

Data Sheet (承认书)



Customer Name: _____

(客户名称)

Customer P/N: _____

(客户品号)

Factory P/N: FC2835L**CA**KR8S1V03W02

(公司品号)

FactoryL/N: _____

(公司料号)

Sending Date: _____

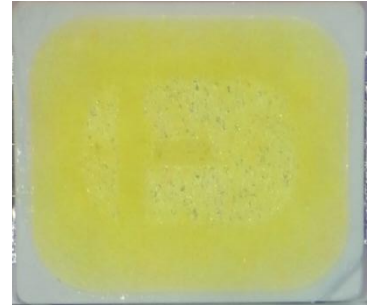
(送样日期)

Client approval 客户审核		Approval 审核		
Approval 核准	Audit 确认	Approval 核准	Audit 确认	Confirmation 制作
				王凯鹏
<input type="checkbox"/> Qualified <input type="checkbox"/> Disqualified 接受 不接受		DATE: 日期:		

◆ SMD :Small and medium-sized Power LED (中小功率 LED)

◆ Features (特征)

1. **PLCC-2 package** (PLCC-2 封装)
2. **Top view white LED** (平面式白光 LED)
3. **Wide viewing angle** (大角度发光)
4. **RoHS compliant** (符合 RoHS 标准)
5. **Package:17000pcs/reel.**(包装每卷 17000PCS)



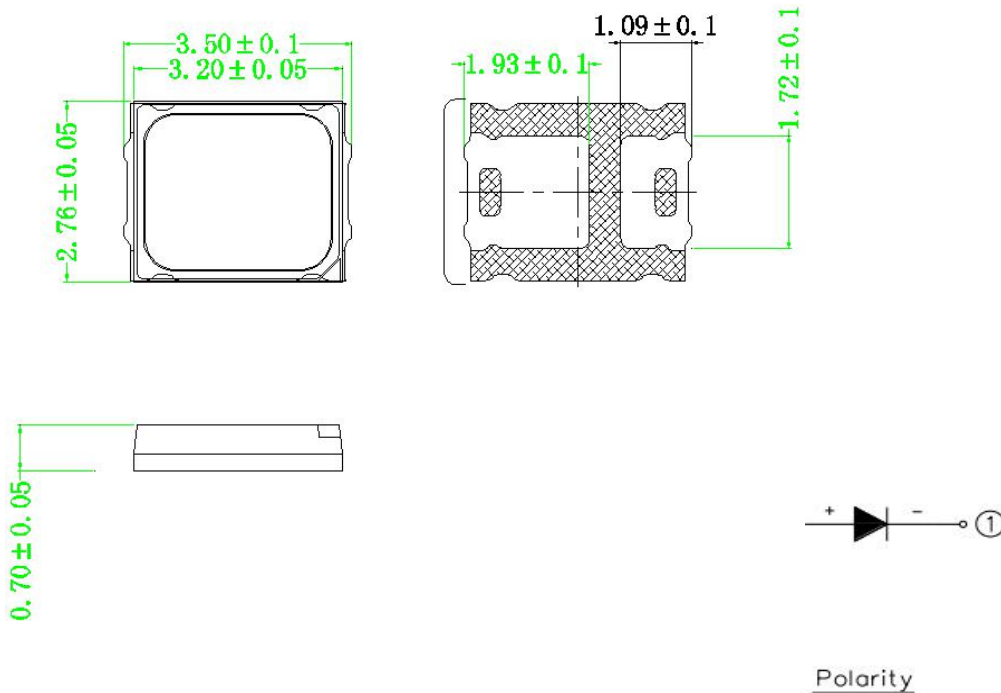
◆ Application (应用)

1. **General lighting** (一般照明)
2. **Optical indicator** (光学指示)
3. **Switch Lights** (开关照明)
4. **Decorative and Entertainment Lighting** (装饰与娱乐照明)



ATTENTION
OBSERVE PRECAUTIONS
FOR HANDLING
ELECTROSTATIC
DISCHARGE
SENSITIVE
DEVICES
注意：操作时应注意静电敏感
释放设备装置

◆ Diagrammatic Sketch (封装尺寸图)



Notes (备注):

1. **All dimensions are in millimeters** (所有标注尺寸单位为毫米)
2. **Tolerances are ± 0.15 mm unless otherwise noted** (除特别标注外, 允许公差为 ± 0.15 mm)

◆ **Absolute maximum ratings at $T_a=25^{\circ}\text{C}$ (绝对最大额定值)**

Item (项目)	Symbol I (符号)	Absolute Maximum Rating (数值)	Unit (单位)
Forward Current (正向电流)	I_F	60	mA
Pulse Forward Current (脉冲正向电流)	I_{FP}	100	mA
Power Dissipation (功率消耗)	P_D	200	mW
Operating Temperature (工作温度)	T_{opr}	-30~+85	°C
Storage Temperature (储存温度)	T_{stg}	-30~+100	°C
Temperature of welding pad (焊盘温度)	T_s	85	°C
Electrostatic Discharge (静电)	ESD	2000(HBM)	V

◆ Electrical-Optical characteristics @T_a=25°C(电性与光学特性)

Item (项目)	Symbol (符号)	Code (代码)	Test Condition (测试条件)	Min (最 小)	Typ (平 均)	Max (最 大)	Unit (单位)
Forward voltage (正向电压)	VF	-	IF=60mA	2.8	-	3.4	V
Luminous Flux (亮度)	Φ _v	30KC	IF=60mA	24	25	-	LM
		40KC	IF=60mA	26	27	-	LM
		50KC	IF=60mA	26	27	-	LM
		57KC 60K-X 65KC	IF=60mA	26	27	-	LM
		View Angle (角度)	201/2	-	IF=60mA	-	120
Reverse Current (反向电流)	IR	-	VR=5V	-	-	10	μA
Color Temperature (色温)	CCT	30KC	IF=60mA	2700	-	3200	K
		40KC	IF=60mA	3700	-	4200	K
		50KC	IF=60mA	4750	-	5350	K
		57KC	IF=60mA	5300	-	6000	K
		60K-X	IF=60mA	5700	-	6400	K
		65KC	IF=60mA	6000	-	7000	K
Color Rendering Index (显指)	Ra	/	IF=60mA	80	-	-	
CIE Chromaticity (色坐标)	X	/	IF=60mA	please see the bin sorting standard			
	Y	/					

Notes(备注):

1. Forward voltage(VF) ± 0.1V

正向电压允许公差为 ± 0.1V

2. Luminous Flux(Φ_v) ±10%

流明允许公差为 ±10%

3. The above color coordinates measurement allowance tolerance is ±0.01

以上所示坐标测量误差 ±0.01

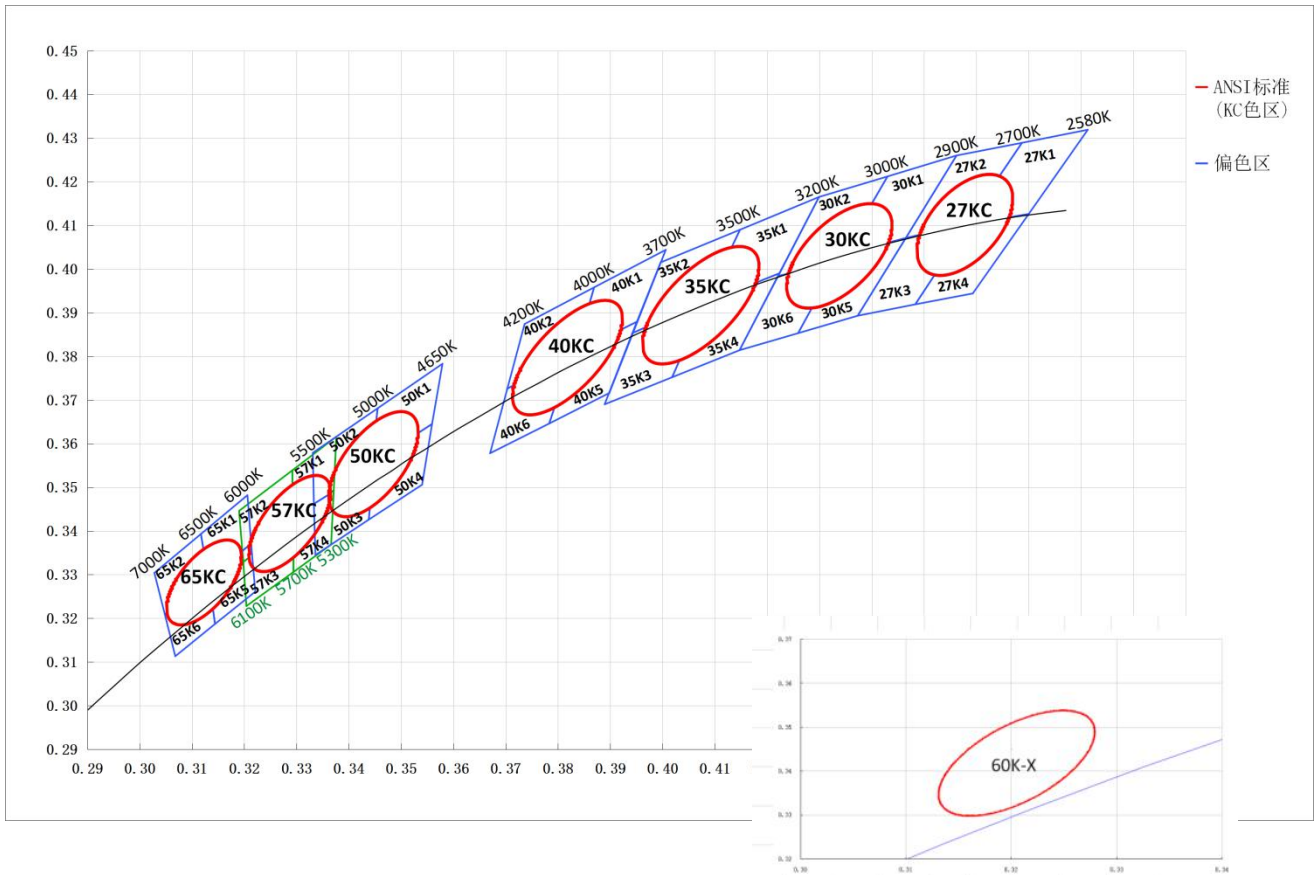
4. Color Rendering Index (Ra) ±3

显指允许公差为 ±3

5. View Angle (201/2) ±5

角度允许公差为 ±5

◆ CIE Chromaticity Diagram @IF=60mA ,Ta=25°C(色区图)



65KC	X	0.3123	57KC	X	0.3287	50KC	X	0.3447
	Y	0.3282		Y	0.3417		Y	0.3553
	a	0.00223		a	0.002486		a	0.00274
	b	0.00095		b	0.001066		b	0.00118
	θ	58.38333		θ	59.09		θ	59.62
SDCM	5	SDCM	5	SDCM	5			
40KC	X	0.3818	30KC	X	0.4338	27KC	X	0.4578
	Y	0.3797		Y	0.403		Y	0.4101
	a	0.00313		a	0.00278		a	0.00258
	b	0.00134		b	0.00136		b	0.00137
	θ	54		θ	53.16667		θ	57.28333
SDCM	5	SDCM	5	SDCM	5			
60K-X	X	0.3205						
	Y	0.3418						
	a	0.0026						
	b	0.0011						
	θ	65						
SDCM	5							

色区	X	Y	色区	X	Y	色区	X	Y	色区	X	Y
65K1	0.3206	0.3482	65K2	0.3117	0.3393	65K5	0.3221	0.3261	65K6	0.3131	0.3290
	0.3117	0.3393		0.3028	0.3304		0.3144	0.3187		0.3048	0.3209
	0.3131	0.3290		0.3048	0.3209		0.3131	0.3290		0.3068	0.3113
	0.3213	0.3371		0.3131	0.3290		0.3213	0.3371		0.3144	0.3187
色区	X	Y	色区	X	Y	色区	X	Y	色区	X	Y
57K1	0.3376	0.3616	57K2	0.3190	0.3446	57K3	0.3204	0.3228	57K4	0.3293	0.3419
	0.3292	0.3539		0.3198	0.3329		0.3294	0.3306		0.3294	0.3306
	0.3293	0.3419		0.3293	0.3419		0.3293	0.3419		0.3366	0.3369
	0.3371	0.3493		0.3292	0.3539		0.3198	0.3329		0.3371	0.3493
色区	X	Y	色区	X	Y	色区	X	Y	色区	X	Y
50K1	0.3455	0.3681	50K2	0.3333	0.3462	50K3	0.3438	0.3426	50K4	0.3559	0.3645
	0.3579	0.3783		0.3331	0.3579		0.3336	0.3345		0.3540	0.3506
	0.3559	0.3645		0.3455	0.3681		0.3333	0.3462		0.3438	0.3426
	0.3446	0.3553		0.3446	0.3553		0.3446	0.3553		0.3446	0.3553
色区	X	Y	色区	X	Y	色区	X	Y	色区	X	Y
40K1	0.3869	0.3958	40K2	0.3869	0.3958	40K5	0.3952	0.3880	40K6	0.3828	0.3803
	0.4006	0.4044		0.3736	0.3874		0.3898	0.3716		0.3703	0.3726
	0.3952	0.3880		0.3703	0.3726		0.3783	0.3646		0.3670	0.3578
	0.3828	0.3803		0.3828	0.3803		0.3828	0.3803		0.3783	0.3646
色区	X	Y	色区	X	Y	色区	X	Y	色区	X	Y
30K1	0.4342	0.4027	30K2	0.4221	0.3984	30K5	0.4342	0.4027	30K6	0.4221	0.3984
	0.4430	0.4212		0.4299	0.4165		0.4259	0.3853		0.4147	0.3814
	0.4562	0.4260		0.4430	0.4212		0.4373	0.3893		0.4259	0.3853
	0.4465	0.4071		0.4342	0.4027		0.4465	0.4071		0.4342	0.4027
色区	X	Y	色区	X	Y	色区	X	Y	色区	X	Y
27K1	0.4813	0.4319	27K2	0.4687	0.4289	27K3	0.4373	0.3893	27K4	0.4700	0.4126
	0.4687	0.4289		0.4562	0.4260		0.4465	0.4071		0.4582	0.4098
	0.4582	0.4098		0.4465	0.4071		0.4582	0.4098		0.4483	0.3919
	0.4700	0.4126		0.4582	0.4098		0.4483	0.3919		0.4593	0.3944

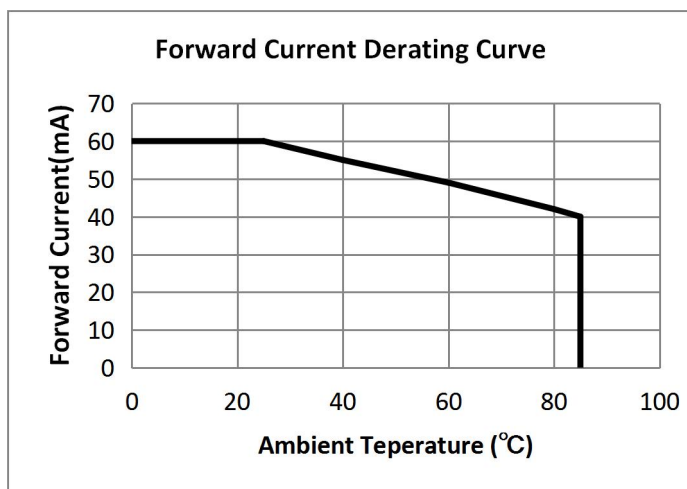
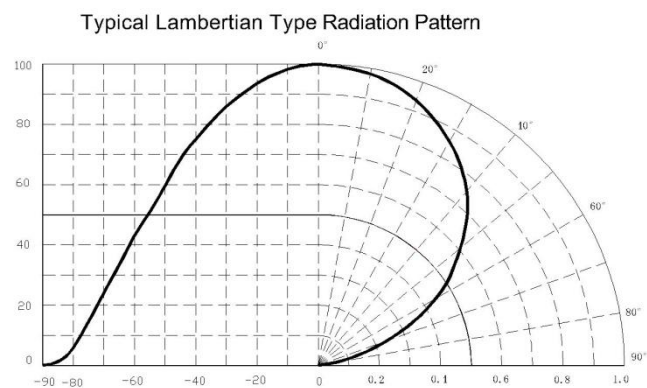
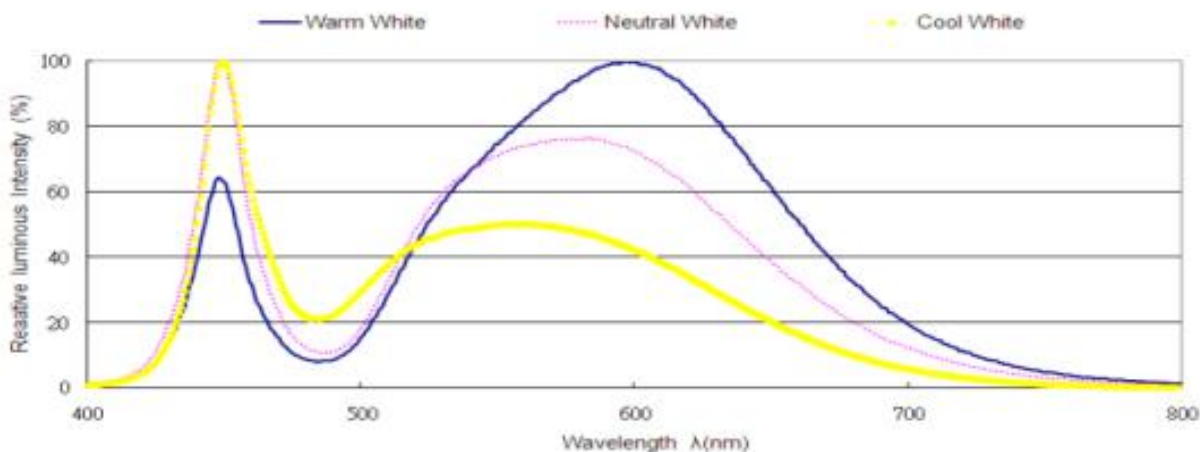
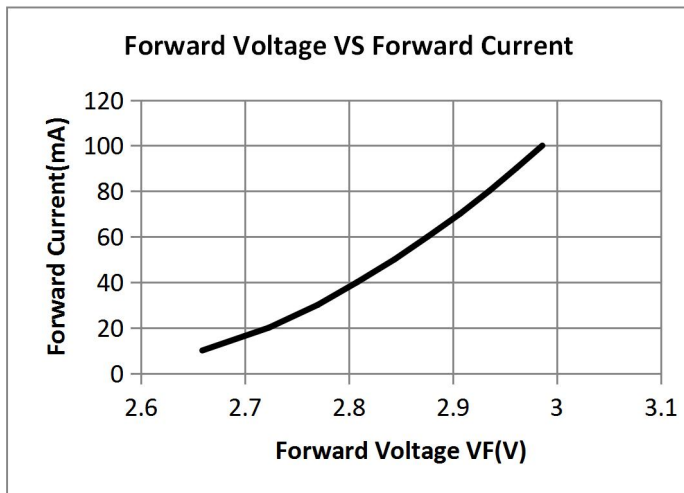
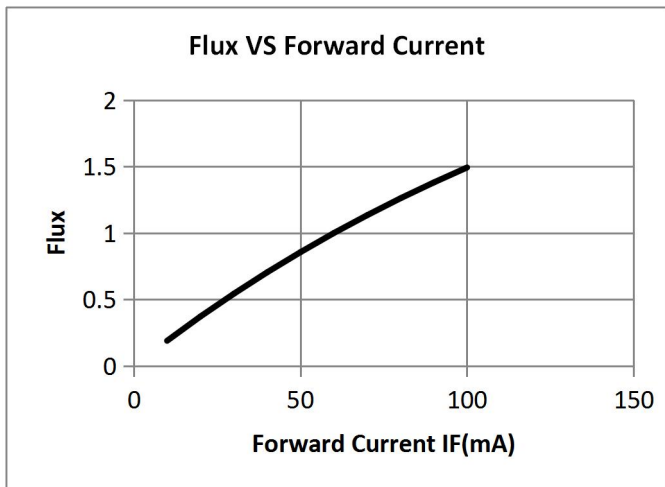
◆ Luminous Intensity Rank (亮度等级 30K/40K/50K/57K/65K/60K) ϕ_v @IF=60mA, Ta=25°C (Unit:lm)

BIN	Min	Max
L11	24	26
L13	26	28
L15	28	30

◆ Forward Voltage Rank (电压等级) VF @IF=60mA, Ta=25°C (Unit:V)

BIN	Min	Max
H2	2.8	2.9
H3	2.9	3.0
H4	3.0	3.1
H5	3.1	3.2
H6	3.2	3.3
H7	3.3	3.4

◆ Typical optical characteristics curves @Ta=25°C (典型光学特性曲线)



◆ Reliability Test Items And Conditions (信赖性测试项目及条件)

Test Item (项目)	Ref.Standard (参考标准)	Test Conditions (测试条件)	Time (时间)	Quantity(pcs) (数量)
High Temperature storage (高温储存)	JESD22-A103	Temp:100°C±5°C	1000 hrs	22
Low Temperature Storage (低温储存)	JESD22-A119	Temp:-40°C±5°C	1000 hrs	22
Temperature Cycle (温度循环)	JESD22-A104	100°C±5°C 30min ↓↑5min -40°C±5°C 30min	100 cycle	22
Reflow (回流焊)	JESD22-B106	Temp:max260°C Time:10sec 8min/cycle	3cycle	22
Life Test (常温通电)	JESD22-A108	Ta=25°C±5°C IF=60mA	1000 hrs	22
High Temperature High Humidity Life Test (高温高湿通电)	JESD22-A101	85°C±5°C/85%RH IF =60mA	1000 hrs	22

◆ Criteria For Judging Damage (失效判定标准)

Item (项目)	Symbol (符号)	Test Conditions (测试条件)	Criteria for Judgement (判定标准)	
			Min.(最小)	Max.(最大)
Forward Voltage (正向电压)	VF	IF=60mA	-	(U.S.L*)×1.1
Luminous Intensity (光通量)	ΦV	IF=60mA	(L.S.L*) ×0.7	-

Note (备注):

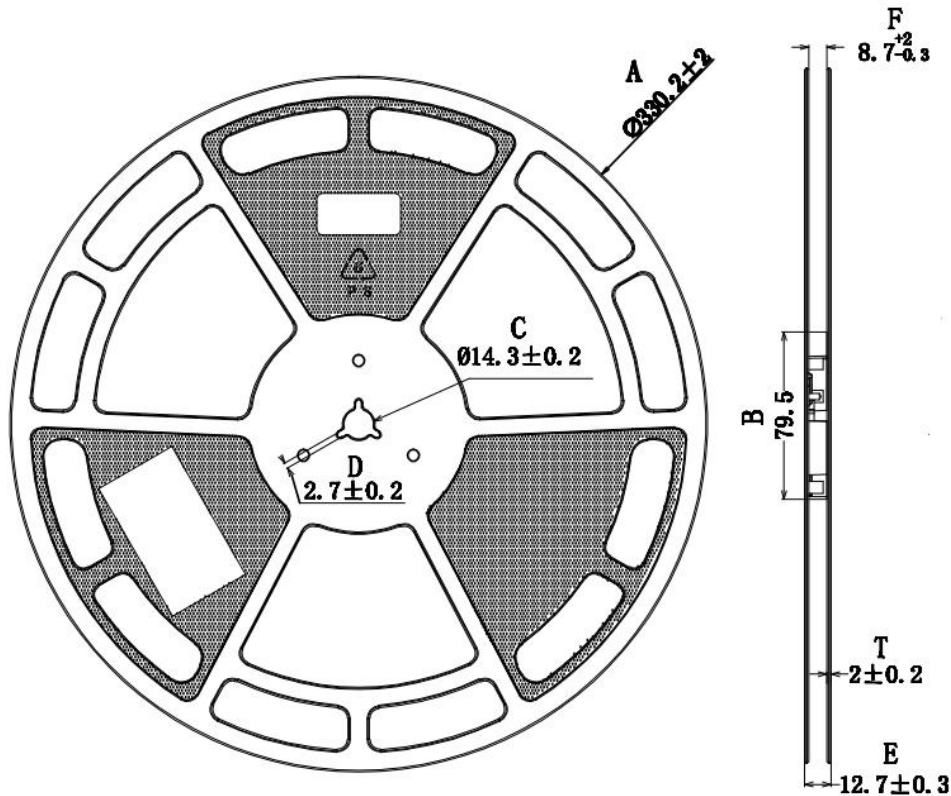
U.S.L.:Upper Standard Level (规格上限) L.S.L.:Lower Standard Level (规格下限)

◆ Label Explanation (标签说明)

- ◆ No:Product part number (生产料号)
- ◆ QTY:Number of packages (Only denoted by K) (数量)
- ◆ Part No:Product model (生产型号)
- ◆ ΦV:Luminous Intensity rank (流明)
- ◆ VF:Voltage (电压)
- ◆ X/Y:Color zone (色区)
- ◆ Lot NO:Lot number (批号)



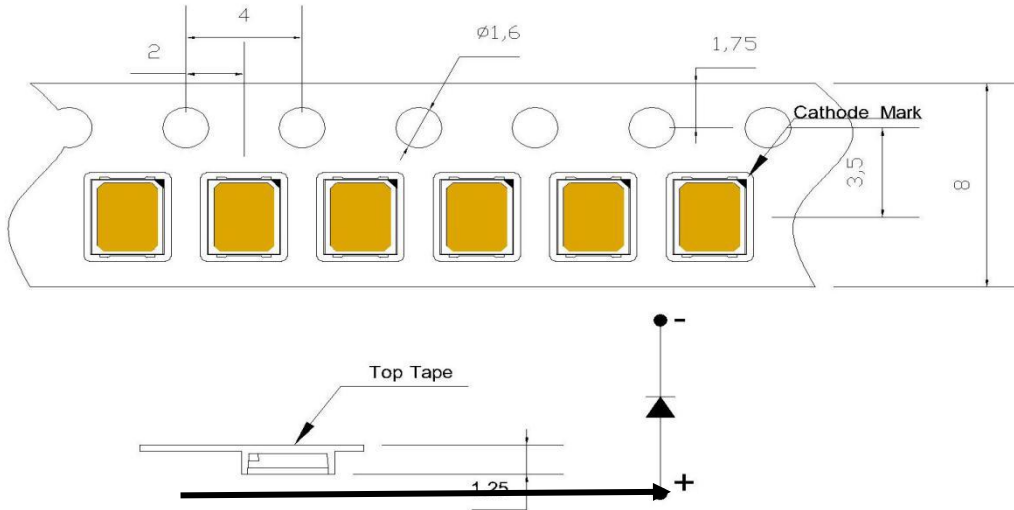
◆ Reel Dimensions (卷盘尺寸)



Note (备注):

Tolerance unless mentioned is $\pm 0.3\text{mm}$; unit=mm (未标注公差为 $\pm 0.3\text{mm}$, 尺寸单位: mm)

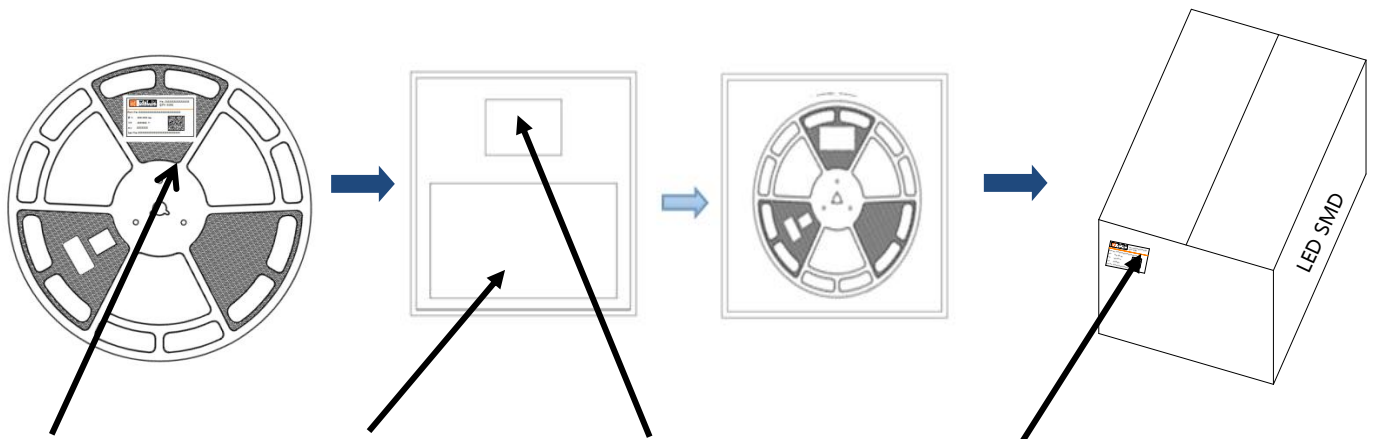
◆ Carrier Tape Dimensions (载带尺寸)



Note (备注) :

1. Tolerance unless mentioned is $\pm 0.1\text{mm}$; unit=mm.
允许公差为 $\pm 0.1\text{mm}$, 单位 mm

◆ Moisture Resistant Packing Process (防潮包装过程)



Label 一 20K Aluminum moisture proof bag Label 二 80K Label 三 400K
(标签一 20K) (铝箔袋) (标签二 80K) (标签三 400K)

Note (备注) :

1. The cathode is oriented towards the tape sprocket hole in accordance with ANSI/ELARS-481 specifications
负极朝向定位孔, 符合 ANSI/ELARS-481 规格。
2. 20000PCS/Reel.
每盘 20000 颗

◆ Precautions for use Over-current-proof (通电使用时的注意事项)

Customer must apply resistors for protection otherwise slight voltage shift will cause big current change (burn out will happen)

客户必须使用电阻进行保护，否则轻微的电压变化会引起大电流变化(会发生烧坏)

◆ Storage (存储)

1. Do not open moisture proof bag before the products are ready to use

在使用之前禁止打开防潮包装

2. Storage conditions prior to uncapping : 5 - 30 °C , maximum relative humidity of 60 %

开封前的贮藏条件: 5-30°C, 最大相对湿度为 60%RH

3. After opening the package, The LEDs should be soldered within 4 hours after opening the package

打开包装之后, 应在 4hrs 内焊接完毕

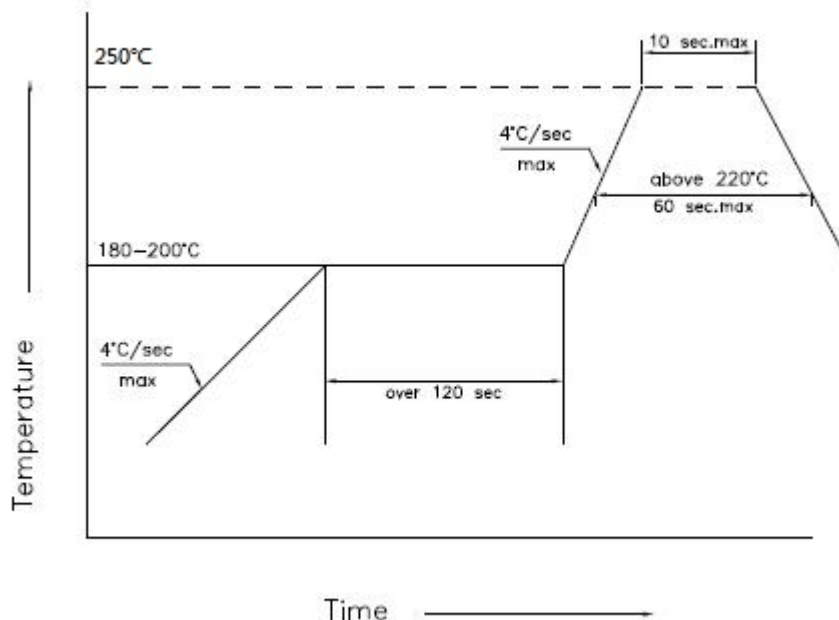
◆ Soldering Condition (焊接条件)

1. Number of reflow process shall be less than 2 times and cooling process to normal temperature is required between first and Second soldering process

本产品最多只可回流焊两次, 且在首次回焊后须冷却至室温之后方可进行第二次回流焊.

2. Recommended soldering conditions

推荐焊接条件



◆ Soldering Iron (烙铁焊接)

1. When hand soldering, keep the temperature of iron below less 250°C less than 10 seconds

当手工焊接时，烙铁的温度必须小于 250°C，时间不可超过 10 秒

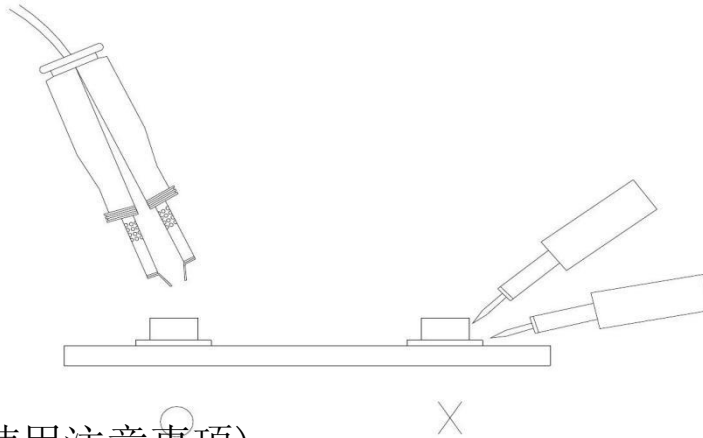
2. The hand solder should be done only one time.

手工焊接只可焊接一次

◆ Repairing (修补)

Repair should not be done after the LEDs have been soldered. When repairing is unavoidable, a double-head soldering iron should be used (as below figure). It should be confirmed beforehand whether the characteristics of the LEDs will or will not be damaged by repairing

不应在 LED 焊接后进行修复。当修复不可避免时，应使用（如下图）之类的双头烙铁，应事先确认此种修补方法会不会损坏 LED 本身



◆ Cautions: (使用注意事项)

1. Please check if there is air leak before opening the package, if so, please return the goods back to take drying process for later using.

在开包装之前，请先检查包装袋有无漏气，如果有漏气现象，请退回我司重新烘烤除湿包装后再使用

2. Products can be used within 6 months after packaging, after that, they must be:

抽真空包装材料未超过 6 个月可正常使用，包装袋开启后，产品必须：

A. Soldered within 4 hrs

A. 在 4hrs 内焊接完毕

B. Used in the condition: 30°C within and 60%RH below

B. 使用条件需： 温度:30°C 以内湿度:60%RH 以下

3. The vacuum packaging material is not used for more than 6 months after being packaged unless opening the package and take drying our process in 70°C/12H

抽真空包装材料超过 6 个月未使用，再使用时需重新拆铝箔袋取出烘烤 70°C/12H 除湿后才可使用