

SPECIFICATION

Model.

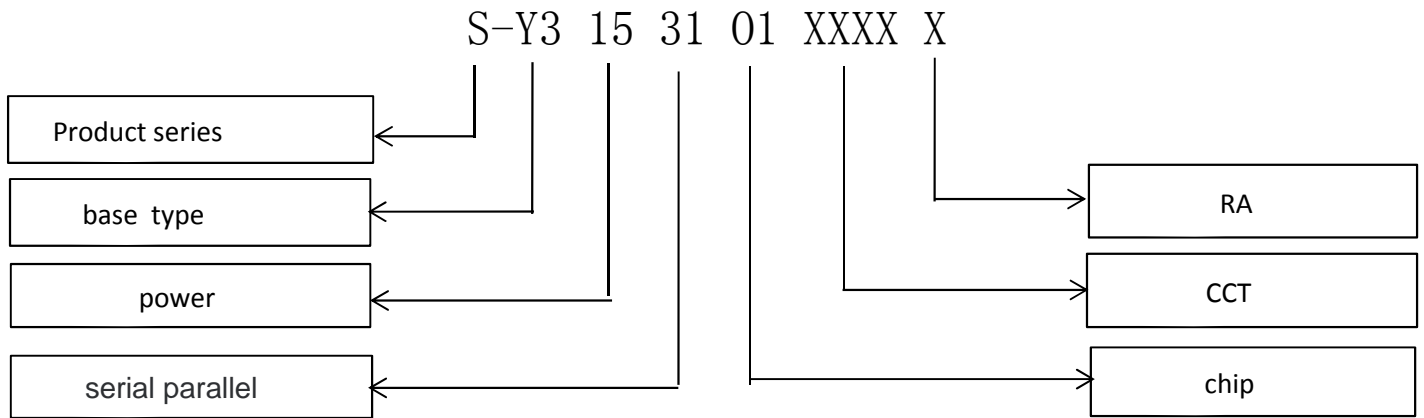
P/N NO. : S-Y3 15 31 01 XXXX X



(Date(Date Landed): :

Manufacturer		Customer Confirmation(Quality Dep.)		Customer Confirmation (Technology Dep.)	
Drafter	Hua Mulan	<input type="checkbox"/> (accept)		<input type="checkbox"/> (accept)	
		<input type="checkbox"/> (Reject)		<input type="checkbox"/> (Reject)	
Checked	Wen Shen	Checked		Checked	
Approved	Liu Jian Baolian	Approved		Approved	

1. Product Code Description



2. Application

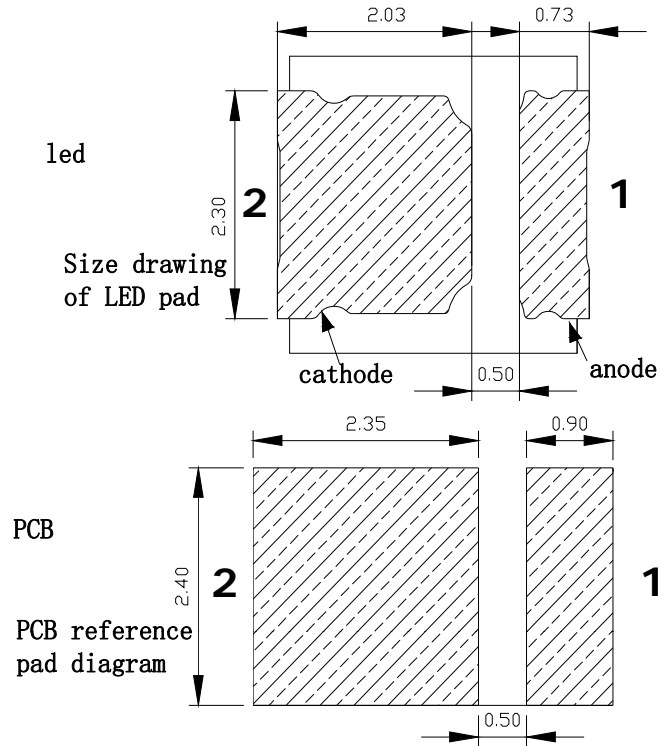
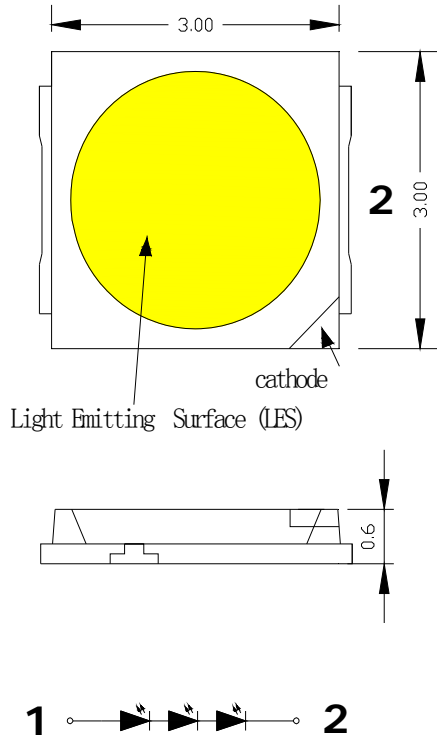
This specification applies only to models of high power led only (3030 01 White Led) LED .

2.1 Feature

- LM-80 High luminous efficiency, High luminous flux maintenance, LM-80 standard approved
- Package Dimension: 3.0mm×3.0mm×0.6mm
- Viewing Angle: 120°
- ROHS RoHS Approved CE Approved

2.2 Main application: Lighting

2. Demension and Circuit



Unit: mm

Tolerance: $\pm 0.2\text{mm}$

Base material: copper

:

3. Characteristics:

3-1. Absolute Maximum Ratings

Item	Symbol	Value	Unit
*1 limiting power	P	1.40	W
*1 DC Forward Current	I _f	120	mA
*2 Reverse Voltage	V _r	<5	V
Reverse Current	I _r	<10	uA
*3 Junction Temperature	T _j	<120	°C
Operating Temperature	T _{OPR}	-30~+105	°C
Storage Temperature	T _{STG}	-35~+100	°C
Electrostatic Limit	ESD	2000 HBM	V
Soldering Temperature	T _{SLD}	260°C/3-5S	°C/S
Moisture Sensitivity Rating	MSR	MSL3	°C/RH/H

Additional Remarks

1.

Max power and positive current mean the maximum setting value of the bottom temperature of led light source by using the appropriate heat sink.

2.

Connection error and off-limits voltage may damage LED chip.

3-3.Optical Characteristics:

Part Number	Nominal CCT (K)	Power T _j = 25°C (W)	Nominal Current (mA)	Voltage T _j = 25°C (V)	Pulsed Flux T _j = 25°C (lm)	CRI	Efficacy T _j = 25°C (lm/W)
SY31531O1030E*7	3000K 3200K	1.1	120	8.9-9.5	170-180	70	170-180
SY31531O1030E*8	3000K 3200K	1.1	120	8.9-9.5	160-170	80	160-170
SY31531O1040E*7	4000K 4500K	1.1	120	8.9-9.5	180-190	70	180-190
SY31531O1040E*8	4000K 4500K	1.1	120	8.9-9.5	170-180	80	170-180
SY31531O1050E*7	5000K 5500K	1.1	120	8.9-9.5	180-190	70	180-190
SY31531O1050E*8	5000K 5500K	1.1	120	8.9-9.5	170-180	80	170-180
SY31531O1060E*7	6000K 6500K	1.1	120	8.9-9.5	180-190	70	180-190
SY31531O1060E*8	6000K 6500K	1.1	120	8.9-9.5	170-180	80	170-180

Attention:

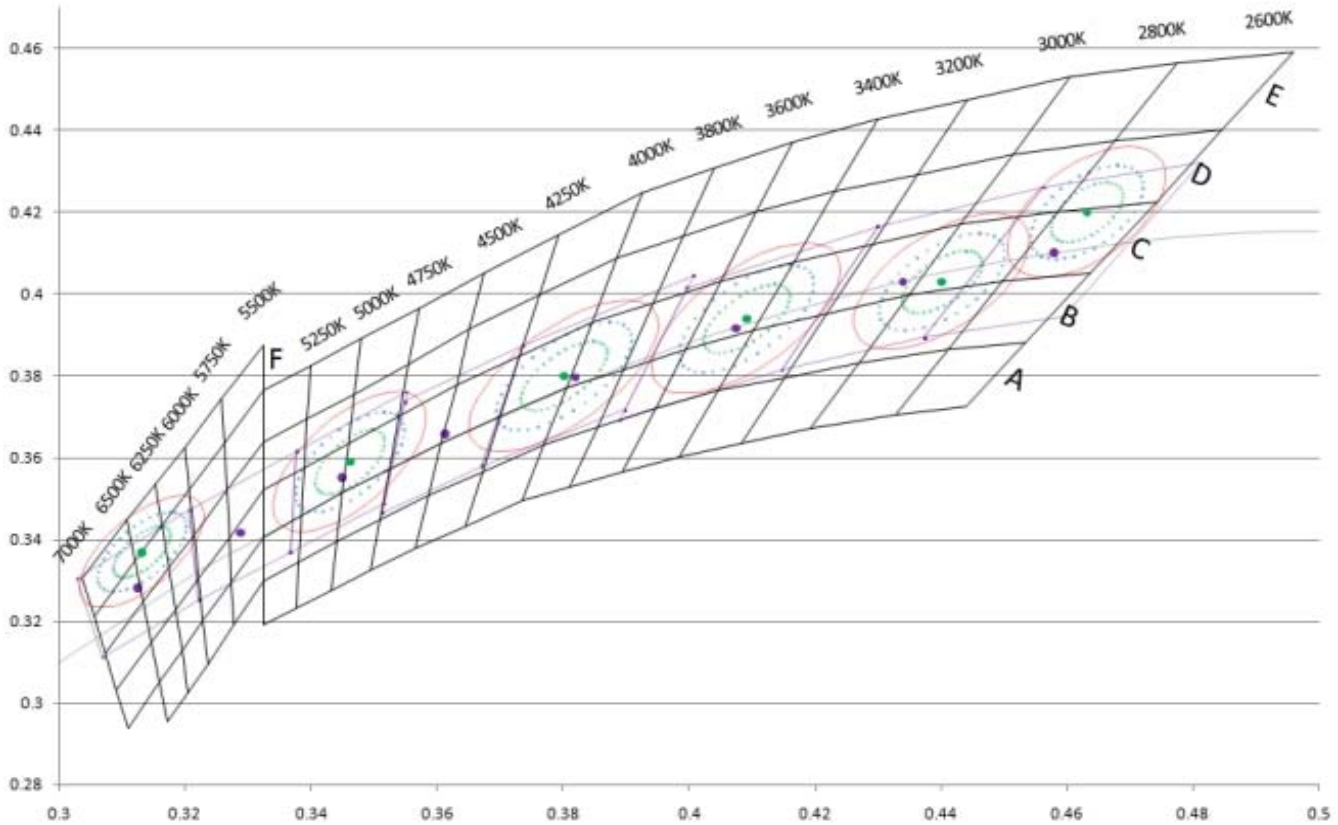
1.

Testing environment temperature 25 °C, and CCT and voltage will be changed if tested in different current and environment temperature.

2.

Tolerance among different testing machine: Voltage: ±0.1V, Lumen ±10%, CRI ±2, Color coordinate ± 0.005.

3-4.SDCM Color Area:



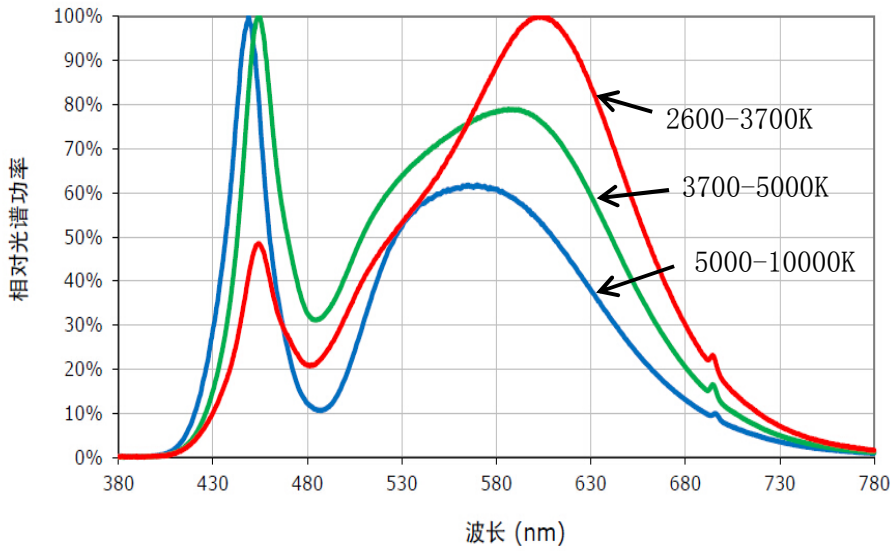
中心色温	2725K	3045K	3560K	3985K	4550K	5028K	5665K	5990K	6530K
X	0.4578	0.4338	0.4082	0.3818	0.3607	0.3447	0.329	0.3202	0.3123
Y	0.4101	0.403	0.3918	0.3797	0.3675	0.3553	0.3417	0.3385	0.3282

1. Voltage sub-standard: 0.2V / file, no requirement by 0.4V / file; luminous flux sub-standard: 10LM / file.
2. Color area can be controlled within 4-6 SDCMe. Bin of color temperature refers to ANSI C78.377-2008.
3. Special CCT and the center point is not in above color gamut range, do not identify.
- 4.

The whole light fixture requirements color tolerance ≤ 3 SDCM, according to the needs of color difference by way of sub-BIN, through the SMT-cross way to meet the requirements, the specific consult with the relevant technical staff.

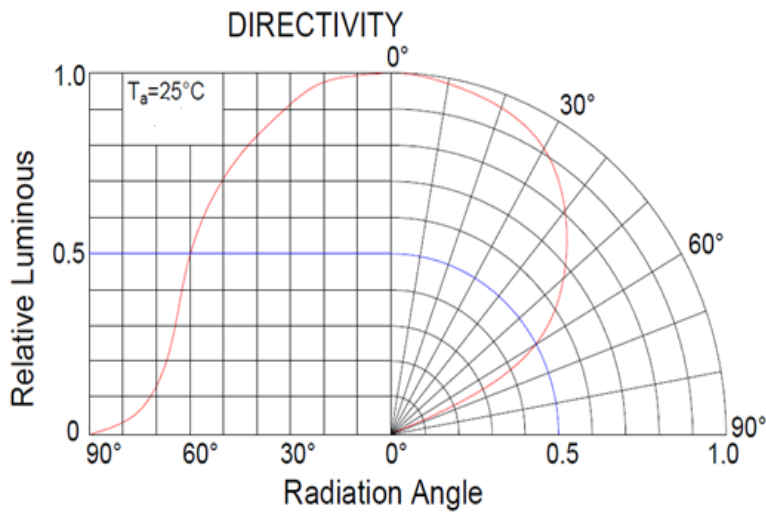
3-5.(TYP) Characteristics Diagram(TYP) 3-5.1

Relative Spectral Distribution Graph:



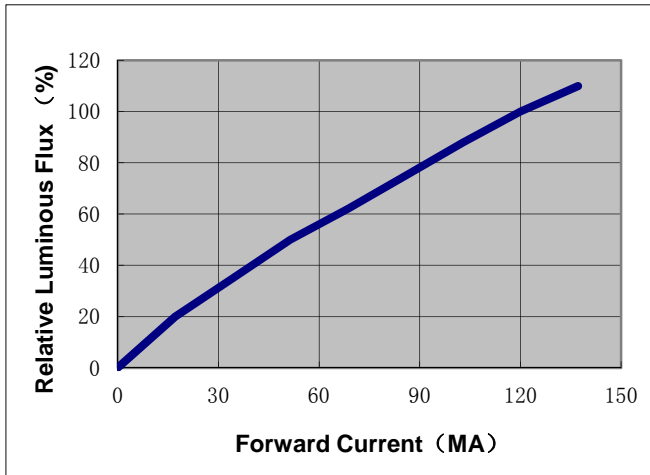
3-5.2

Radiation Angle Distribution Graph:

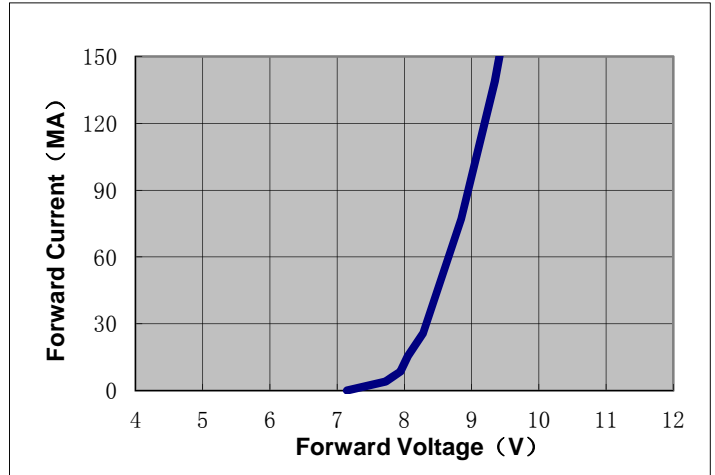


3-5.3 Other optical Curves

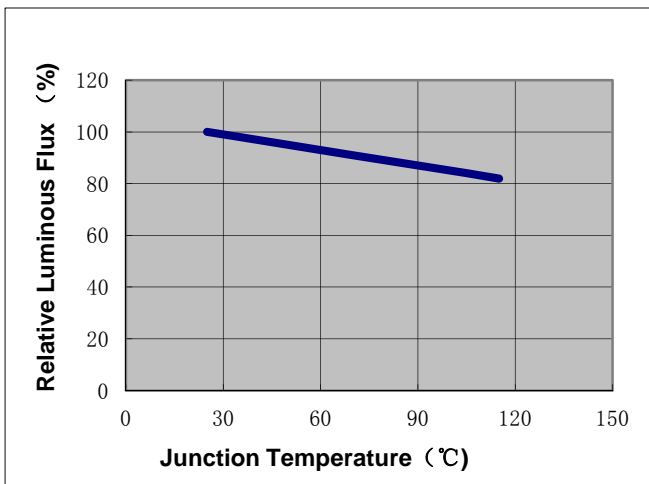
(1) . Relative Luminous Intensity VS Forward Current



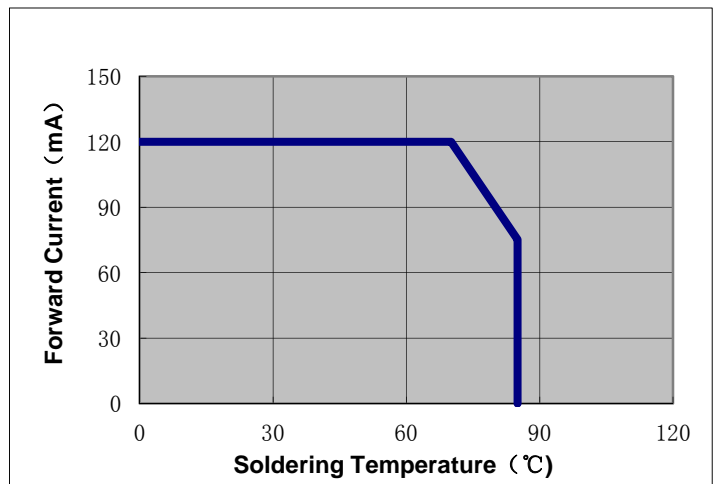
(2) . Forward Current VS Forward Voltage



(3) . Relative Luminous Intensity VS Junction Temperature



(4) . Forward Current VS Soldering Temperature



4. Reliability

4-1. Testing items and testing conditions

Serial No.	Test Item	reference standard	Test condition	Sample Quantity	Failure Quantity
1	Thermal shock	JESD22-A104E	(-40°C15min)-----+120°C(15min), ↑ ↓ 10 sec,200cycles	22pcs	0
2	HighTemperature Storage	JESD22-A103D	+100°C, 1000h	22pcs	0
3	Low Temperature Storage	JESD22-A119	-40°C, 1000h	22pcs	0
4	High Temperature, High Humidity, Aging Test	JESD22-A101C	T=+85°C,RH=85% IF=120 MA 1000h	22pcs	0
5	High-temperature opeoperratiationo n	IES LM80-2015	T=+105°C, IF=120 MA 1000h	22pcs	0
6	Low temperature operation	JESD22-A108D	T=-40°C, IF=120 MA 1000h	22pcs	0
7	Moisture/Reflow Sensitivity Test	J-STD-020E	Precondition: 60°C.60%RH.168H Tsls=260°C.10sec. 3 Reflows	22pcs	0

4-2 Failure criteria

Test Items	Test Condition	Criteria For Judgement	
		Min.	Max.
Forward Voltage	IF=120MA	/	U.S.L*)x1.1
Reverse Current	=10V	/	U.S.L*)x2.0
Luminous Flux	IF=120MA	L.S.L*)x0.7	/

5. Packing specification

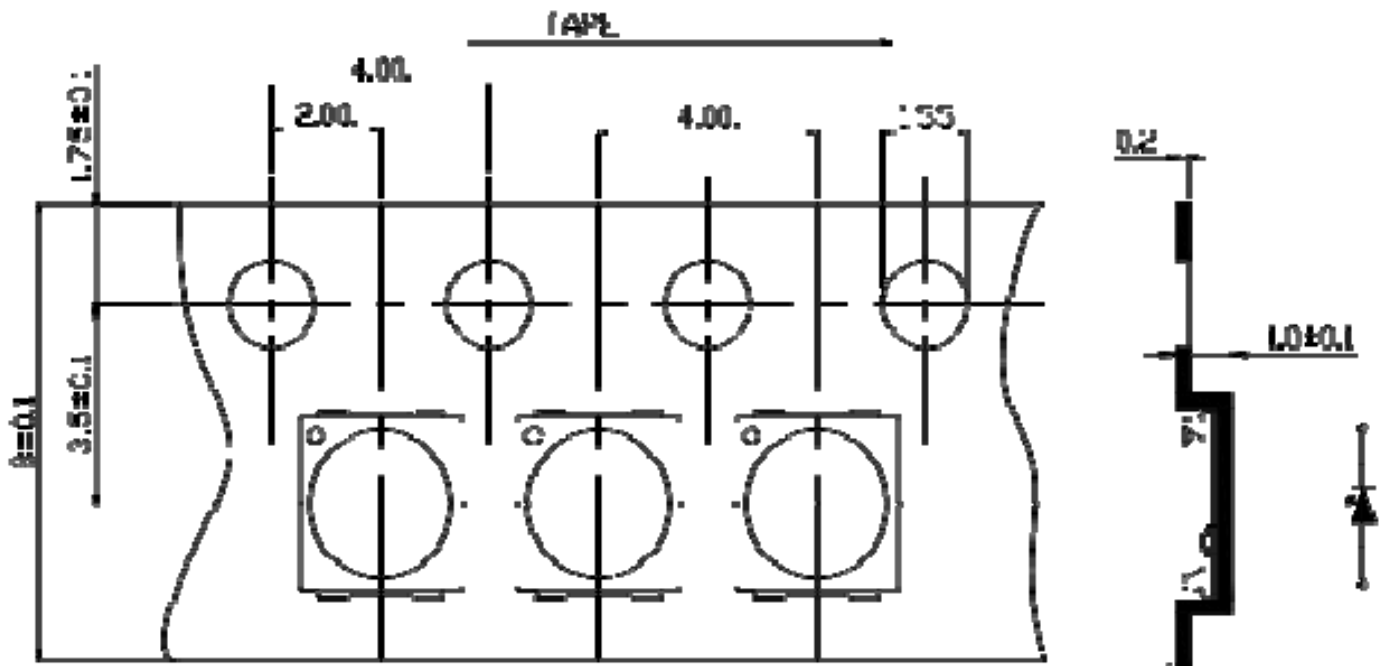
5.1 Aluminum foil bag label



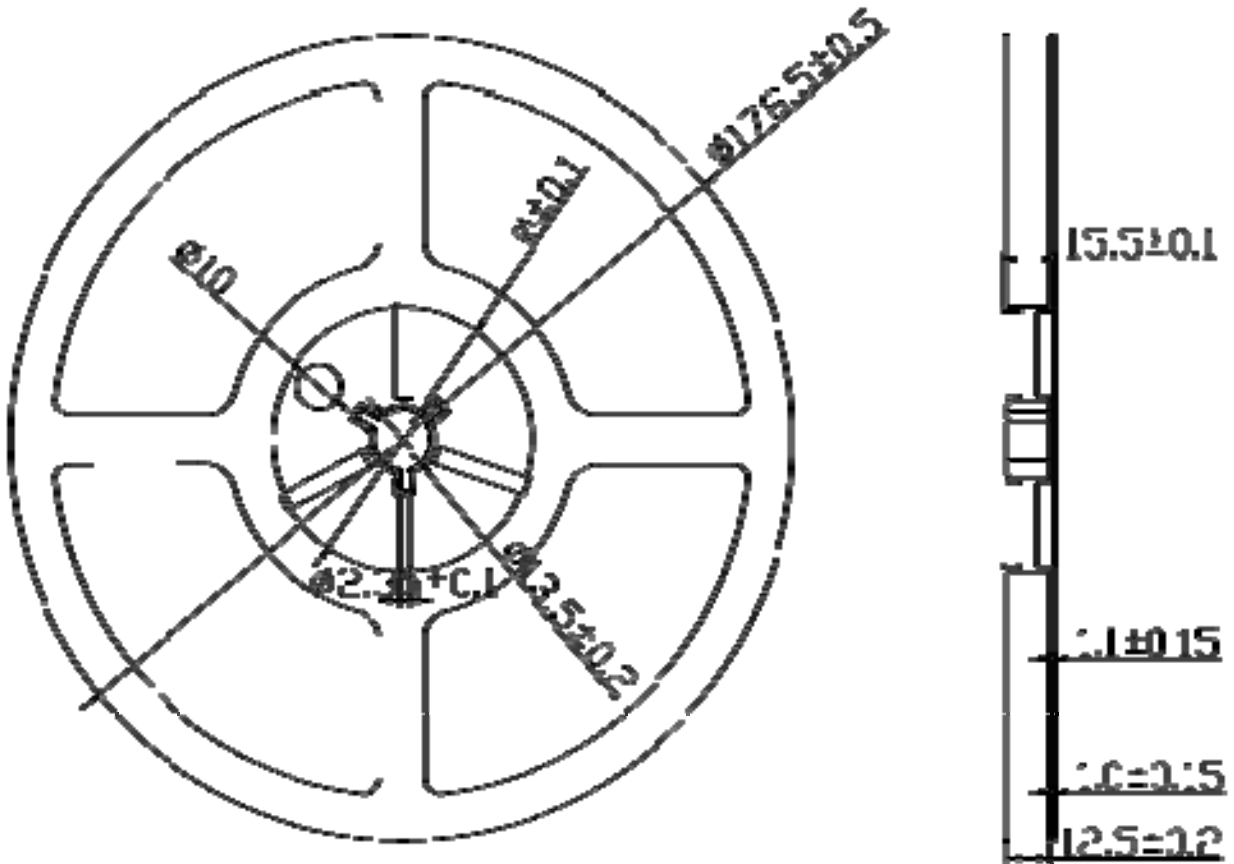
产品型号: X-XX-XX-XX-XX-XXXX-X
 生产单号: XXXXXXXX
 光通量: XXX-XXXLM 芯片: XXX
 色温: XXXX-XXXXK 色区: XXX
 电流: XXXMA 电压: XX-XXV
 显指: XXRA 数量: XXXXPCS
 日期: XXXX-XX-XX 业务: XXX

标签说明	型号 Model	芯片 Chip
Label Intro:	光通量 LM	电压 VF
	色温 CCT	电流 IF
	显指 RA	色区 Color BIN
	单号 Order No.	数量 Quantity
	备注 Explain	日期 Date

5.2 Packed tape dimensions (Units:mm)



5.3 Reel Dimension



5.4.

The LED tapes placed in the vacuum aluminum foil bag packaging, built-in humidity card. Then load by paper carton

5.5. Keep away from water, moisture in order to protect the LEDs.

5.6.

The LEDs may be damaged if the boxes are dropped or strong impact . so precautions must be taken to prevent any damage.

6. Caution

6.1 Storage conditions

before open: temperature is 5 ~ 30 °C, relative humidity below 60%. (the module should be used within 24H when opens), if not, please dehumidification and vacuum sealing .Humidity card changes color or bags leak must dehumidifier, dehumidifier conditions:60°C±5°C, 24 h.The effective use period of product seal is 3 months.

6.2 Attention:

During use and assembly, please do not press light-emitting colloid surface, pay attention to the choice of suction nozzle SMT , to prevent chip die.

6.3 Electrostatic protection

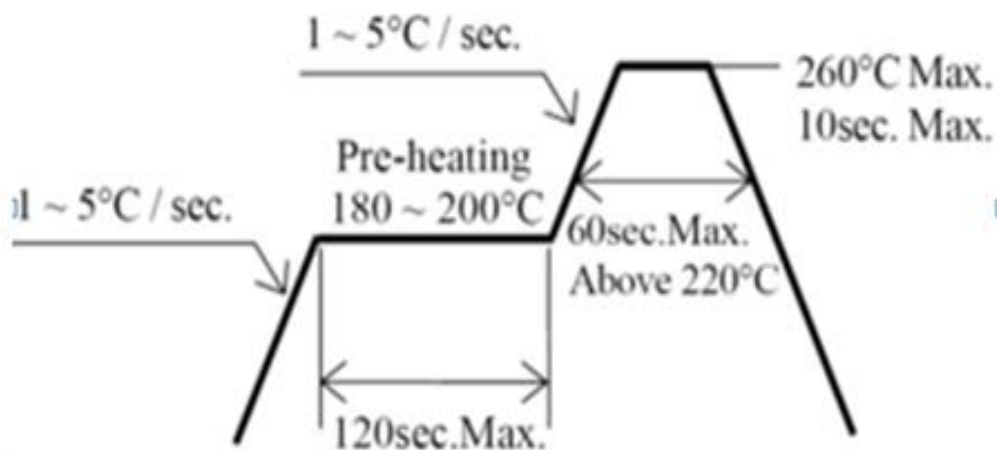
LED belong to grade I electrostatic sensitive device, please do ESD protection when touch and use

6.4 Clean condition

If LED colloid surface dirt, use alcohol to clean. Can't use acetone or corrosive to clean.

6.5 Welding conditions

Heating units or reflow welding machine are available to weld. Heat welding machine: 260 °C or less and molten tin, 3-6 seconds after maximum welding 2 times, natural cooling to room temperature, before packing. Reflow soldering is shown in figure:



LEDS can be welded twice at most, it can be welded again only after the LEDS are cooled as room temperature.

6.6 The electrical test

Unit chip voltage can not higher than 12 v, chip has positive and negative pad, the chip can not light up if weld wrong.

6.7 Design of circuit and heat dissipation

1.

Normal operating temperature: TS point (negative pad) is less than 85 °C, if exceeded, customer needs to make reliability assessment, customer takes the risk.

2.

Power Supply Select: This product is powered by using a constant current driver, and the output current of the power range meets the requirement of specifications book, if use constant voltage source or other conditions, please do risk assessment.

6.8 Environmental requirements

This product can not use under below situations, if use the product in any of the below conditions, please make sure the performance and reliability; Such as: wet, frost, salt air, corrosive gases (Cl, H₂S, where NH₃, SO₂, NO_x); Exposure under the sun, exposure outdoor, dusty. Water, oil, liquid medical and organic solvent.

7 Other Instructions:

7.1 Using Compatibility

The chemical composition of gas in lamps and surrounding environment of light source are essential to the life of the lamps, especially when you choose to use chemical composition, it is particularly important in lighting design. Before considering the use of any material, be sure to consult the product supplier or LED manufacturer. The more information obtained before using some material, the higher the performance of the lamp.

7.2 Color difference matters needing attention

The different Bin led has different photoelectric data, before use, please assess carefully.

7.3 Specific please check the <<Notice of the point light source products>> for reference.