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# SPECIFICATION

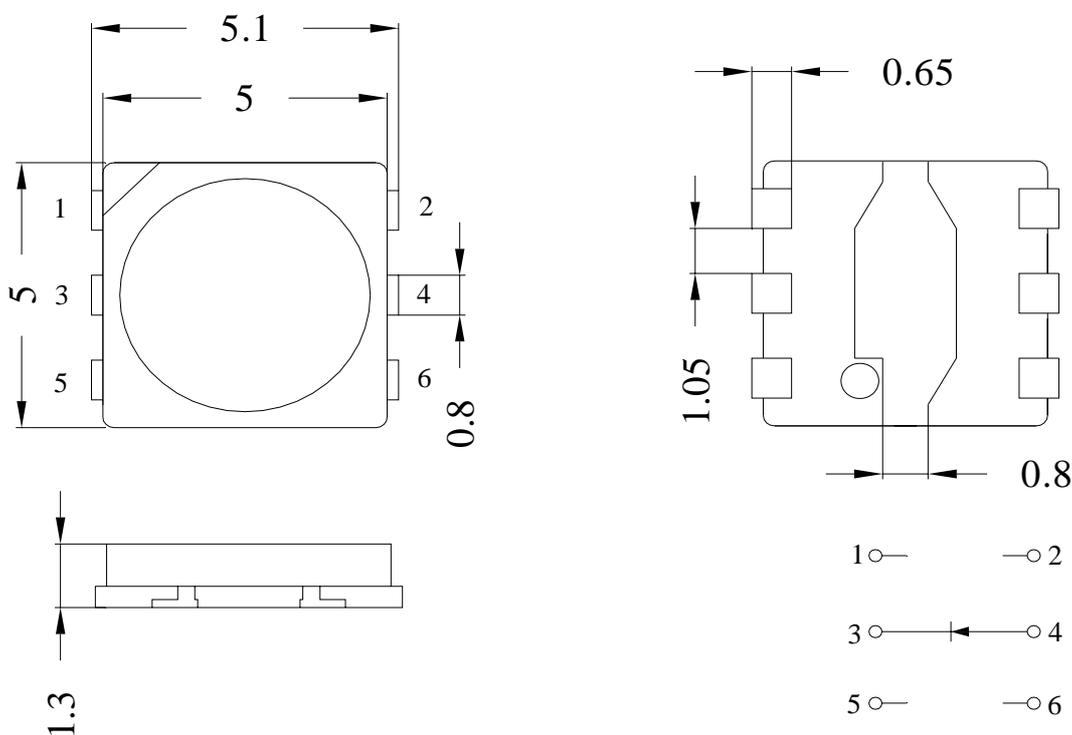
*PART NO. : LPHMN3-HM-1UAT360S17*

*5.0 x 5.0mm SMD TYPE*



Approved by	Checked by	Prepared by
<i>KJ</i>	<i>Lian</i>	<i>Yong</i>

### Package Dimensions



#### Notes:

1. All dimensions are in mm.
2. The specifications, characteristics and technical data described in the datasheet are subject to change without notice.
3. Tolerance is  $\pm 0.25$ mm unless otherwise noted.

### Description

Part No.	LED Chip		Lens Color
	Material	Emitting Color	
LPHMN3-HM-1UAT360S17	InGaN/Sapphire	White	Yellow Diffused

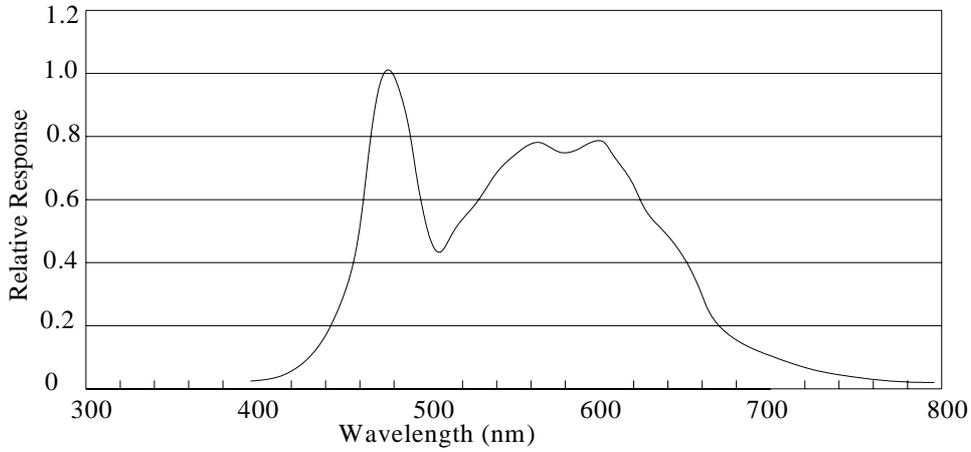
**Absolute Maximum Ratings at Ta=25 °C**

Parameter	Symbol	Rating	Unit
Power Dissipation	P <sub>D</sub>	2000	mW
Reverse Voltage	V <sub>R</sub>	5	V
D.C. Forward Current	I <sub>f</sub>	500	mA
Operating Temperature Range	T <sub>opr.</sub>	-40 to +100	°C
Storage Temperature Range	T <sub>stg.</sub>	-40 to +100	°C
Soldering Temperature	T <sub>sld.</sub>	Reflow Soldering: 260°C for 10 sec. Hand Soldering: 350°C for 3 sec.	
Electric Static Discharge Threshold (HBM)	ESD	6000	V

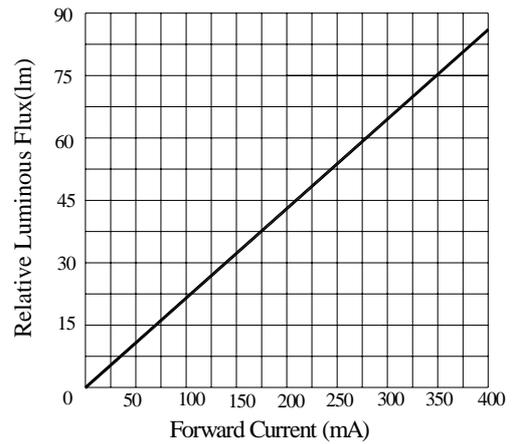
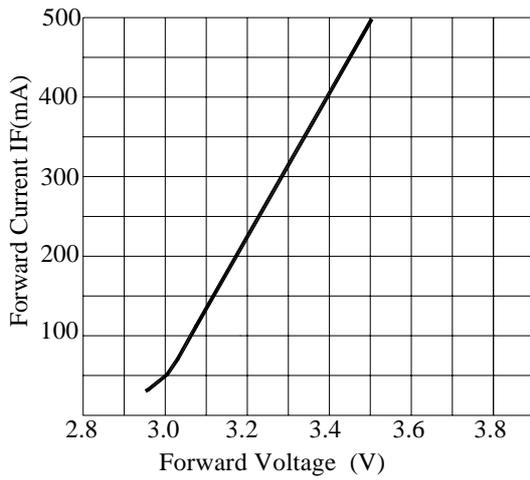
**Electrical and Optical Characteristics:**

Parameter		Symbol	Condition	Min.	Typ.	Max.	Unit
Luminous Flux	Rank S2	Φ <sub>v</sub>	I <sub>f</sub> =350mA	59.3	-	67	Lm
	Rank T1			67	-	77	
	Rank T2			77	-	87	
	Rank U1			87	-	100	
Forward Voltage	Rank 01	V <sub>F</sub>	I <sub>f</sub> =350mA	2.7	--	3.0	V
	Rank 02			3.0	--	3.25	
	Rank 03			3.25	--	3.5	
	Rank 04			3.5	--	3.75	
	Rank 05			3.75	--	4.0	
Correlated Colour Temperature	Rank E	CCT	I <sub>f</sub> =350mA	6000	--	6250	K
	Rank F			6250	--	6500	
	Rank G			6500	--	6750	
	Rank H			6750	--	7000	
Color Rendering Index		CRI	I <sub>f</sub> =350mA	-	70	-	Ra
Reverse Current		I <sub>r</sub>	V <sub>r</sub> =5V			50	μA
Viewing Angle		2θ 1/2	I <sub>f</sub> =350mA		120		deg

**Typical Electrical/Optical Characteristic Curves  
(25°C Ambient Temperature Unless Otherwise Noted)**

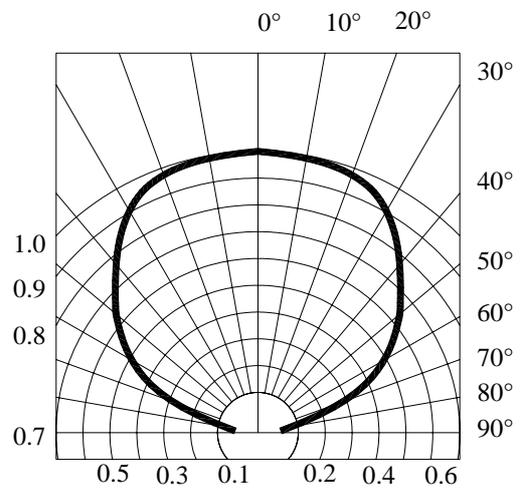
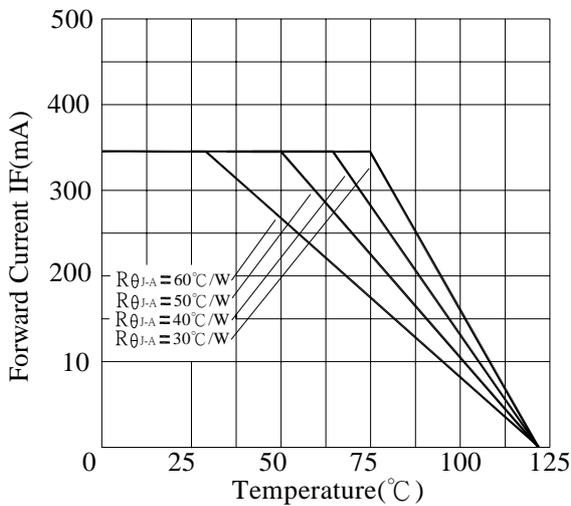


**Fig.1 RELATIVE LUMINOUS INTENSITY**



**Forward Current VS. Forward Voltage**

**Forward Current VS. Luminous Intensity**



**Ambient Temperature VS. Forward Current**

**Radiation Diagram**

## PRECAUTION IN USE

### 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 sealed container with packages of moisture absorbent material (silica gel). It is also recommended to return the LEDs to the original moisture proof bag and to reseal the moisture proof bag again.

Fold the opened bag firmly and keep in 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		

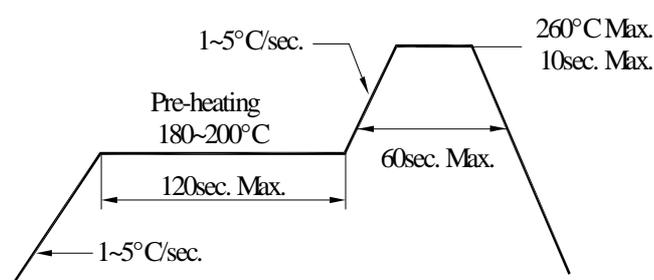
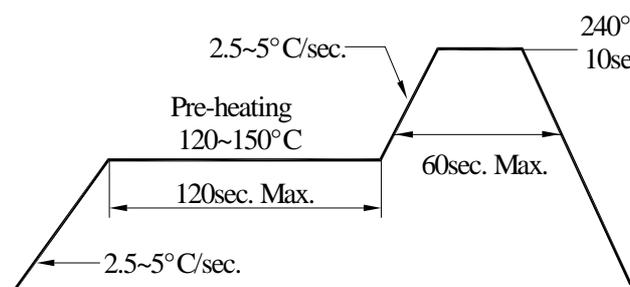
\*After reflow soldering rapid cooling should be avoided.

[Temperature-profile (Surface of circuit board)]

Use the conditions shown in the under figure.

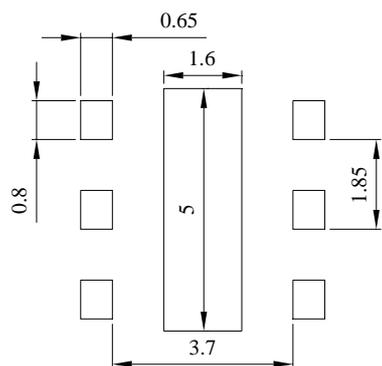
< 1 : Lead Solder >

< 2 : Lead-free Solder >



[ Recommended soldering pad design ]

Use the following conditions shown in the figure.

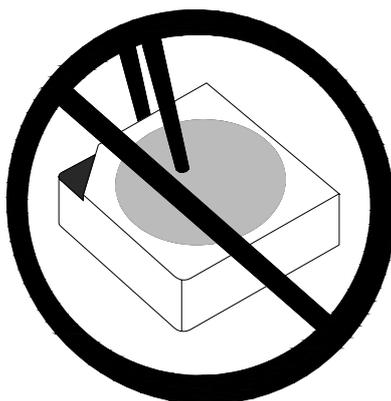


(Unit:mm)

## Handling of Silicone Resin LEDs

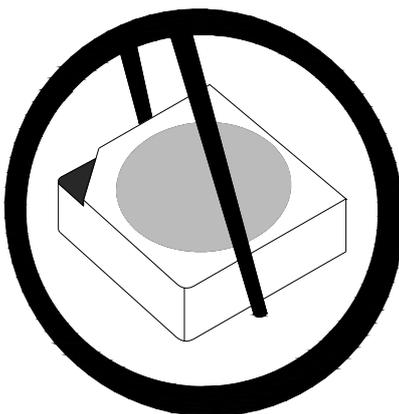
### Handling Indications

During processing, mechanical stress on the surface should be minimized as much as possible. Sharp objects of all types should not be used to pierce the sealing compound



**Figure 1**

In general, LEDs should only be handled from the side. By the way, this also applies to LEDs without a silicone sealant, since the surface can also become scratched.



**Figure 2**

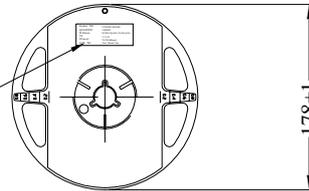
When populating boards in SMT production, there are basically no restrictions regarding the form of the pick and place nozzle, except that mechanical pressure on the surface of the resin must be prevented.

This is assured by choosing a pick and place nozzle which is larger than the LED's reflector area.

### Packing

REEL  
QUANTITY: 1,000 PCS

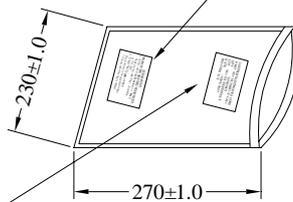
LEDTECH ELECTRONICS CORP.  
PART NO :LTXXXX-XX  
QTY : PCS  
LOT NO :XXXXXXXXXX  
DATE :  
BIN CODE:



Mositure-sensitive label

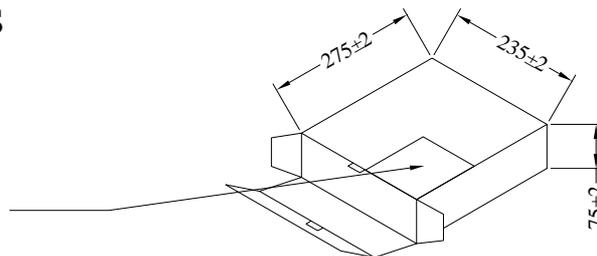
BAG  
QUANTITY: 1,000 PCS

LEDTECH ELECTRONICS CORP.  
PART NO :LTXXXX-XX  
QTY : PCS  
LOT NO :XXXXXXXXXX  
DATE :  
BIN CODE:



INSIDE BOX  
QUANTITY: 4 BAGS  
TOTAL: 4,000 PCS

LEDTECH ELECTRONICS CORP.  
PART NO :LTXXXX-XX  
QTY : PCS  
LOT NO :XXXXXXXXXX  
DATE :  
BIN CODE:



#### Notes:

- 1.All dimensions are in mm, tolerance is±2.0mm unless otherwise noted.
- 2.Specifications are subject to change without notice.