-	deg
Thermal resistance Junction to Case		RθJ-C	IF = 700 mA	-	15	-	°C/W

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

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Typical Electrical / Optical Characteristic Curves:
(25°C Ambient Temperature unless otherwise noted)

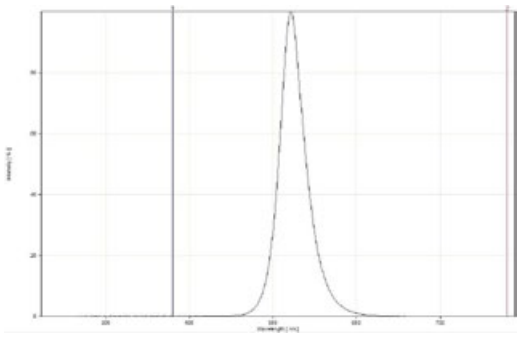
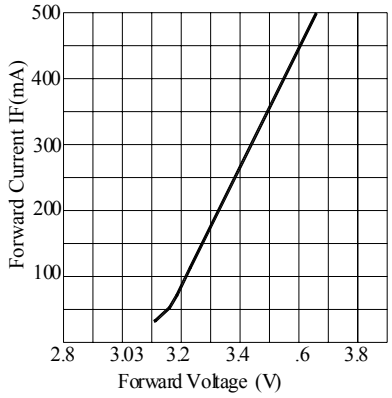
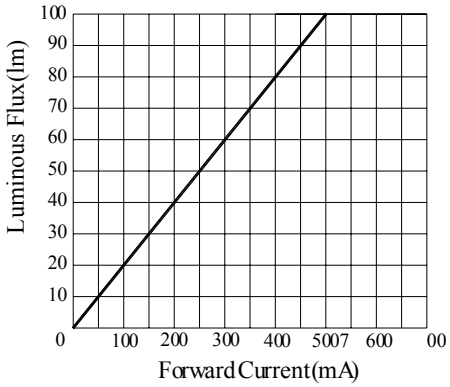


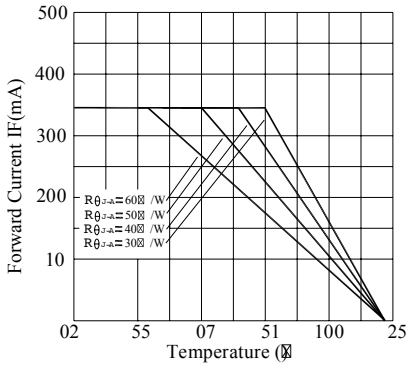
Fig.1 WHITE LED Spectrum VS. WAVELENGTH



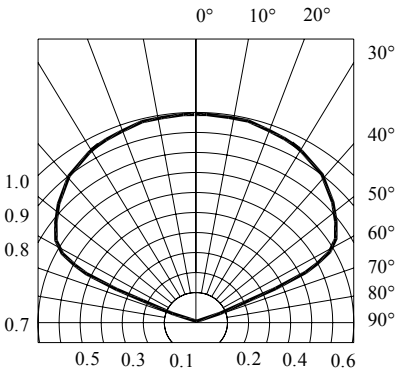
Forward Current VS. Applied Voltage



Forward Current VS. Luminous Flux



Ambient Temperature VS. Forward Current



Radiation Diagram

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Storage:

Recommended storage environment:

- Temperature: 5°C ~ 30°C (41°F ~ 86°F)
- Humidity: 60% RH Max.
- Moisture measures: Please refer to Moisture-sensitive label on reels package bags. If unused LEDs remain, they should be stored in moisture proof packages, such as a sealed container with packages of moisture absorbant material (silica gel). It is also recommended to return the LEDs to the original moisture proof bag and to reseal it again (fold the open bag firmly shut and keep in a dry environment.

Soldering:

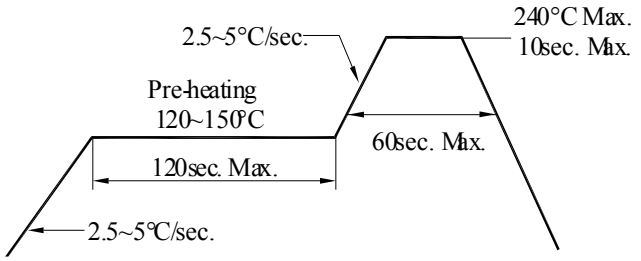
Reflow Soldering			Hand Soldering	
	Lead Solder	**Lead-free Solder**		
Pre-heat	120 ~ 150°C	180 ~ 200°C	**Temperature**	350°C Max.
Pre-heat Time	120sec. Max.	120sec. Max.	**Soldering Time**	3sec. Max. (one time only)
Peak Temperature	240°C Max.	260°C Max.		
Soldering Time	10sec. max.	10sec. Max.		
Condition	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 following conditions shown in the figure.

<1 : Lead Solder>



<2 : Lead-free Solder>