

# Specifications for Approval

Customer Part No.:

JOINHANDS Part No.: JH-CC55M10SDP001

Part Name:2106 暖白光 LED

Spec Issue Date:2019-01-08

Revision No.: A0

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To Customer:

1. Accessory: Samples  Samples Data
2. Customer's Proposal : Agree Disagree

Reason :

Draw by :	Checked by :	Approved by :
李飞	卢伟昌	钟志鸿
Customer Approve		



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## Features

2.1mm x 0.6mm SMD LED, 1.0mm thickness

Low power consumption

Wide view angle

Package: 4000pcs/reel

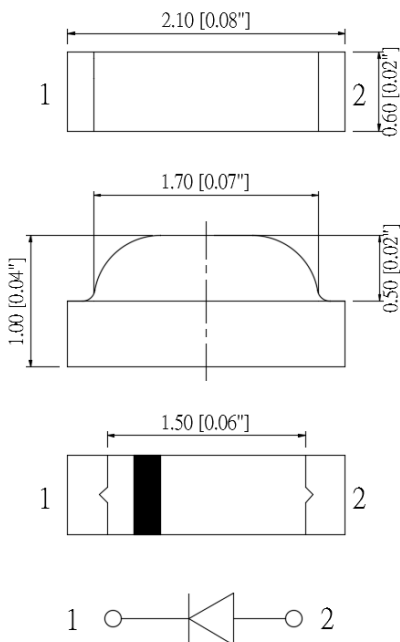
RoHS Compliant

## Applications

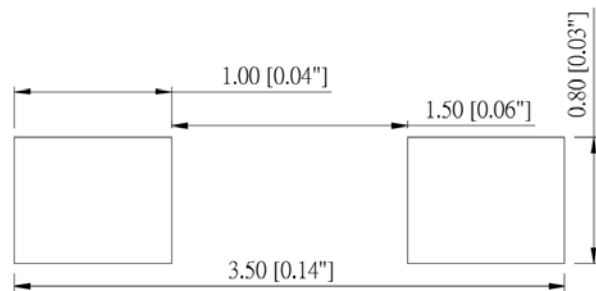
Ideal for back light and indicator

Various colors and lens types available

## Package outlines



## Recommend Pad Layout



Part No.	Emitted color	Dice	Lens color
JH-CC55M10SKP001	Warm-White	InGaN/GaN	Yellow

## Notes:

1. All dimensions are in millimeters (inches);
2. Tolerances are  $\pm 0.1\text{mm}$  (0.004inch) unless otherwise noted.

## Absolute Maximum Ratings (Ta=25°C)

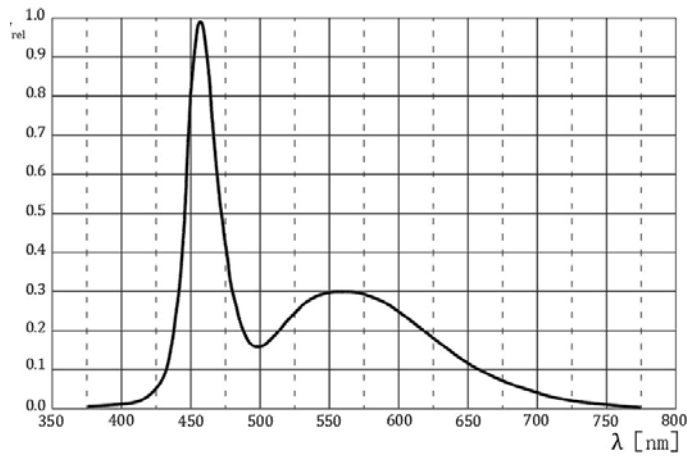
Parameter	Symbol	Value	Unit
Forward current	If	30	mA
Reverse voltage	Vr	5	V
Power dissipation	Pd	108	mW
Operating temperature	Top	-40 ~+85	°C
ESD(Human-body mode)	--	2	KV
Storage temperature	Tstg	-40 ~+85	°C
Peak pulsing current (1/8 duty f=1kHz)	Ifp	125	mA

## Electro-Optical Characteristics (Ta=25°C)

Parameter	Test Condition	Symbol	Value			Unit
			Min	Typ	Max	
CIE Coordinates	If=20mA	X	0.4024	--	0.4516	--
		Y	0.3567	--	0.4085	
Forward voltage	If=20mA	Vf	2.8	--	3.6	V
Luminous intensity	If=20mA	Iv	500	660	1000	mcd
Viewing angle at 50% Iv	If=10mA	2θ1/2	--	140	--	Deg
Reverse current	Vr=5V	Ir	--	--	10	μA

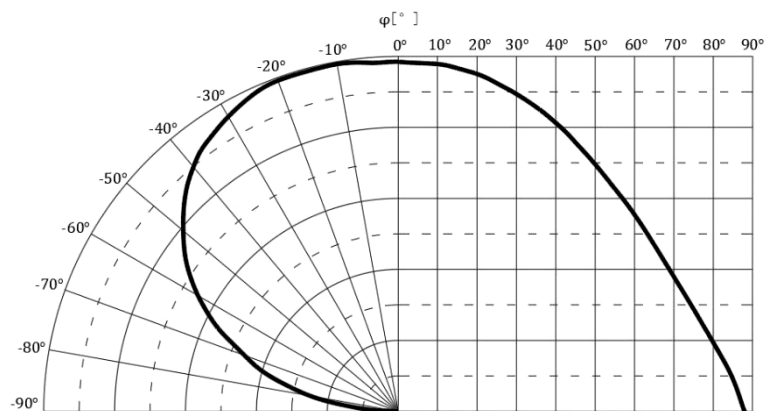
## Relative Spectral Emission

$I_F=20\text{mA}, T_a=25^\circ\text{C}$



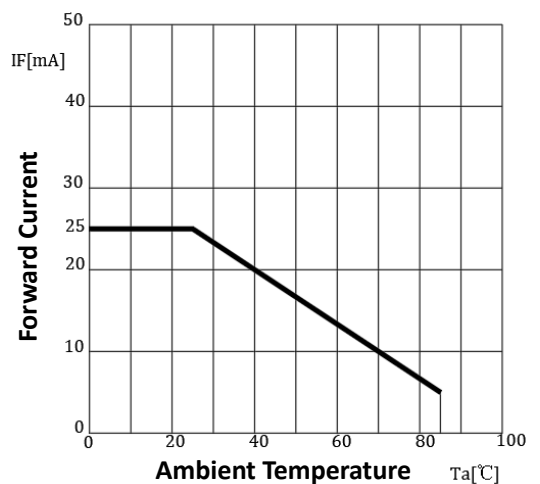
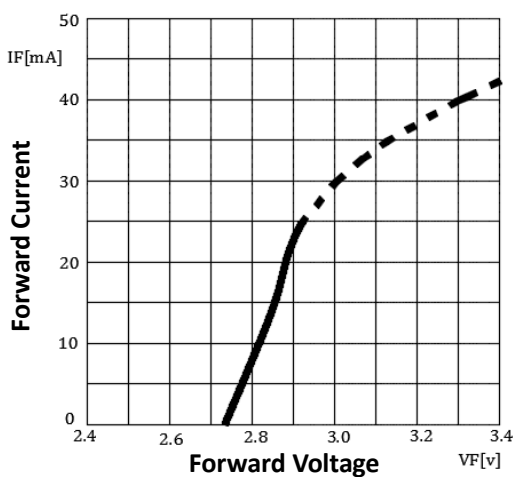
## Radiation Characteristics

$I_F=10\text{mA}, T_a=25^\circ\text{C}$



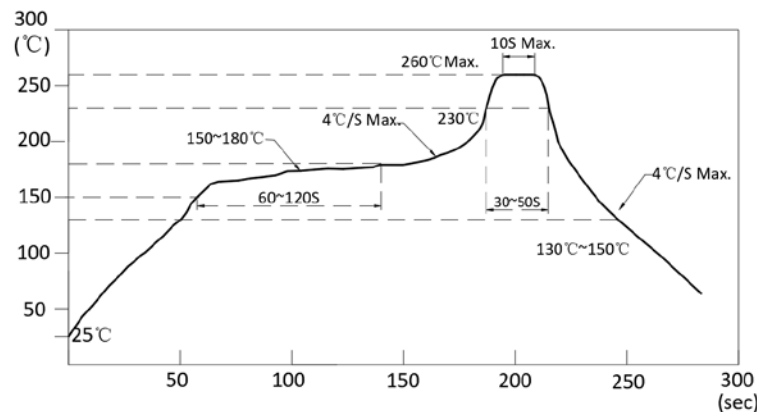
## Forward Current vs Forward Voltage Forward Current Derating Curve

$T_a=25^\circ\text{C}$



## Reflow Profile

### ■ Reflow Temp/Time



### Notes:

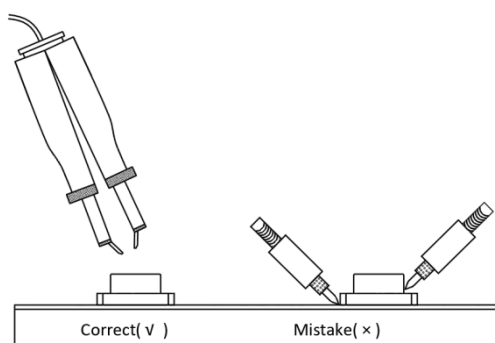
1. We recommend the reflow temperature  $245^{\circ}\text{C}(\pm 5^{\circ}\text{C})$ . The maximum soldering temperature should be limited to  $260^{\circ}\text{C}$ .
2. Don't cause stress to the epoxy resin while it is exposed to high temperature.
3. Number of reflow process shall be 2 times or less.

### ■ Soldering iron

Basic spec is  $\leq 5\text{sec}$  when  $320^{\circ}\text{C}(\pm 20^{\circ}\text{C})$ . If temperature is higher, time should be shorter ( $+10^{\circ}\text{C} \rightarrow -1\text{sec}$ ). Powerdissipation of iron should be smaller than 20W, and temperatures should be controllable. Surface temperature of the device should be under  $350^{\circ}\text{C}$ .

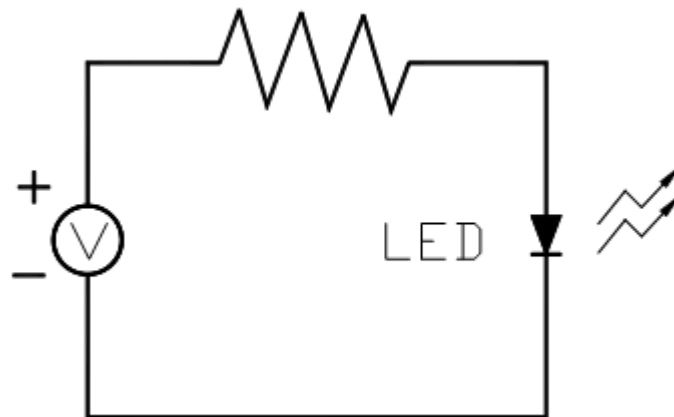
### ■ Rework

1. Customer must finish rework within 5 sec under  $340^{\circ}\text{C}$ .
2. The head of iron cannot touch copper foil
3. Twin-head type is preferred.



- Avoid rubbing or scraping the resin by any object, during high temperature, for example reflow solder etc.

## Test circuit



## Handling precautions

1. Over-current-proof

2. Shelf life in sealed bag: 12 month at  $5^{\circ}\text{C}\sim 30^{\circ}\text{C}$  and  $< 60\% \text{ R.H.}$ ;

3. After the package is Opened:

3.1. It is recommended to baking before the first use:

Baking condition:

a.  $60\pm 5^{\circ}\text{C}$  x (24~48hrs) and  $< 5\% \text{RH}$ , taped reel type;

b.  $110\pm 5^{\circ}\text{C}$  x (8~16hr), bulk type;

3.2. The products should be used within a week and to be stored at  $\cong 20\% \text{ R.H.}$  with zip-lock sealed:

a. Baking is required before soldering when the pack is unsealed after 24hrs;

b. Baking condition as 3.1 baking condition.

## Test Items and Results of Reliability

Test Item	Test Conditions	Standard Test Method	Note	Number of Test
Temperature Cycle	-20°C 30min ↑ ↓ 80°C 30min	100 cycle	0/22	Temperature Cycle
Thermal Shock	-20°C 15min ↑ ↓ 80°C 15min	100 cycle	0/22	Thermal Shock
High Humidity Heat Cycle	30°C ↔ 65°C 90%RH 24hrs/1cycle	10 cycle	0/22	High Humidity Heat Cycle
High Temperature Storage	T <sub>a</sub> =80°C	1000 hrs	0/22	High Temperature Storage
Humidity Heat Storage	T <sub>a</sub> =60°C RH=90%	1000 hrs	0/22	Humidity Heat Storage
Low Temperature Storage	T <sub>a</sub> =-30°C	1000 hrs	0/22	Low Temperature Storage
Temperature Cycle	-20°C 30min ↑ ↓ 80°C 30min	100 cycle	0/22	Temperature Cycle
Thermal Shock	-20°C 15min ↑ ↓ 80°C 15min	100 cycle	0/22	Thermal Shock
Life Test	T <sub>a</sub> =25°C I <sub>F</sub> =20mA	1000 hrs	0/22	Life Test
High Humidity Heat Life Test	60°C RH=90% I <sub>F</sub> =10mA	500 hrs	0/22	High Humidity Heat Life Test
Low Temperature Life Test	T <sub>a</sub> =-20°C I <sub>F</sub> =20mA	1000 hrs	0/22	Low Temperature Life Test

## Forward Voltage Rank Combination (IF=20mA)

Rank	Min.	Max.	Unit
H	2.8	2.9	V
I	2.9	3.0	
J	3.0	3.1	
K	3.1	3.2	
L	3.2	3.3	
M	3.3	3.4	
N	3.4	3.5	
O	3.5	3.6	

## Luminous Intensity Rank Combination (IF=20mA)

Rank	Min.	Max.	Unit
Q	500	630	mcd
R	630	800	
S	800	1000	

## Chromaticity coordinates Ranks combination (IF=20mA)

Rank	Chromaticity coordinates				
	X	Y	Z	u'	v'
Kb	0.4165	0.4024	0.4081	0.4229	0.3752
	0.3618	0.3567	0.3697	0.4296	0.3892
Kc	0.4229	0.4081	0.4139	0.4296	0.3892
	0.3752	0.3697	0.3833	0.4366	0.4039
Kd	0.4296	0.4139	0.4201	0.4366	0.4039
	0.3892	0.3833	0.3975	0.4436	0.3935
Lb	0.4287	0.4165	0.4229	0.4436	0.3935
	0.3655	0.3618	0.3752	0.4516	0.4085
Lc	0.436	0.4229	0.4296	0.4516	0.4085
	0.3792	0.3752	0.3892	0.4516	0.4085
Ld	0.4436	0.4296	0.4366	0.4516	0.4085
	0.3935	0.3892	0.4039	0.4516	0.4085

## Group Name on Label ( Example DATA: JR Kc 20 )

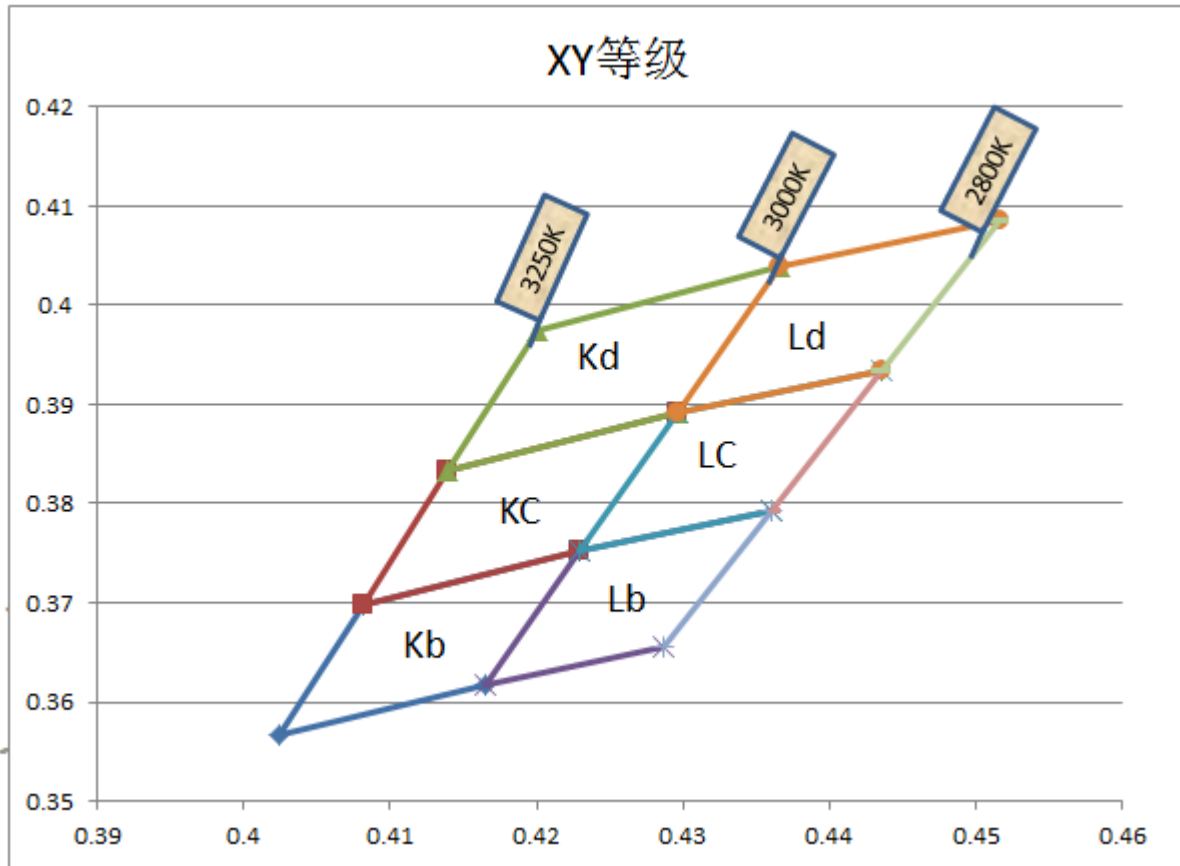
DATA: JR Kc 20	Vf(V)	Iv (mcd)	CIE(X,Y)	Test Condition
J→R→Kc→20	3.0~3.1	630~800	X(0.4081~0.4296),Y(0.3697~0.3892)	IF=20mA

### Notes:

1. The tolerance of luminous intensity (Iv) is  $\pm 15\%$ .
2. The tolerance of CIE Coordinates(X,Y) is  $\pm 0.01$ .
3. This specification is preliminary.
4. This specification is a standard specification of our factory, can make in accordance with customer's special requirement.

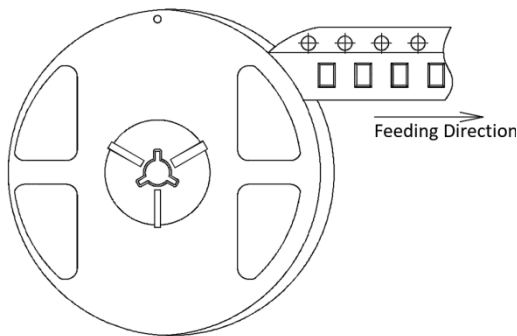


## XY chromaticity coordinate

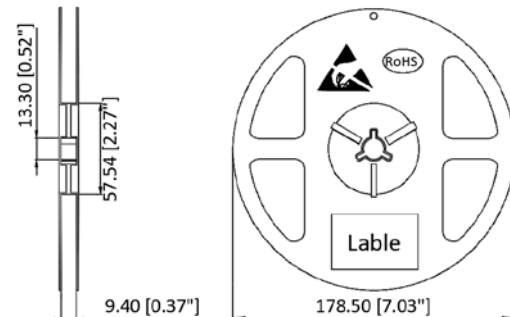


## 2106 Series SMD Chip LED Lamps Packaging Specifications

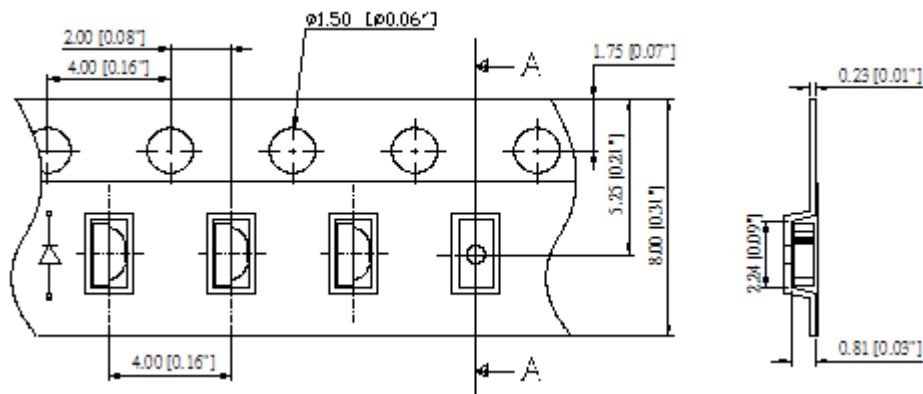
### ● Feeding Direction



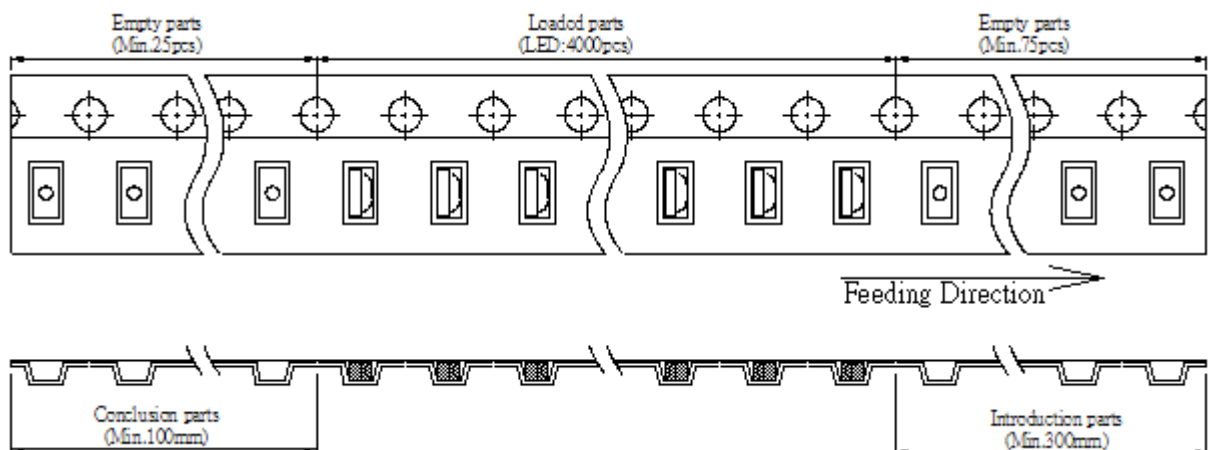
### ● Dimensions of Reel (Unit: mm)



### ● Dimensions of Tape (Unit: mm)



### ● Arrangement of Tape

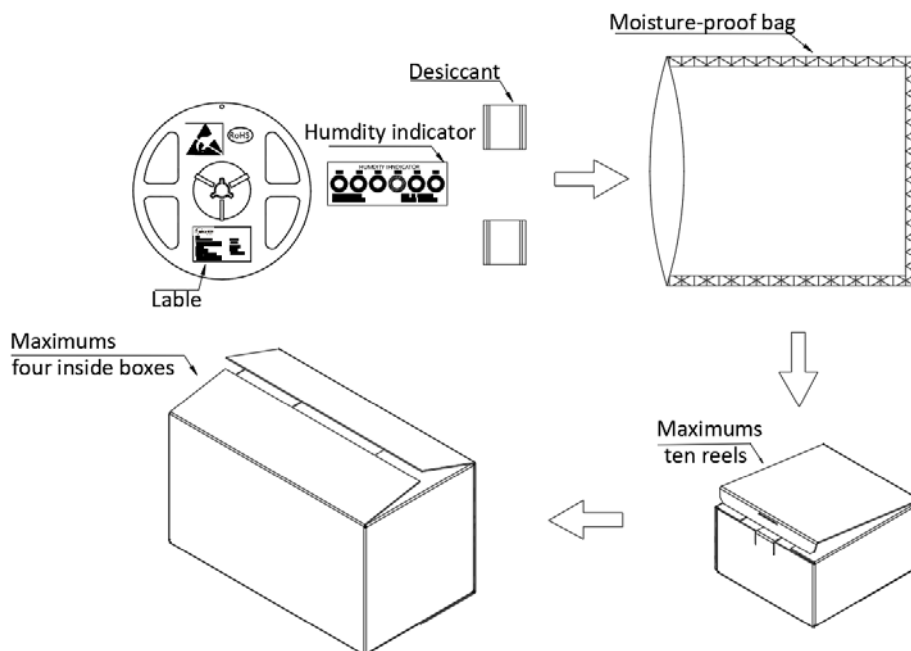


#### Notes:

1. Empty component pockets are sealed with top cover tape;
2. The maximum number of missing lamps is two;
3. The cathode is oriented towards the tape sprocket hole in accordance with ANSI/EIA RS-481 specifications.
4. 4,000pcs/Reel.

## 2106Series SMD Chip LED Lamps Packaging Specifications

- Transportation Packing



### Notes:

Reeled products (numbers of products are 4,000pcs) packed in a seal off moisture-proof bag along with two desiccant one by one, ten moisture-proof bag of maximums packed in an inside box (about size: 240x 220x 120mm) and four inside boxes of maximums are put in the outside box (about size: 460mm x 246mm x 250mm) Together with buffer material, and it is packed. The number of the loading steps of outsidebox (cardboard box) has it to three steps.