



深圳匡通电子有限公司
SHENZHEN KENTO ELECTRONICCO.,LTD

SPECIFICATION FOR APPROVAL

Product Name: 5050 red color SMD Light Emitting Diode

Product No.: KT-5050-R

Client's name: _____

Customer No.: _____

Release Date: May 2017

SHENZHEN KENTO ELECTRONICCO .,LTD		
Issue by	Confirm	Examine

Client Approve		
Confirm	Eaxmine	Approve

SHENZHEN KENTO ELECTRONIC CO., LTD.

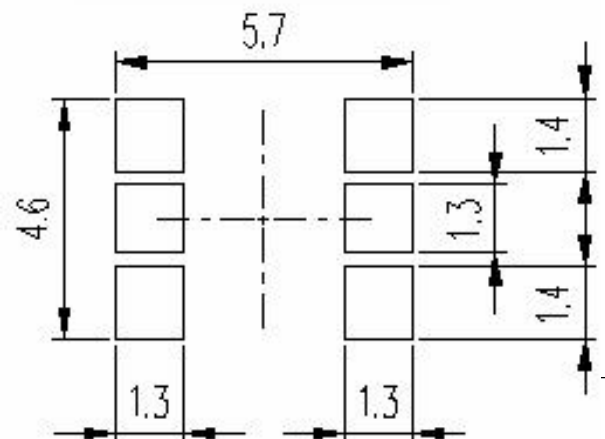
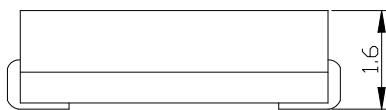
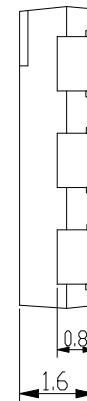
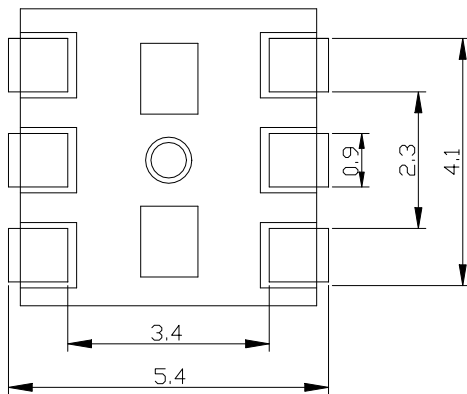
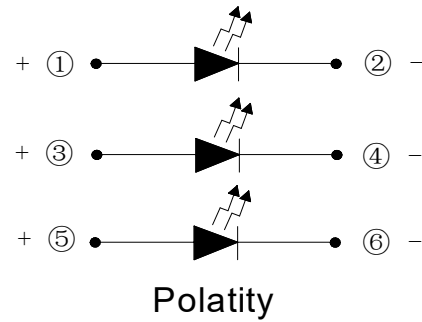
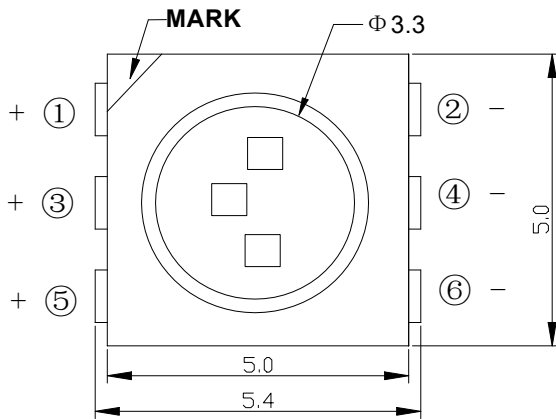
TEL: 0755-27823321

FAX: 0755-27822276

一、 Product Description :

- Dimensions (L/W/H): 5.0×5.4×1.6mm
- Color: High brightness red
- Colloid: Clear flat Colloid
- EIA standard standard packaging
- Environmental protection products, in line with ROHS requirements
- Suitable for automatic placement machine
- Suitable for reflow soldering process

二、 Outline Dimensions and Recommended solder pad Dimensions :

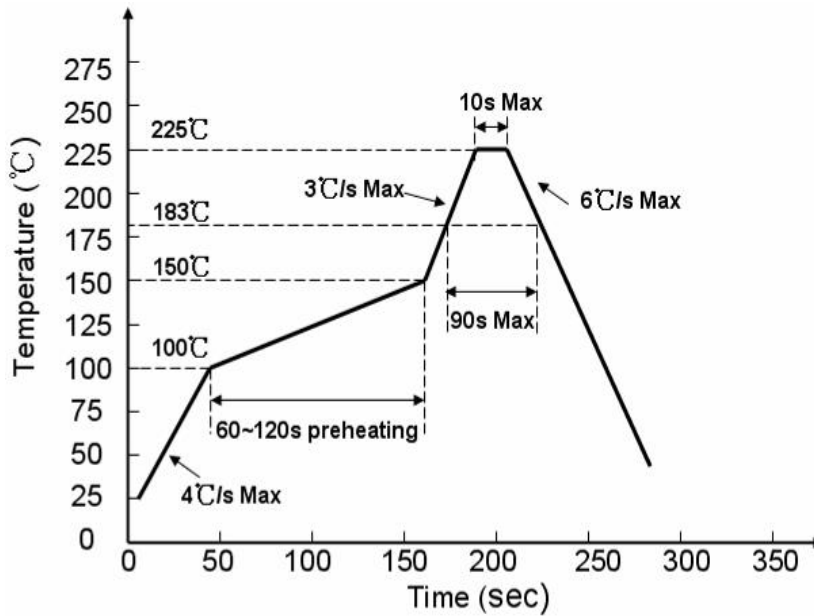


Notes: 1. unit : mm

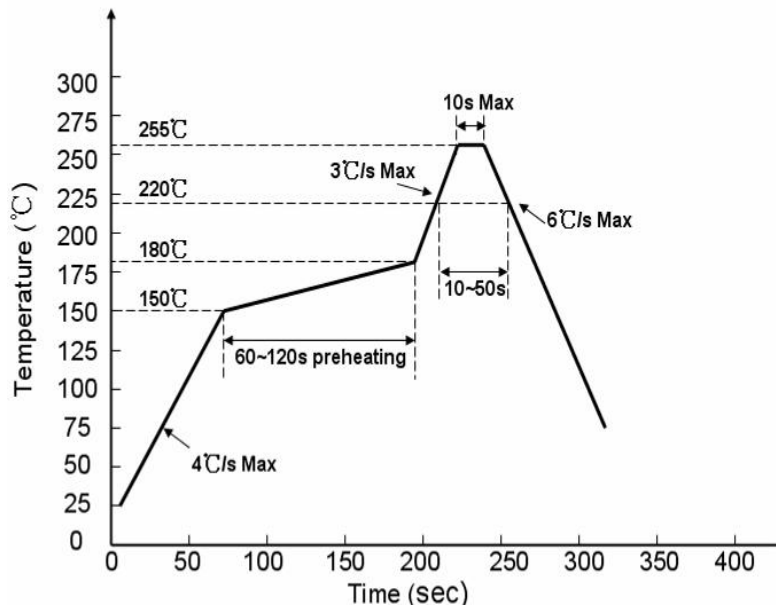
2. tolerance : Tolerance is ± 0.10 mm unless specially point out.;

三. Recommend Solder curve :

Lead included Solder process :



Soder without lead insde:



四、 Maximum absolute rating (Ta=25°C):

Parameter	Symbol	Maximum rating	Unit
Power consumption	Pd	150	mW
Maximum pulse current (1/10 duty cycle, 0.1ms pulse width)	IFP	100	mA
Forward DC working current	IF	75	mA
Reverse voltage	VR	5	V
Working temperature	Topr	-30°C ~ +85°C	
Storage ambient temperature	Tstg	-40°C ~ +90°C	
Soldering conditions	Tsol	Reflow soldering : 260°C , 10s Manual soldering : 300°C , 3s	



匡通电子

Product Specification for arrpoval

Part No. : KT-5050-R

Version

A.2

Issue date

2015.04. 03

Page

4 of 13

五、 Photoelectric parameters (Ta=25°C):

Parameter	Symbol	Min.	Typical value	Max	Unit	Test condition
light intensity	IV	---	720	---	mcd	IF = 60mA
Half-intensity viewing angle	2θ1/2		120	--	deg	IF = 60mA
Peak wavelength	λP	---	630	---	nm	IF = 60mA
Dominate wavelength	λD	--615-		--630-	nm	IF = 60mA
Half wave width	Δλ	--	20	---	nm	IF=60mA
Forward Voltage	VF	1.8	---	2.6	V	IF=60mA
Reverse current	IR	---	---	5	uA	VR=5V



匡通电子

Product Specification for arrpoval

Part No. : KT-5050-R

Version

A.2

Issue date

2015.04. 03

Page

5 of 13

Brightness binning :

Bin	Min	Max	Unit	Condition
P1	450	560	MCD	IF=60mA
P2	560	720		
Q1	720	900		

Voltage Binning:

Bin	Min	Max	Unit	Condition
1	1.8	2.0	V	IF=60mA
2	2.0	2.2		
3	2.2	2.4		
4	2.4	2.6		

Wavelength Binning:

Bin	Min	Max	Unit	Condition
A	615	620	nm	IF=60mA
B	620	625		
C	625	630		

六、 Photoelectric parameter representative value characteristic curve:

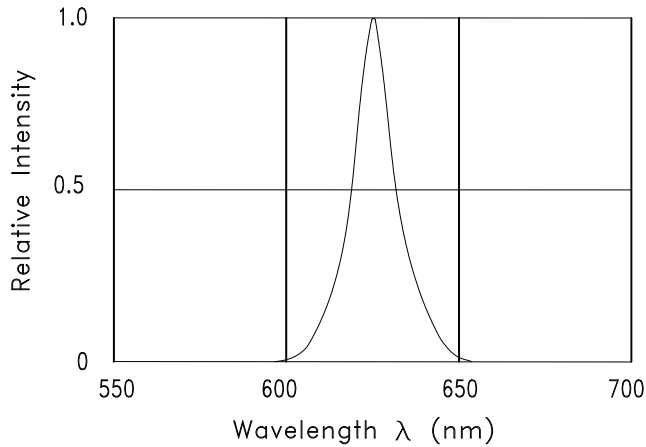


Fig.1 RELATIVE INTENSITY VS. WAVELENGTH

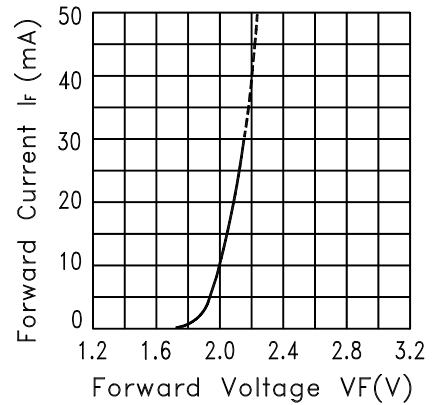


Fig.2 FORWARD CURRENT VS. FORWARD VOLTAGE

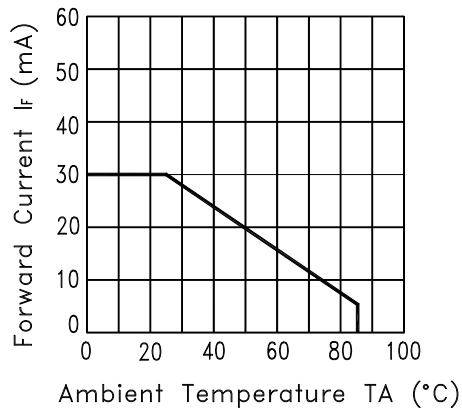


Fig.3 FORWARD CURRENT DERATING CURVE

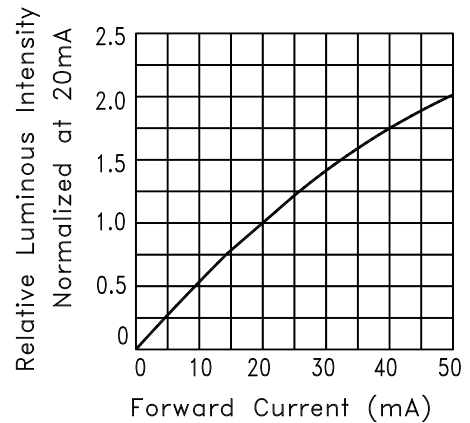


Fig.4 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

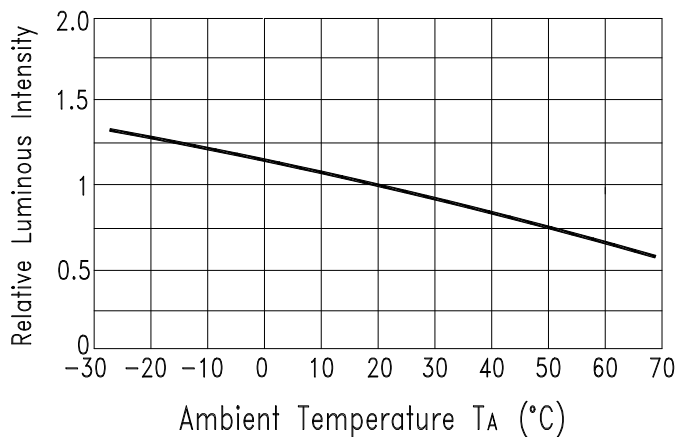


Fig.5 Luminous Intensity vs. Ambient Temperature

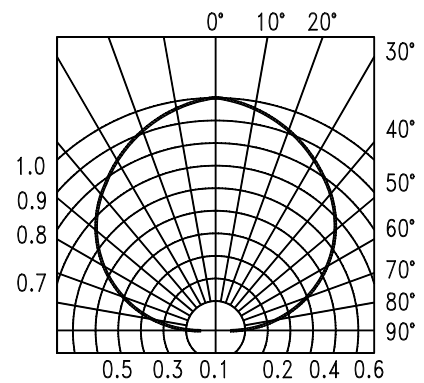


Fig.6 SPATIAL DISTRIBUTION

七、 Label identification:

CAT: Light Intensity (mcd)

HUE: wavelength (nm)

REF: Voltage (V)

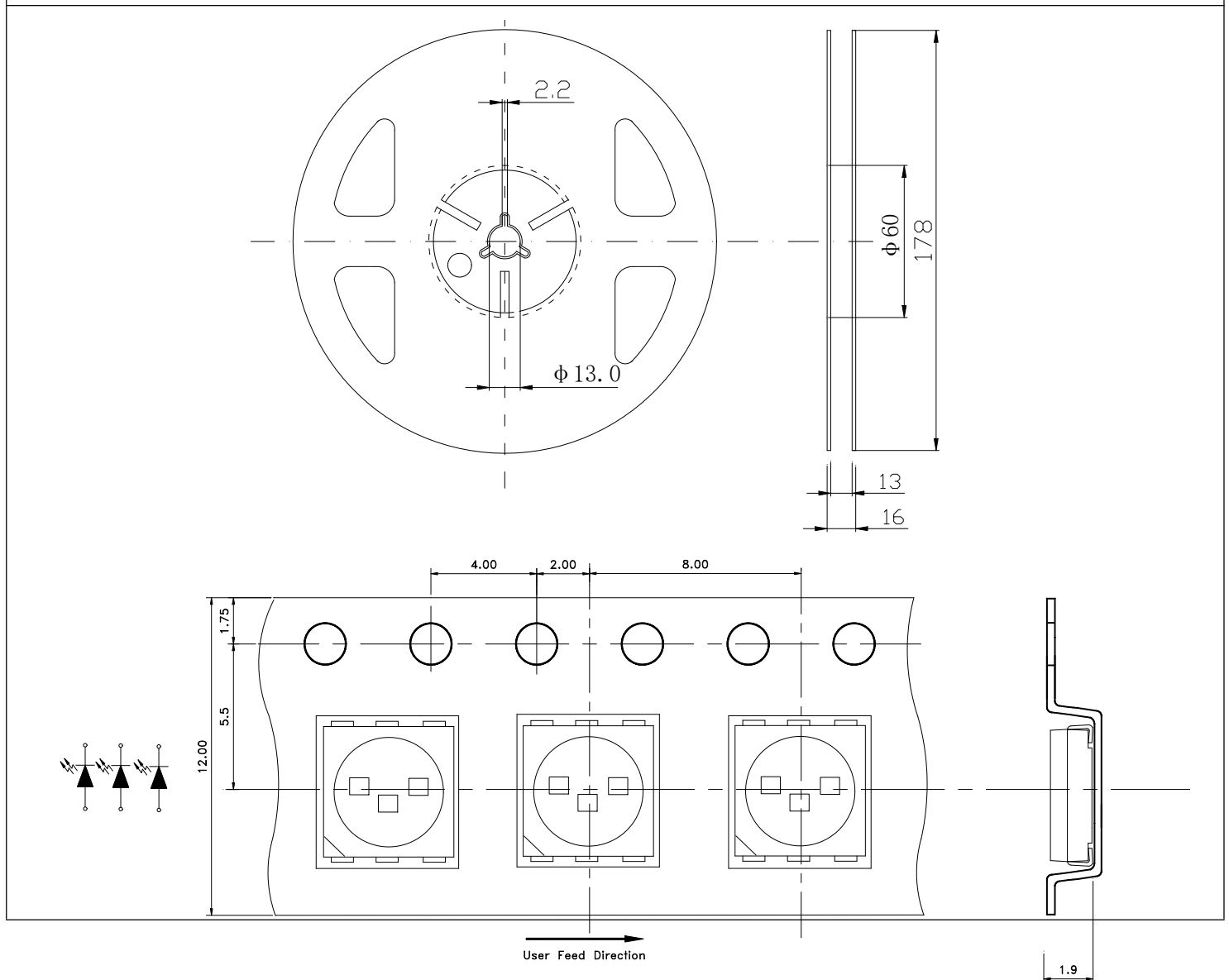
Tolerance scope

a. Luminous Intensity: $\pm 15\%$

b. HUE: $\pm 1\text{nm}$

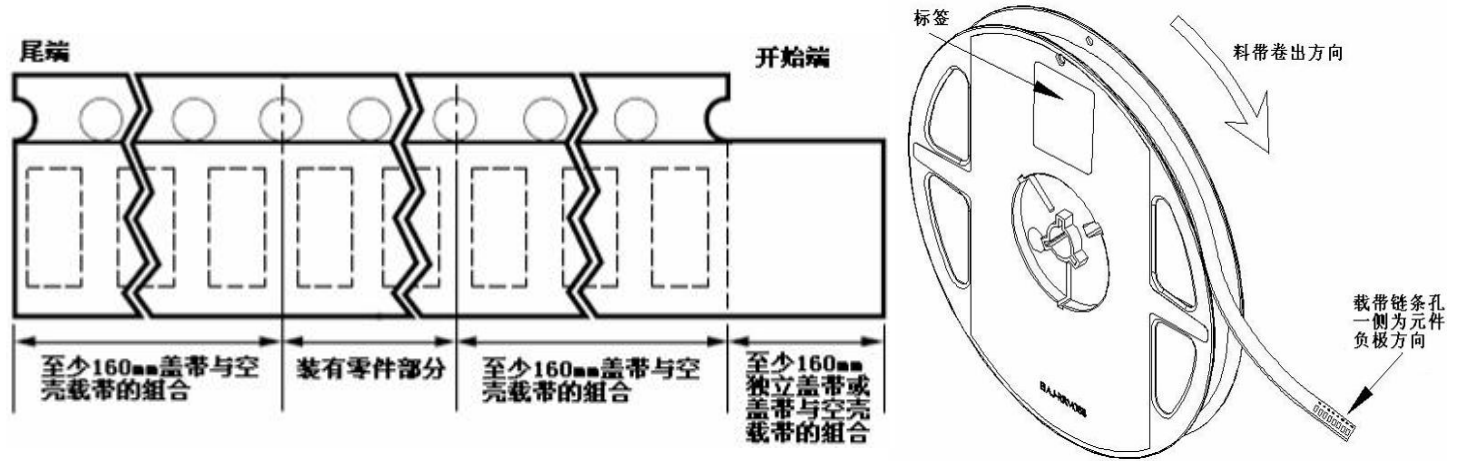
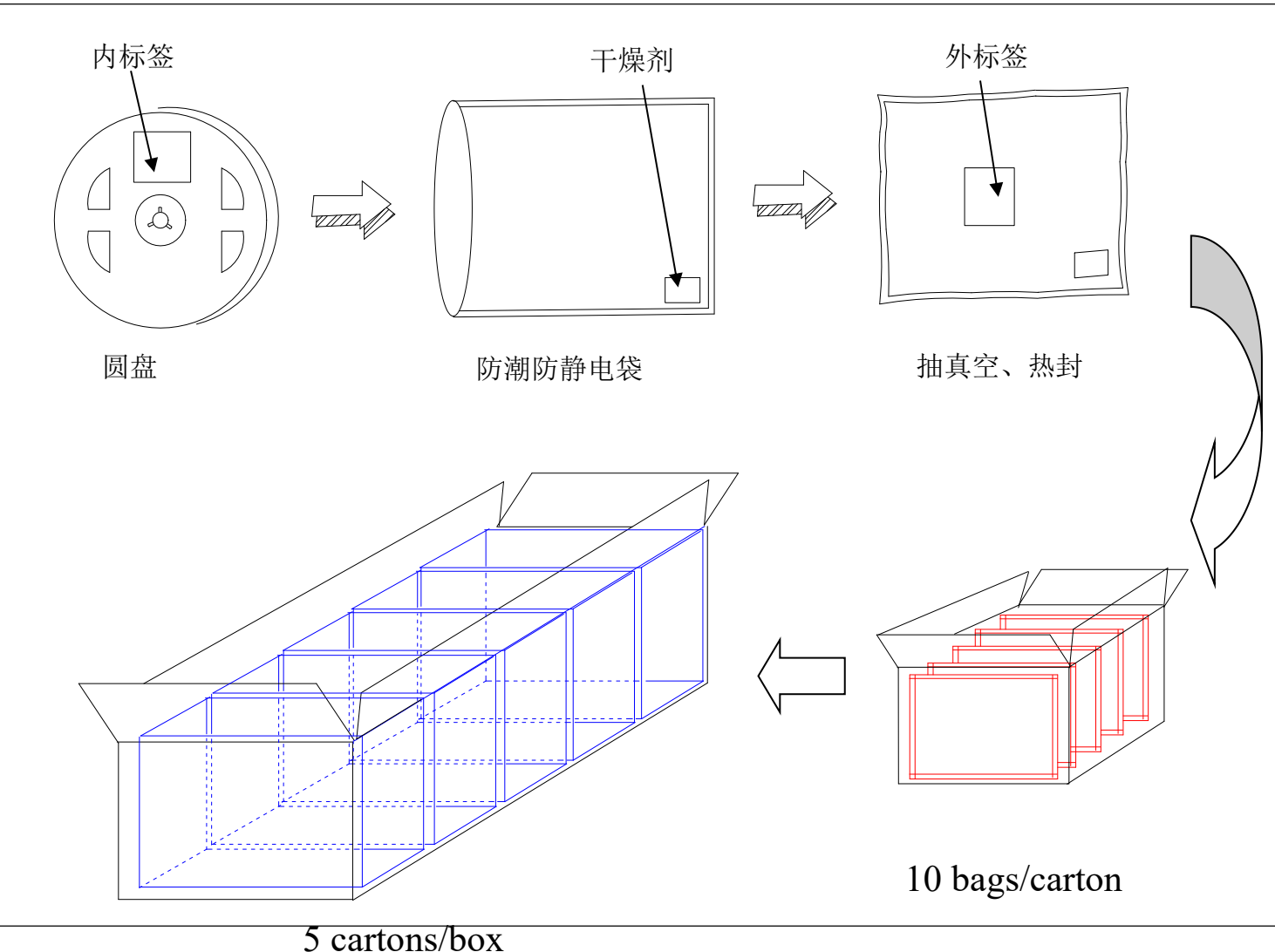
c. Forward Voltage: $\pm 0.1\text{V}$

八、 Packaging tape and disc dimensions :



Remarks: 1. Unit: mm (mm)

 2. Tolerance: ± 0.15 mm unless otherwise specified

九. Disk and carrier tape roll-out direction and cavity specifications:

十. Inner and outer packaging:




匡通电子

Product Specification for arrpoval

Part No. : KT-5050-R

Version

A.2

Issue date

2015.04. 03

Page

9 of 13

十一、Reliability Test

TEST ITEM	TEST ENVIRONMENT	TEST TIMES	STANDARD	Failure determinati on standard	Failure LED sums (PCS)
Moisture-pro of grade	1.Max reflowing soldering temperature=260℃,10seconds, 2 times reflow soldering; 2.storeage environment before reflow soldering: Tem.30℃, humidity=70%, 168H;	-	JEITA ED-4701 300.301	# 1	0/22
Welding reliability (leadfree reflow soldering)	Max reflowing soldering temperature =245±5℃, 5seconds (leadfree reflow soldering)	-	JEITA ED-4701 303 303A	# 2	0/22
thermal cycling	-40℃ 30minutes~25℃ 5minutes~ 100℃ 30minutes~25℃ 5minutes	300 cycles	JESD22-A104	# 1	0/22
Thermal Shock	-35℃ 15minutes Convert time 3minutes 85℃ 15minutes	300 cycles	JESD22-A106	# 1	0/22
High temperature storage	Ta=100℃	1000hrs	JESD22-A103	# 1	0/22
Low temperature storage	Ta=-40℃	1000hrs	JESD22-A119	# 1	0/22
Aging test normal temperature	Ta=25℃ IF=20mA	1000hrs	JESD2-A108	# 1	0/22

十二、 Attentions:

◆ Use:

1. Excessive temperature will affect the brightness and other performance of the LED, so in order to make the LED have better performance, the LED should be

Keep away from heat sources.

2. Tolerance of photoelectric parameters:

Forward Voltage (REF / VF): $\pm 0.1V$

Brightness (CAT/IV): $\pm 15\%$

Wavelength (HUE / WLD): $\pm 1nm$

◆ Storage:

1. If the original packaging is not opened, the recommended storage environment is: temperature $5^{\circ}C \sim 30^{\circ}C$, humidity below 85%RH. When the inventory exceeds two months, dehumidification should be done before use, and the condition is $60^{\circ}C / 8$ hours;

2. After opening the original packaging, the recommended storage environment is: temperature $5 \sim 30^{\circ}C$, humidity below 60%;

3. LEDs are humidity-sensitive components. In order to prevent the components from absorbing moisture, it is recommended to store them in an airtight container with desiccant after opening the package, or in a nitrogen moisture-proof cabinet;

4. After opening the package, the components should be used within 168 hours (7 days); and the welding should be completed as soon as possible after the patch;

5. If the desiccant fails or the components are exposed to the air for more than 168 hours (7 days), dehumidification should be done;

Baking condition: $60^{\circ}C / 24$ hours.

◆ ESD electrostatic protection

LEDs (especially blue, emerald green, violet, white, and pink LEDs using InGaN structure wafers) are static-sensitive components, and static electricity or current overload can damage the LED structure. The LED is



匡通电子

Product Specification for arrhoval

Part No. : KT-5050-R

Version

A.2

Issue date

2015.04. 03

Page

11 of 13

damaged by static electricity or current overload may cause abnormal performance, such as excessive leakage current, low VF, or failure to light up, etc. So please note the following:

1. Wear an anti-static wrist strap or anti-static gloves when touching the LED;
2. All machinery and equipment, tools, work tables, material racks, etc., should be properly grounded (within 10Ω of ground impedance);
3. Anti-static bags, anti-static boxes and anti-static turnover boxes should be used for storage or handling of LEDs, and ordinary plastic products are strictly prohibited;
4. It is recommended to use an ion fan to suppress the generation of static electricity during the operation;
5. The electrostatic field voltage is less than 100V within 1 foot distance from the LED element.

