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# SPECIFICATION

*PART NO. : LT8AW1-54-UKG3-SH7TE*

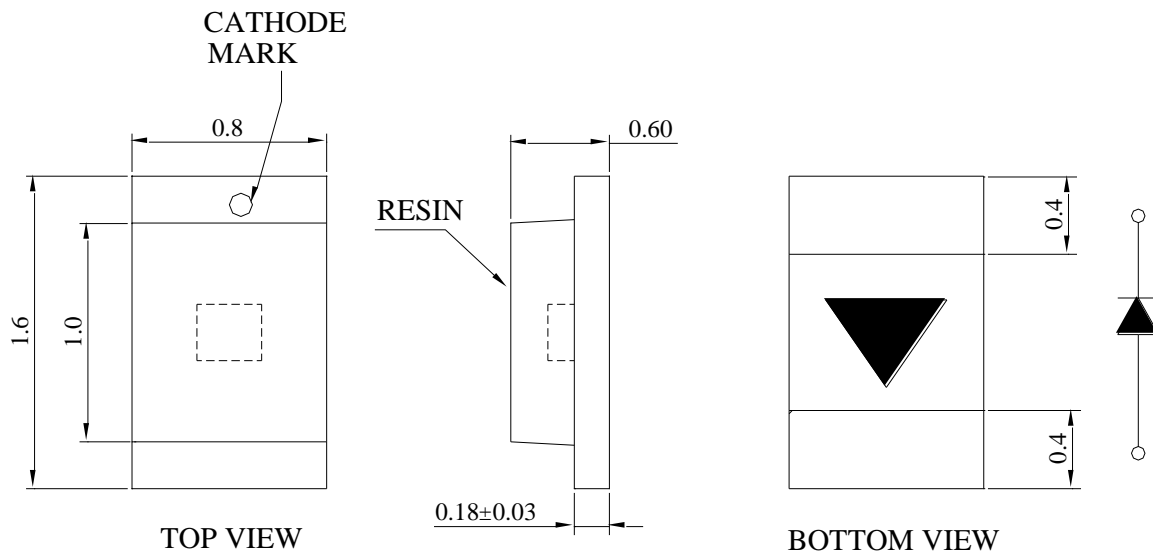
**0603 SMD CHIP LED**

CUSTOMER	LEDTECH
Confirmed by	Confirmed by
Date	Date



Approved by	Checked by	Prepared by
<i>Yue</i>	<i>Lian</i>	<i>LZC</i>

### Package Dimensions



#### Notes:

1. All dimensions are in mm.
2. Tolerance is  $\pm 0.1$ mm unless otherwise noted.

### Description

Part No.	LED Chip		Lens Color
	Material	Emitting Color	
LT8AW1-54-UKG3-SH7TE	GaN/Sapphire	White	Yellow Diffused

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

Parameter	Symbol	Rating	Unit
Power Dissipation	P <sub>D</sub>	120	mW
Reverse Voltage	V <sub>R</sub>	5	V
D.C. Forward Current	I <sub>f</sub>	30	mA
Peak Current(1/10Duty Cycle,0.1ms Pulse Width.)	I <sub>f</sub> (Peak)	80	mA
Operating Temperature Range	T <sub>opr.</sub>	-40 to +85	°C
Storage Temperature Range	T <sub>stg.</sub>	-40 to +85	°C
Soldering Temperature.	T <sub>sol.</sub>	Reflow Soldering:260°C for 10 sec.	
Electric Static Discharge	ESD	1000	V

**Electrical and Optical Characteristics:**

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Luminous Intensity	I <sub>v</sub>	I <sub>f</sub> =20mA	800	1100	1400	mcd
Forward Voltage	V <sub>f</sub>	I <sub>f</sub> =20mA	2.6	2.8	3.3	V
Correlated Colour Temperature	CCT	I <sub>f</sub> =20mA	11000		15000	K
Reverse Current	I <sub>r</sub>	V <sub>r</sub> =5V			10	μA
Viewing Angle	2θ 1/2	I <sub>f</sub> =20mA		140		deg

Notes: 1.Tolerance of Luminous Intensity is ±15%

2.Tolerance of Forward Voltage is ±0.1V

3.Tolerance of Correlated Colour Temperature is ±10%

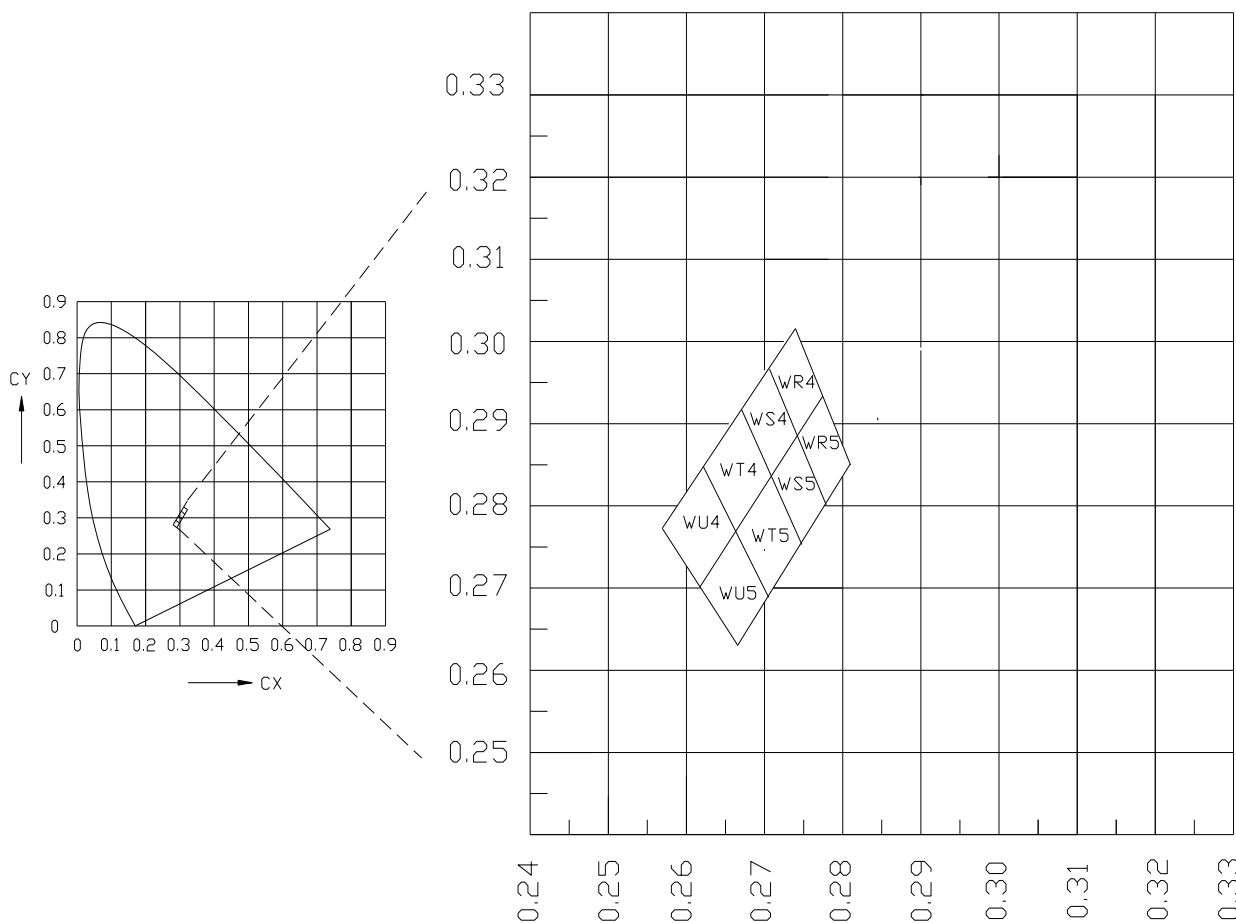
### Chromaticity Coordinates Specifications for Bin Grading:

COLOR RANKS(IF=20mA.Ta=25°C)

BiN	RANK					BiN	RANK				
WR4	X	0.2646	0.2682	0.2725	0.2693	WR5	X	0.2693	0.2725	0.2768	0.274
	Y	0.2895	0.2944	0.2862	0.2817		Y	0.2817	0.2862	0.278	0.2737
WS4	X	0.2618	0.2646	0.2693	0.2667	WS5	X	0.2667	0.2693	0.274	0.2711
	Y	0.2846	0.2895	0.2817	0.2774		Y	0.2774	0.2817	0.2737	0.2689
WT4	X	0.2583	0.2618	0.2667	0.2637	WT5	X	0.2637	0.2667	0.2711	0.2689
	Y	0.2801	0.2846	0.2774	0.2729		Y	0.2729	0.2774	0.2689	0.266
WU4	X	0.2561	0.2583	0.2637	0.2613	WU5	X	0.2613	0.2637	0.2689	0.2668
	Y	0.2764	0.2801	0.2729	0.2697		Y	0.2697	0.2729	0.266	0.2632

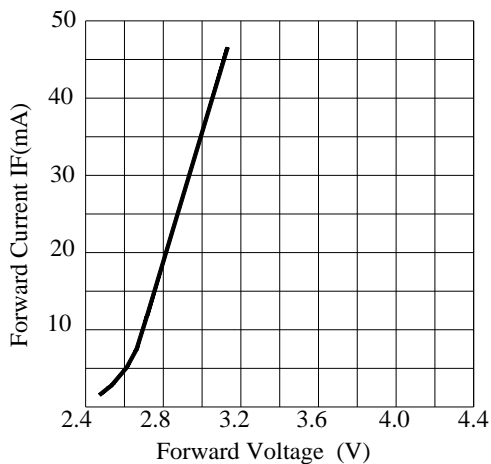
Note: X.Y Tolerance each Bin limit is  $\pm 0.01$ .

### Chromaticity Coordinates & Bin grading diagram:

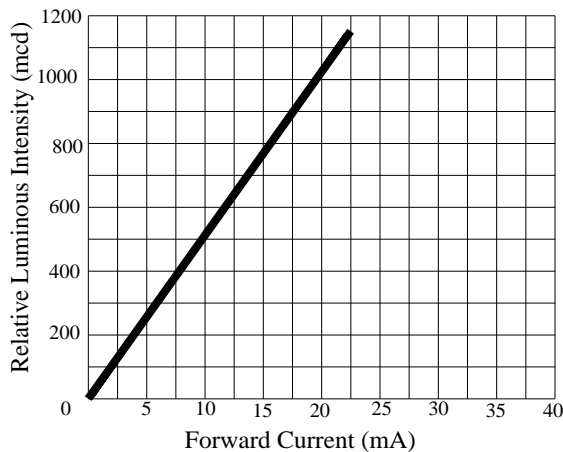


## Typical Electrical/Optical Characteristic Curves

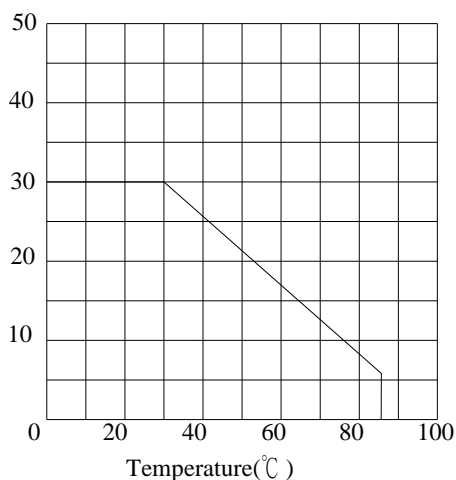
(25°C Ambient Temperature Unless Otherwise Noted)



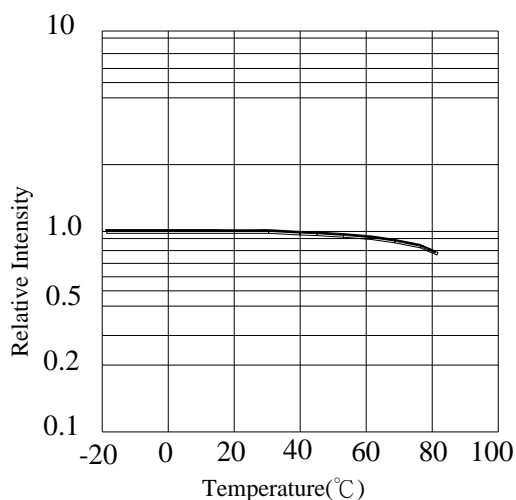
**FORWARD CURRENT VS. APPLIED VOLTAGE**



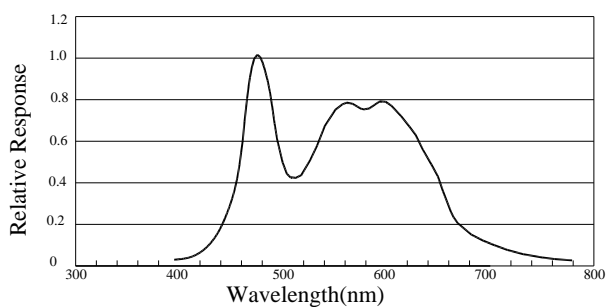
**RELATIVE INTENSITY VS. FORWARD CURRENT**



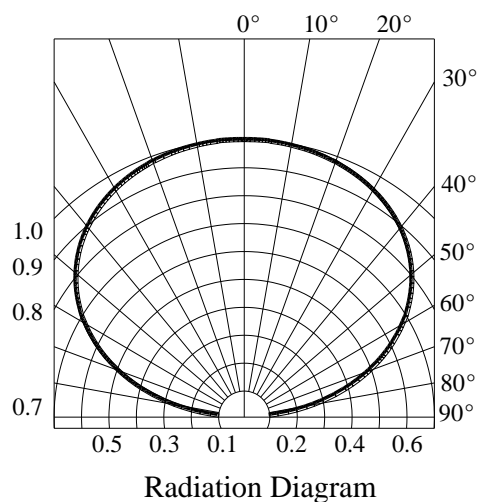
**FORWARD CURRENT VS. AMBIENT TEMPERATURE**



**RELATIVE INTENSITY VS. AMBIENT TEMPERATURE**



**WHITE LED SPECTRUM VS. WAVELENGTH**



**Radiation Diagram**

## **Sulfur-sensitive**

- **There is silver-plated metal part on the inner/outer side of the outer package.  
If exposed to the condition with corrosive gas, the silver plating surface may go bad, which will affect soldering strength and optical properties. Therefore, after opening it must be kept in a sealed container, etc.**
- **Materials contain sulfur component (gasket, adhesive, etc.) may have bad effects on the surface of the coating, so please do not use such materials in the product.**
- **In cardboard boxes and rubber, even in the atmosphere may contain minute amount of corrosive gases; In addition, the resin material may also contain halogen which has a bad effect on the surface of the coating.**
- **Even if the soldering installation and product assembly finished, by the effect of corrosive gas generated by relative materials of LED and external injected, the coating surface may go bad, so it is necessary to design the product taking into account the above factors.**
- **If requires, it is best to use a silicone washer, but be aware that low molecular silicone may cause the product poor contact.**
- **Keep the product in location where has less temperature change, because moisture condensation would be generated under a condition of strong temperature change.**

## **DISCLAIMER**

- 1. Our department reserves the right(s) on the adjustment of product material mix for the specification.**
- 2. The product meets our department published specification for a period of twelve (12) months from date of shipment.**
- 3. The graphs shown in this datasheet are representing typical data only and do not show guaranteed values.**
- 4. When using this product, please observe the absolute maximum ratings and the instructions for using outlined in these specification sheets. Our department assumes no responsibility for any damage resulting from the use of the product which does not comply with the absolute maximum ratings and the instructions included in these specification sheets.**
- 5. These specification sheets include materials protected under copyright of our department.  
Reproduction in any form is prohibited without obtaining our department's prior consent.**
- 6. This product is not intended to be used for military, aircraft, automotive, medical, life sustaining or life saving applications or any other application which can result in human injury or death. Please contact authorized our department sales agent for special application request.**

## Precautions in Use:

### Storage

Recommend 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

Recommend use of upper and lower heater type reflow furnace.

260°C Max for up to 10 seconds, one time only.

Pre-heat is 150°C Max for up to 2 minutes Max.

In case of screen-printing, keep metal mask thickness between 0.2mm and 0.3mm.

### Cleaning

Surface condition of this device may change when organic solvents such as trichloroethylene or acetone were applied.

Avoid using organic solvent.

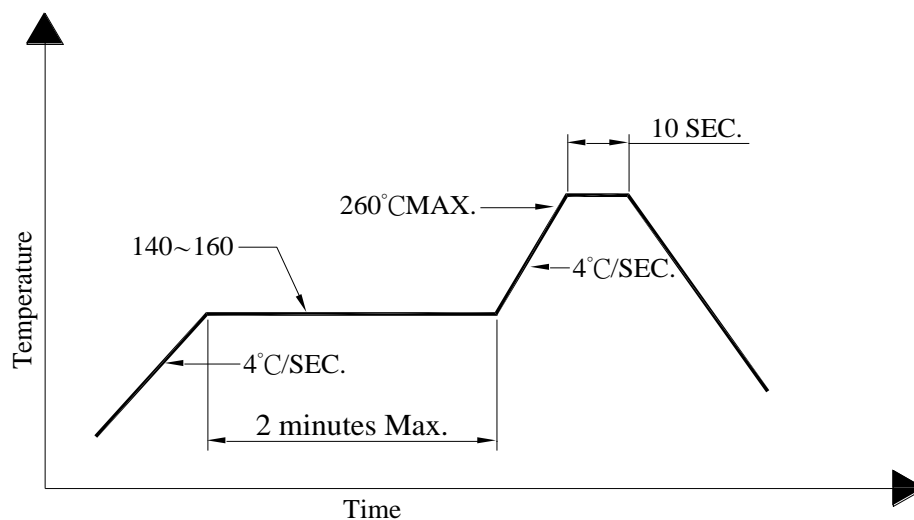
Recommend ultrasonic method 300W Max.

### Packaging

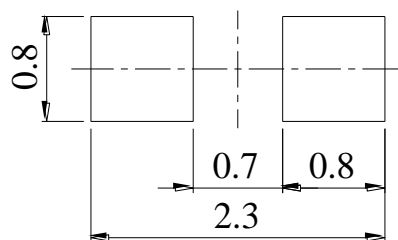
EIA-481A standard package.

In 8mm tape on 4000 pcs diameter reels sealed in vapor/ESD barrier bags.

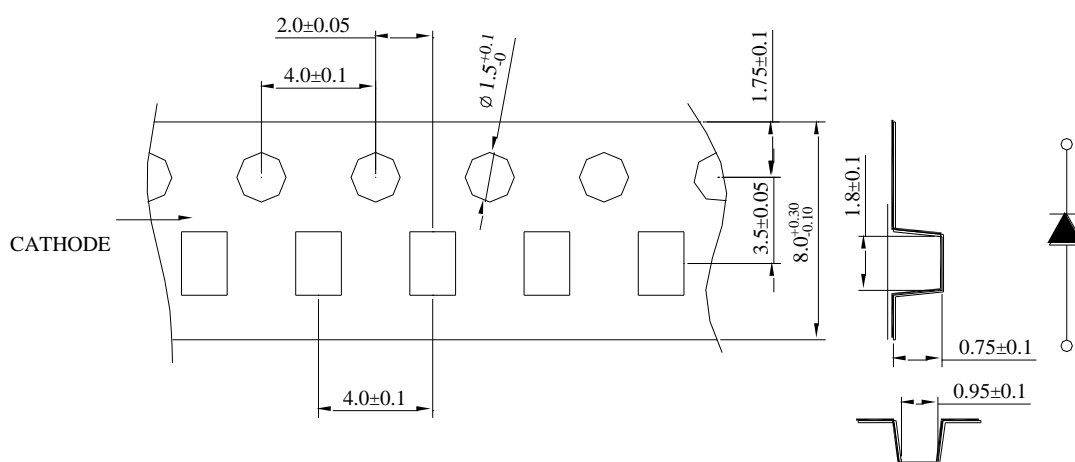
## Reflow Temp/Time:



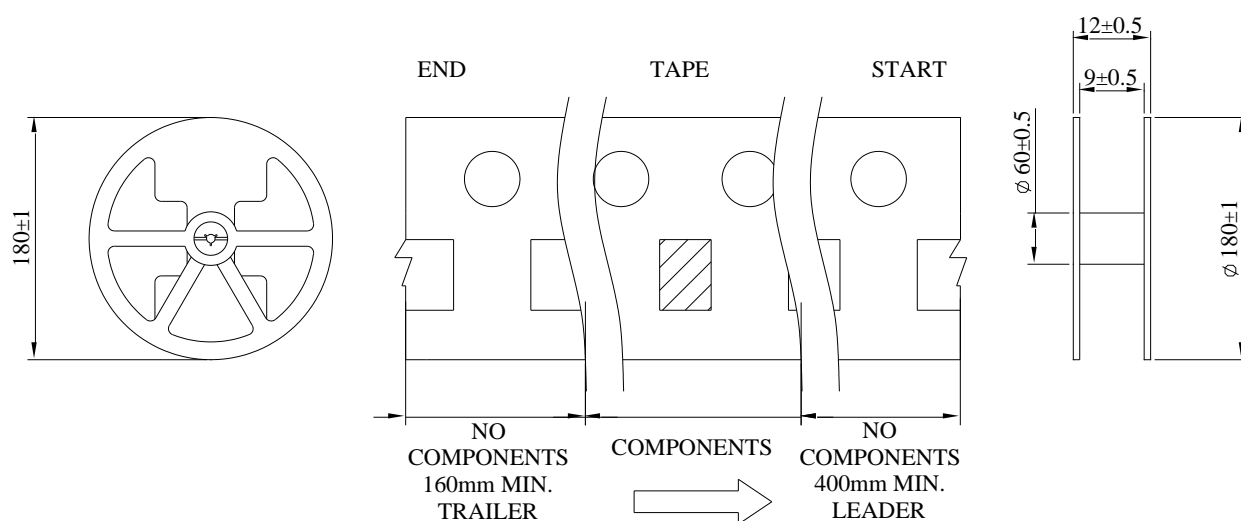
### Reflow Soldering Pad Dimensions



### Dimensions for Tape



### Dimensions for Reel



#### Notes:

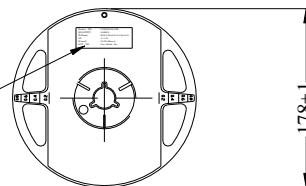
1. All dimensions are in mm, tolerance is  $\pm 2.0$  mm unless otherwise noted.
2. Specifications are subject to change without notice.



## Dimensions for Tape

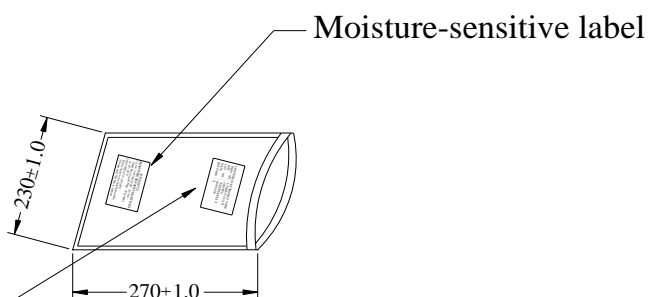
**REEL**  
**QUANTITY: 4,000 PCS**

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



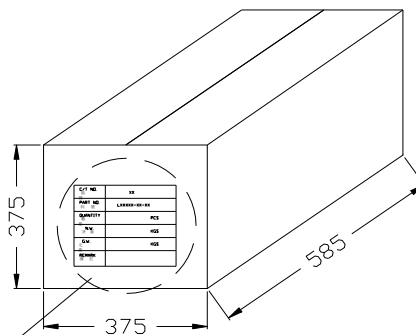
**BAG**  
**QUANTITY: 4,000 PCS**

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



**OUTER CARTON:**  
**QUANTITY: 85 BAGS**  
**TOTAL: 340,000PCS**

C/T NO. 箱 號	XX
PART NO. 料 號	XXXXXXXXXXXXXXXX
QUANTITY 數 量	PCS
N.W. 淨 重	KGS
G.W. 毛 重	KGS
REMARK 備 註	



**Notes:**

- 1.7 inch reel-4000 pieces per reel.
- 2.Minimum packing quantity is 500 pieces for remainders.
- 3.The maximum number of consecutive missing lamps is two.

## 物料清單

序号	物料名称	材质	型号	厂家名称
1	晶片	GaN	S18	三安
2	支架	膠料	54	浩遠
3	粘膠	絕緣膠	20	雅威
4	導線	Au	09	佳博
5	膠	epoxy	1014	日東
6	螢光粉	鋁酸鹽	GH540+102	博睿