

DATE OF ISSUE : 2007. 06. 25

SPECIFICATION

MODEL : SLHNNWH511T0

HIGH POWER LED - SUNNIX

CUSTOMER : Preliminary

SAMSUNG ELECTRO-MECHANICS		
DRAWN	CHECKED	APPROVED

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Product Outline

1) Feature

1. Plastic Molded L/Frame type (7.0mm * 7.0mm * t=4.9mm)
2. Beam Angle ($\Delta\theta : 55^\circ$)
3. High Power/Brightness Chip & Long Time Reliability

2) Applications

- Automotive, Illumination etc.

Absolute Maximum Rating^{1),2)}

- Operation Forward Current 350 mA
- Peak Pulsed Forward Current 400 mA
(Duty 1/10 Pulse Width 10msec)
- Reverse Voltage 5V
- Thermal Resistance(Rth)³⁾ $\cong 10^\circ\text{C}/\text{W}$
- LED Junction Temperature (T_j) 125°C
- Storage Temperature Range (T_{stg}) -40°C ~ 110°C

Characteristics^{1),2)}

Electrical Characteristics

(T_j : 25°C)

Item	Rank	Symbol	Min.	Typ.	Max.	Unit	Conditions
Forward Voltage	S	V _F	2.9	-	4.1	V	I _F =350mA
Reverse Voltage	-	V _R	0.5	-	2.0	V	I _R =10mA

Chromaticity Coordinate

Rank	CCx				CCy				CCT [K]	Condition
Q0	0.3128	0.3250	0.3200	0.3011	0.2864	0.2981	0.3600	0.3407	6,000~7,000	I _F =350mA
R0	0.3250	0.3428	0.3484	0.3200	0.2981	0.3138	0.3885	0.3600	5,000~6,000	

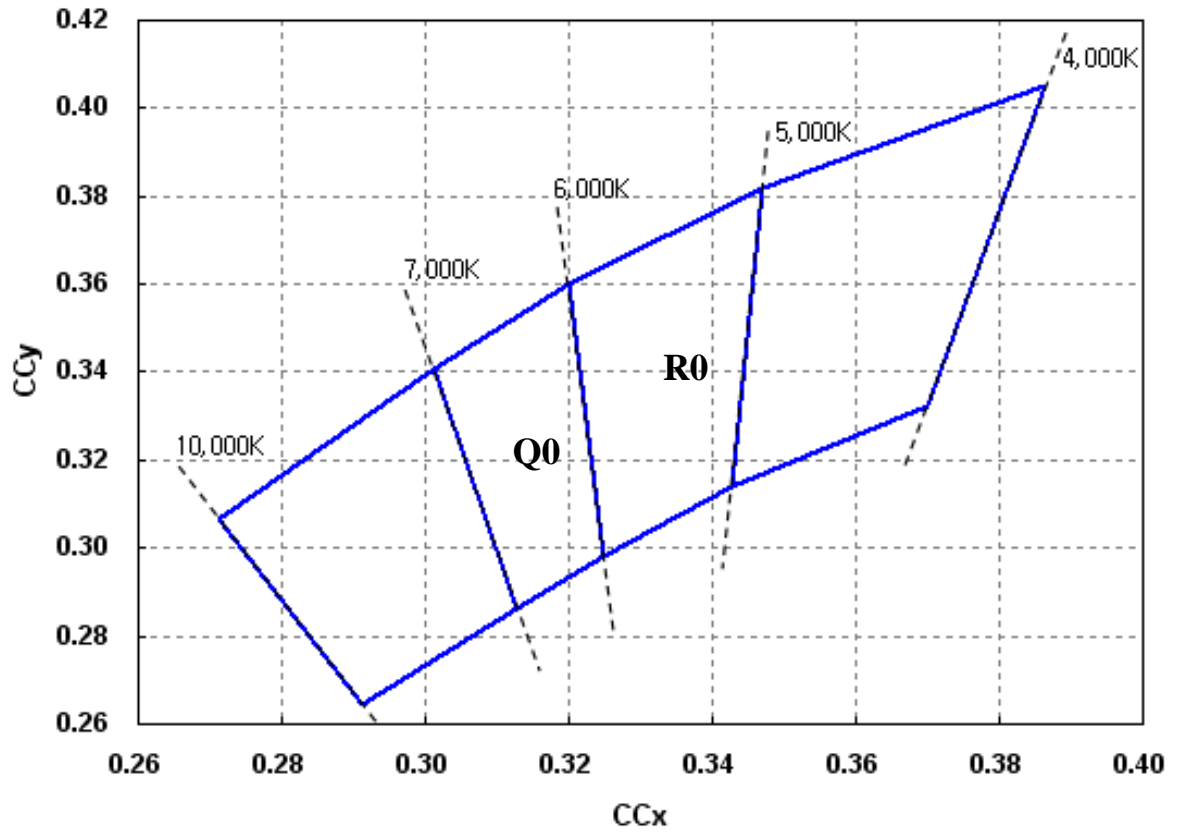
Luminous Flux

Rank	Symbol	Min.	Typ.	Max.	Unit	Conditions
E1	Φ _v	40		50	lm	I _F =350mA
F1		50		60		
G1		60		70		
H1		70		80		

Remarks)

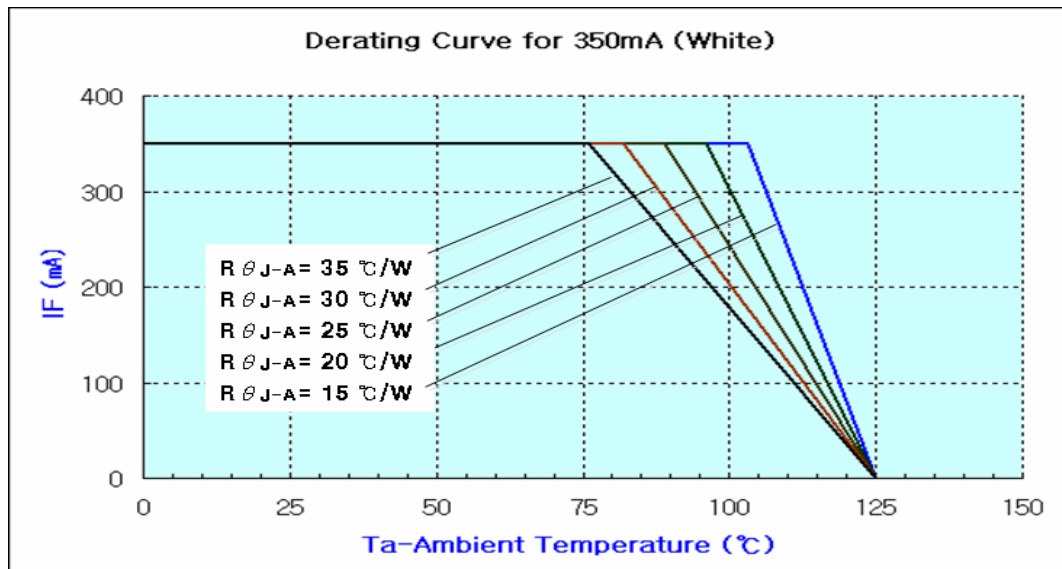
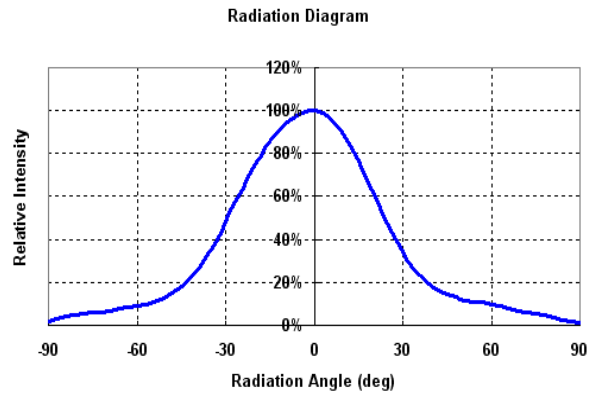
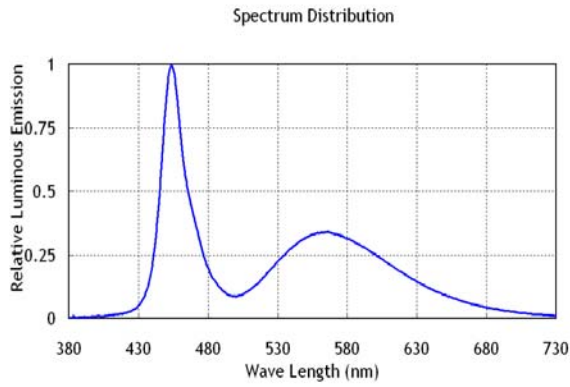
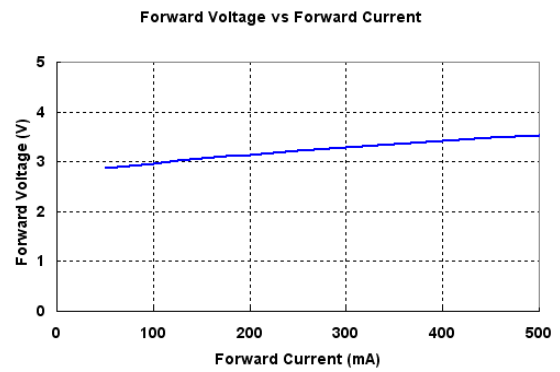
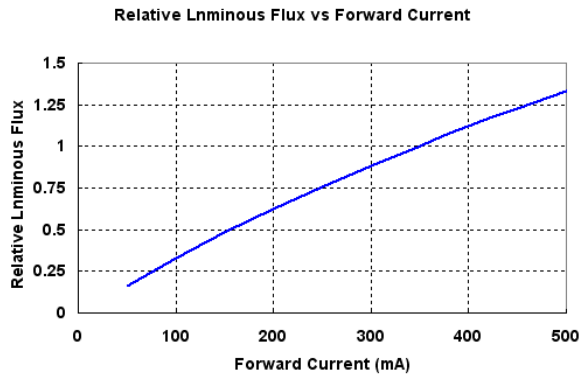
- 1) Tolerance : V_F : ±0.1, Φ_v : ±10%, CCx CCy : ±0.02
- 2) These specifications can be modified without any notices.
- 3) Proper thermal managements should be considered into a circuit design

■ Chromaticity Diagram



Preliminary

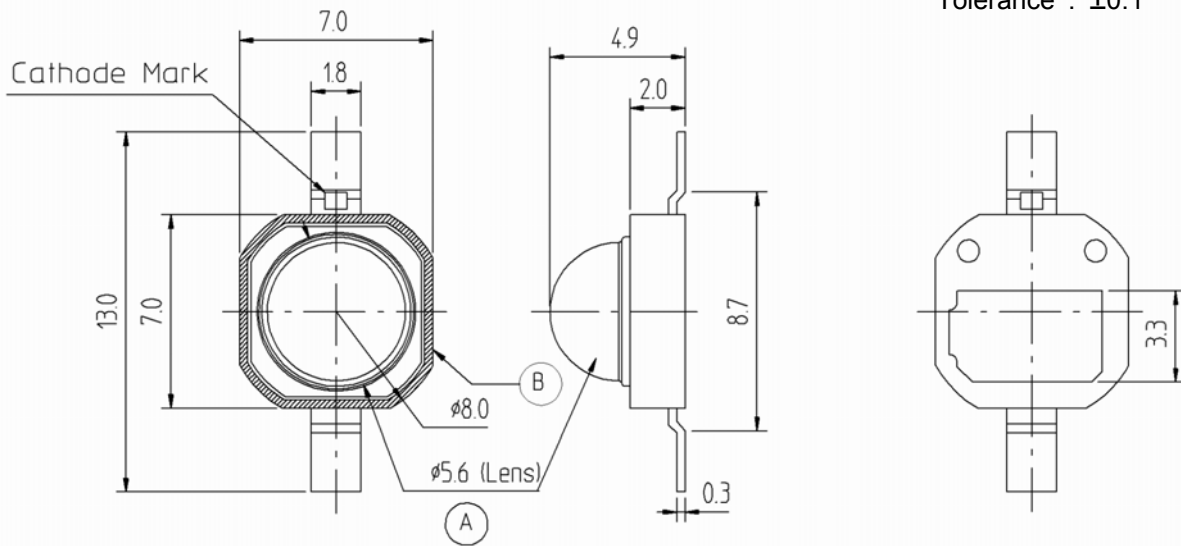
Typical Characteristics Graph



Outline Drawing and Dimension

Unit:mm

Tolerance : ± 0.1



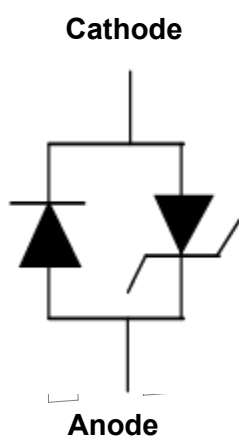
Pick and Place

1. Do not place pressure on the encapsulating resin ("A").

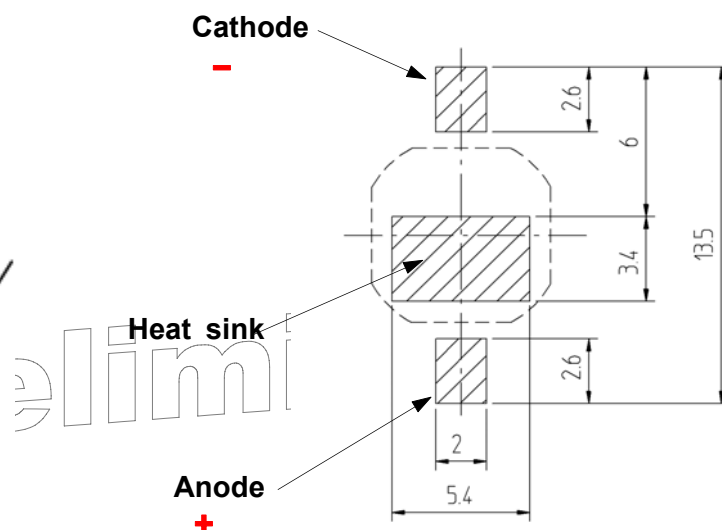
It is recommended to use a pick & place nozzle with inside diameter of 5.8mm.

2. The maximum compressing force is 15N on the polymer("B").

Circuit



Solder Pattern for Surface Mount



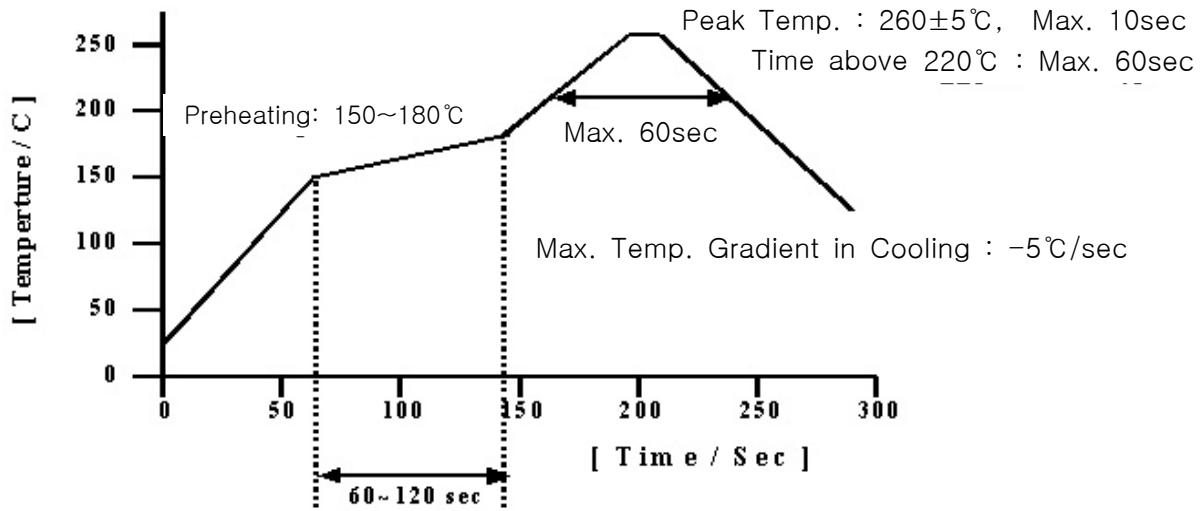
Remarks)

Make sure the heat sink is electrically connected to the Anode.

Heat sink is to be soldered, If not, use the heat conductive adhesive

■ Solder Conditions

Reflow Frequency : 2 times max.



2) For Manual Soldering

Not more than 5 seconds @MAX300°C, under soldering iron.

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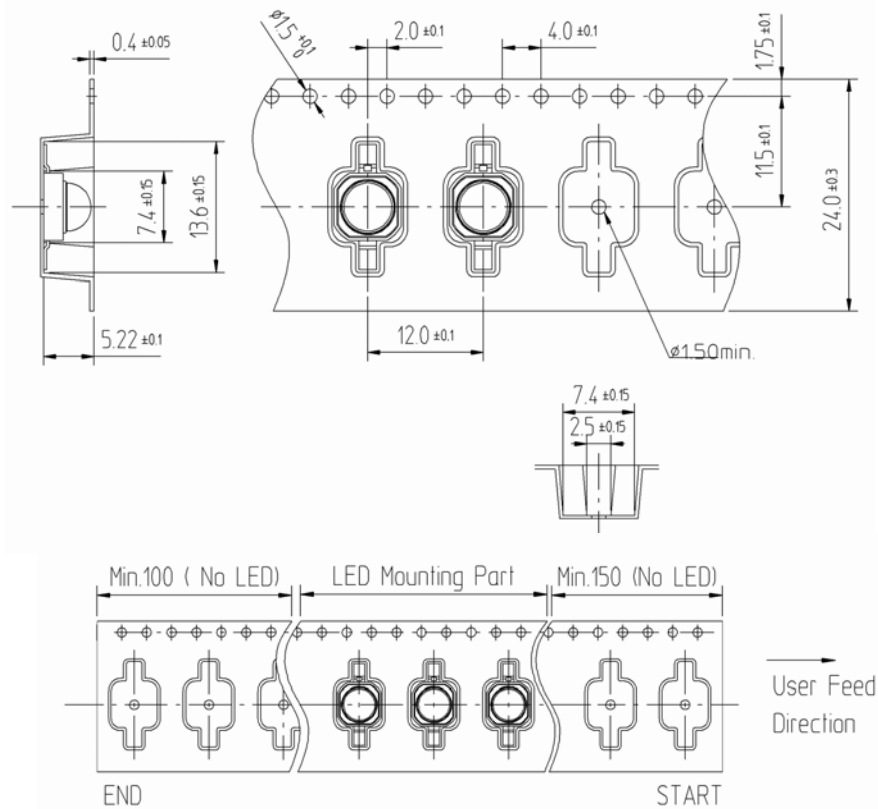
■ Taping Dimension

1. Carrier Tape

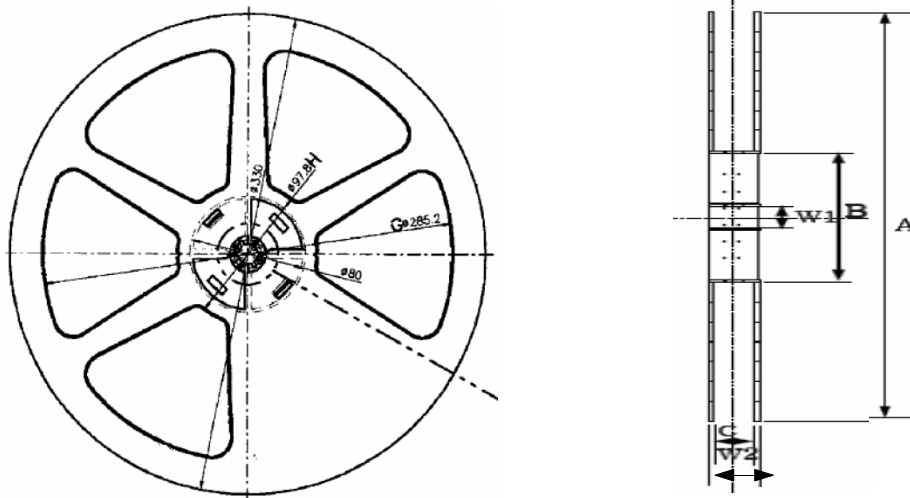
Cathode



Anode



2. Reel



Symbol	A	B	C	W1	W2
Dimension(mm)	330 ± 1	80 ± 1	25 ± 0.5	13 ± 0.3	29.5 ± 1

- (1) Quantity : 1,000 Pcs / 13" Reel.
- (2) Cumulative Tolerance : Cumulative Tolerance/10 pitches to be $\pm 0.2\text{mm}$
- (3) Adhesion Strength of Cover Tape : Adhesion strength to be 0.1-0.7N when the cover tape is turned off from the carrier tape at 10°C angle to be the carrier tape.
- (4) Packaging : P/N, Manufacturing data Code No. and quantity to be indicated on a damp proof Package

■ Precaution for Use

1. This device should not be used in any type of fluid such as water, oil, organic solvent, etc.
When washing is required, IPA should be used.
2. When the LEDs are illuminating, operating current should be decided after considering the ambient maximum temperature.
3. LEDs must be stored to maintain a clean atmosphere.
If the LEDs are stored for 3months or more after being shipped from Samsung Electro-Mechanics, a sealed container with a nitrogen atmosphere should be used for storage.
4. The LEDs must be used within seven days after opening the moisture proof packing. Repack unused Products with anti-moisture packing, fold to close any opening and then store in a dry place.
5. The appearance and specifications of the product may be modified for improvement without notice.
6. This LEDs is sensitive to the static electricity and surge. It is recommended to use a wrist band or anti-electrostatic glove when handling the LEDs.

If over voltage which exceeds the absolute maximum rating is applied to LEDs, it will cause damage LEDs and result in destruction.

Damaged LEDs will show some unusual characteristics such as leak current remarkably increase, turn-on voltage becomes lower and the LEDs get unlighted at low current.

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