

High Power LED
DXX-A1/B1-XXX
PRODUCT DATA SHEET

LEKOLED

CONTENTS

1, Product Nomenclature	P2
2, Product Introduction	P2
3, Mechanical Dimensions	P2
4, Electro Optical Characteristics	P3
5, Absolute Maximum Ratings	P3
6. Chromaticity Characteristics	P4-6
7, Reliability Test	P7
8, Failure Criteria	P7
9, Characteristic Curves	P8
10, Packing Specification	P9
11, Reflow soldering instructions	P10
12, User Manuel	P10-12

1, Product Nomenclature



<u>D</u>	<u>01</u>	<u>A1</u>	<u>A30</u>	<u>60</u>	<u>D</u>	<u>1C1</u>
[1]	[2]	[3]	[4]	[5]	[6]	[7]
[1]	High Power LED					
[2]	Power					
[3]	Substrate					
[4]	Chip					
[5]	Nominal CCT					
[6]	CRI(Ra)					
[7]	Die count in series & parallel					

2、Product Introduction

Features

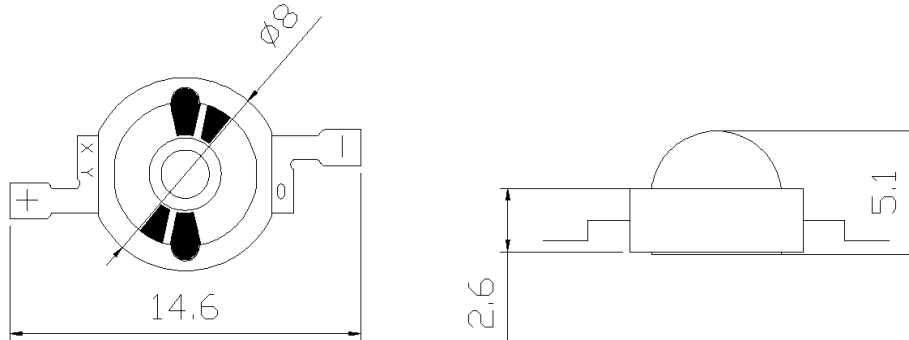
- High luminous efficacy
- Horizontal Chip Encapsulation
- Au≥99.99%
- Copper Substrate

Application

- ◆ Street Light

- ◆ Wall Washer Light
- ◆ Spot Light
- ◆ Ground Light

3、 Mechanical Dimensions



Note:

- 1、 Unit: mm
- 2、 Tolerances unless otherwise specified ± 0.25

4、 Electro Optical Characteristics (Ta=25 °C)

Power (W)	Product Code	CCT (K)	Luminous Flux (lm)	Voltage (V)	Current (mA)	Efficacy (lm/W)
1	D01-A1-X30 D01-B1-X30	3000-3200K	>116	3.0-3.4	350	110-120
		4000-4200K				
		6000-6500K				
1	D01-A1-A30 D01-B1-A30	3000-3200K	>116	3.0-3.4	350	110-120
		4000-4200K				
		6000-6500K				
1	D01-A1-A33 D01-B1-A33	3000-3200K	>126	3.0-3.4	350	120-130
		4000-4200K				
		6000-6500K				
3	D03-A1-A45 D03-B1-A45	3000-3200K	>294	3.0-3.4	700	140-160
		4000-4200K				
		6000-6500K				
3	D03-A1-J45 D03-B1-J45	3000-3200K	>294	3.0-3.4	700	140-160
		4000-4200K				
		6000-6500K				

5、 Absolute Maximum Ratings (Ta=25℃)

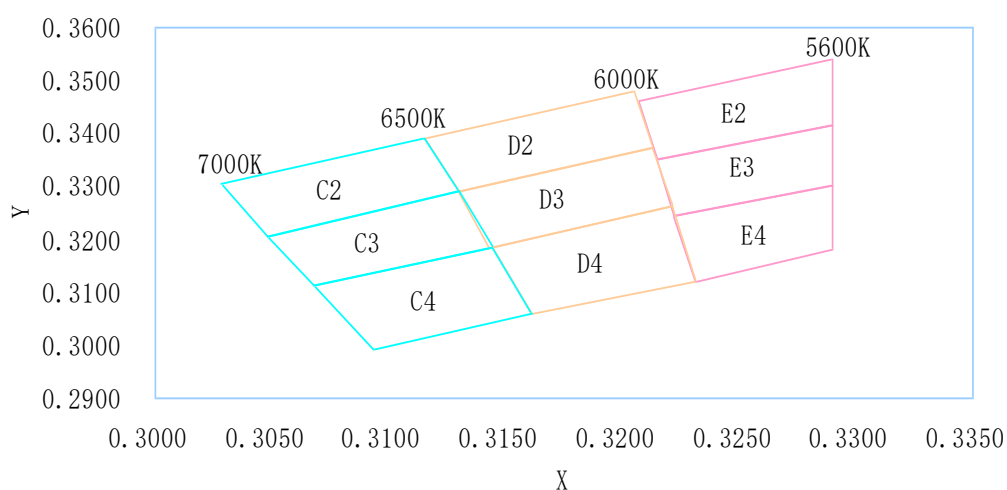
Parameter	Symbol	Rating	Unit
Forward Current	I _F	350/700	mA
Junction Temperature	T _J	125	℃
Reverse Voltage	V _R	Forbidding reverse	
Operating Temperature	T _{OPR}	-30℃ To +75℃	
Soldering Temperature	T _{SOL}	300℃± 20℃ For 3 Seconds	
ESD Sensitivity	ESD	2000V HBM	
Thermal Resistance	R _{th}	10	℃

Note:

CrescentLED Electronics maintains forward voltage±0.1V, luminous flux ±10%

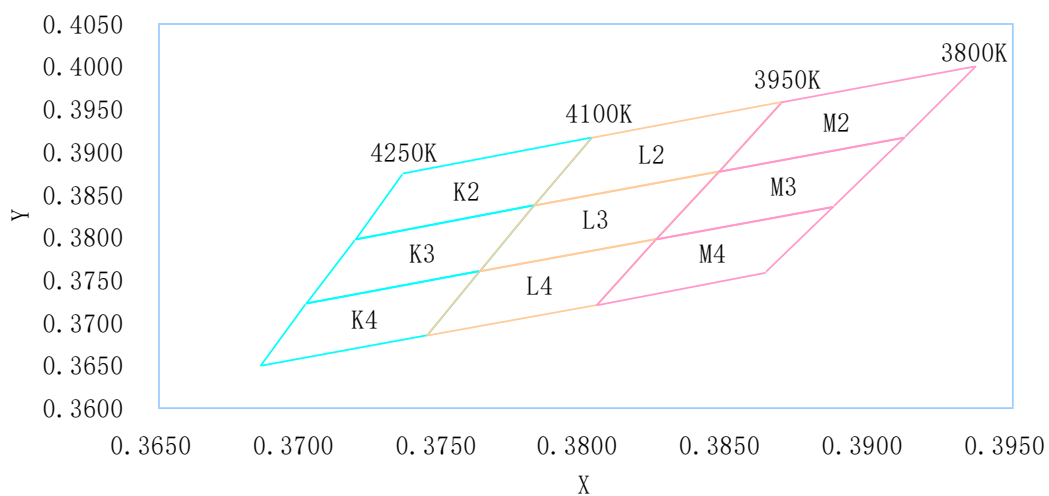
6、 Chromaticity Characteristics (Ta=25℃)

色温段: 5600-7000K



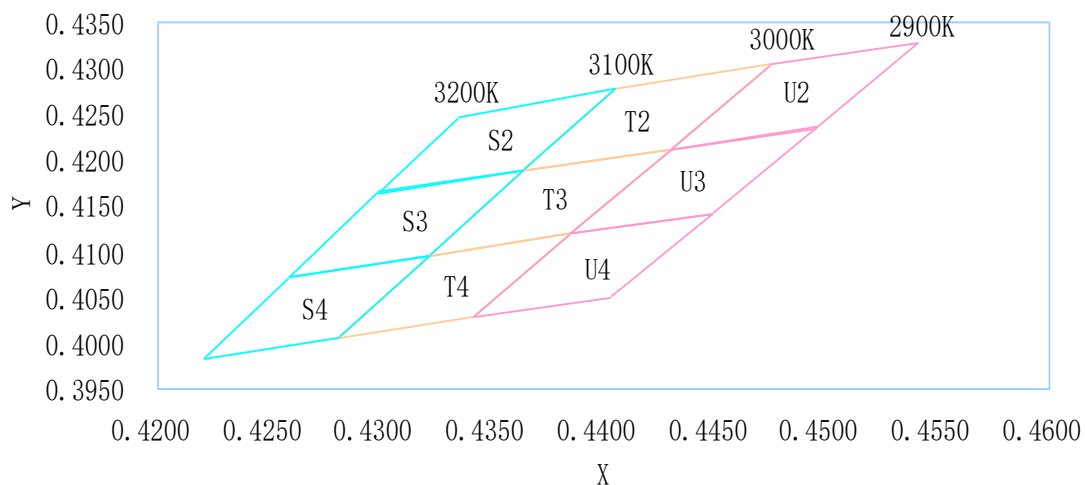
BIN	CIE-X	CIE-Y	BIN	CIE-X	CIE-Y	BIN	CIE-X	CIE-Y
E2	0.3207	0.3462	D2	0.3115	0.3391	C2	0.3028	0.3304
	0.3290	0.3538		0.3205	0.3480		0.3115	0.3391
	0.3290	0.3417		0.3213	0.3373		0.3130	0.3290
	0.3215	0.3350		0.3130	0.3290		0.3048	0.3207
	0.3207	0.3462		0.3115	0.3391		0.3028	0.3304
BIN	CIE-X	CIE-Y	BIN	CIE-X	CIE-Y	BIN	CIE-X	CIE-Y
E3	0.3215	0.3350	D3	0.3130	0.3290	C3	0.3048	0.3207
	0.3290	0.3417		0.3213	0.3373		0.3130	0.3290
	0.3290	0.3300		0.3221	0.3261		0.3144	0.3186
	0.3222	0.3243		0.3143	0.3186		0.3068	0.3113
	0.3215	0.3350		0.3130	0.3290		0.3048	0.3207
BIN	CIE-X	CIE-Y	BIN	CIE-X	CIE-Y	BIN	CIE-X	CIE-Y
E4	0.3222	0.3243	D4	0.3144	0.3186	C4	0.3068	0.3113
	0.3290	0.3300		0.3221	0.3261		0.3144	0.3186
	0.3290	0.3180		0.3231	0.3120		0.3161	0.3059
	0.3231	0.3120		0.3161	0.3059		0.3093	0.2993
	0.3222	0.3243		0.3144	0.3186		0.3068	0.3113

色温段：3800-4250K



BIN	CIE-X	CIE-Y	BIN	CIE-X	CIE-Y	BIN	CIE-X	CIE-Y
K2	0.3719	0.3797	L2	0.3782	0.3837	M2	0.3847	0.3877
	0.3736	0.3874		0.3802	0.3916		0.3869	0.3958
	0.3802	0.3916		0.3869	0.3958		0.3937	0.4001
	0.3782	0.3837		0.3847	0.3877		0.3912	0.3917
	0.3719	0.3797		0.3782	0.3837		0.3847	0.3877
BIN	CIE-X	CIE-Y	BIN	CIE-X	CIE-Y	BIN	CIE-X	CIE-Y
K3	0.3702	0.3722	L3	0.3763	0.3760	M3	0.3825	0.3798
	0.3719	0.3797		0.3782	0.3837		0.3847	0.3877
	0.3782	0.3837		0.3847	0.3877		0.3912	0.3917
	0.3763	0.3760		0.3825	0.3798		0.3887	0.3836
	0.3702	0.3722		0.3763	0.3760		0.3825	0.3798
BIN	CIE-X	CIE-Y	BIN	CIE-X	CIE-Y	BIN	CIE-X	CIE-Y
K4	0.3686	0.3649	L4	0.3744	0.3685	M4	0.3804	0.3721
	0.3702	0.3722		0.3763	0.3760		0.3825	0.3798
	0.3763	0.3760		0.3825	0.3798		0.3887	0.3836
	0.3744	0.3685		0.3804	0.3721		0.3863	0.3758
	0.3686	0.3649		0.3744	0.3685		0.3804	0.3721

色温段：2900-3200K



BIN	CIE-X	CIE-Y	BIN	CIE-X	CIE-Y	BIN	CIE-X	CIE-Y
T2	0.4364	0.4188	U2	0.4430	0.4212	S2	0.4299	0.4164
	0.4405	0.4278		0.4475	0.4304		0.4335	0.4247
	0.4475	0.4304		0.4541	0.4327		0.4405	0.4278
	0.4430	0.4212		0.4495	0.4234		0.4364	0.4188
	0.4364	0.4188		0.4430	0.4212		0.4299	0.4164
BIN	CIE-X	CIE-Y	BIN	CIE-X	CIE-Y	BIN	CIE-X	CIE-Y
T3	0.4322	0.4096	U3	0.4385	0.4119	S3	0.4259	0.4073
	0.4364	0.4188		0.4430	0.4212		0.4299	0.4165
	0.4430	0.4212		0.4496	0.4236		0.4364	0.4188
	0.4385	0.4119		0.4449	0.4141		0.4322	0.4096
	0.4322	0.4096		0.4385	0.4119		0.4259	0.4073
BIN	CIE-X	CIE-Y	BIN	CIE-X	CIE-Y	BIN	CIE-X	CIE-Y
T4	0.4281	0.4006	U4	0.4342	0.4028	S4	0.4221	0.3984
	0.4322	0.4096		0.4385	0.4119		0.4259	0.4073
	0.4385	0.4119		0.4449	0.4141		0.4322	0.4096
	0.4342	0.4028		0.4403	0.4049		0.4281	0.4006
	0.4281	0.4006		0.4342	0.4028		0.4221	0.3984

7、Reliability Test

Serial No.	Test Item	Test Condition	Test Cycle	Test Qty.	Ac/Re
1	Continuous Operation Test	Ta=25℃ IF=350/700 mA	1000H	50	0/1
2	Low/High Temperature Storage Test	-40℃/1H +100℃/1H	50 Cycles	50	0/1
3	High Temperature Operation Test	Ta=85℃±5℃ IF=350/700 mA	1000H	50	0/1
4	Moisture-proof Test	85℃/85%RH	168H	50	0/1
5	Low Temperature Test	Ta=-40℃±5℃ IF=350/700 mA	168H	50	0/1
6	ESD Test	2000V HBM	1 Minute	50	0/1

8、 Failure Criteria

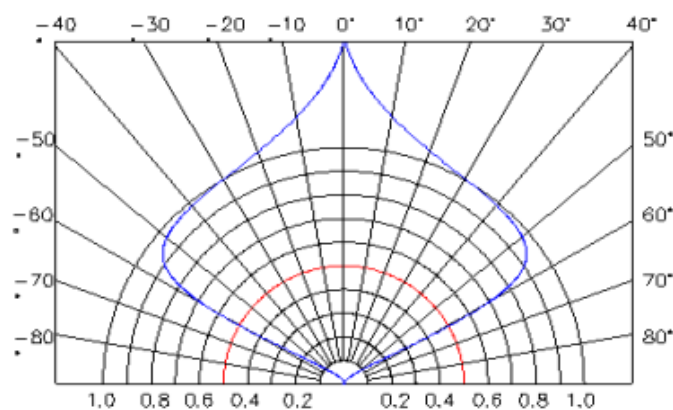
Measuring Items	Symbol	Measuring Conditions	Failure Criteria	
			Min.	Max.
Total Luminous Flux	Φ	IF=350/700 mA	L.S.L*0.8	-----
Forward Voltage	VF	IF=350/700 mA	-----	U.S.L*1.1
Reverse Leakage Current	IR	VR=5V	-----	U.S.L*2.0

Note:

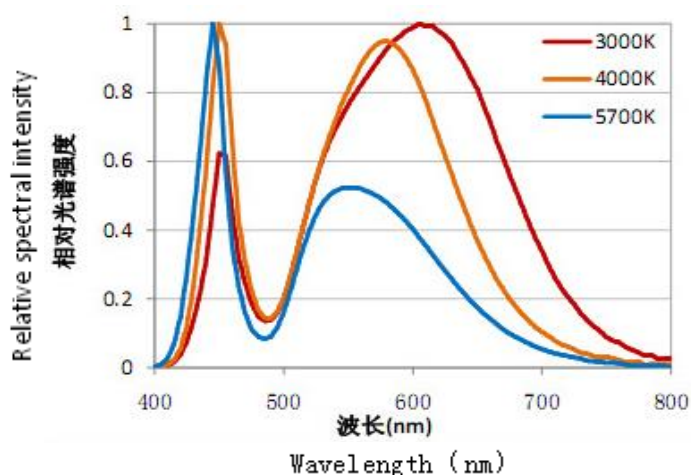
L.S.L : Low Standard

U.S.L : High Standard

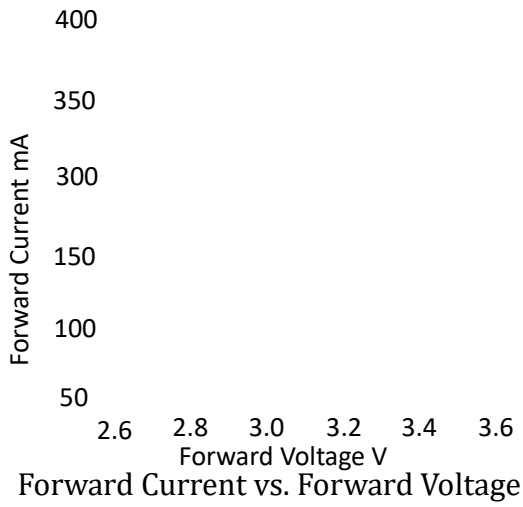
9、 Characteristic Curves



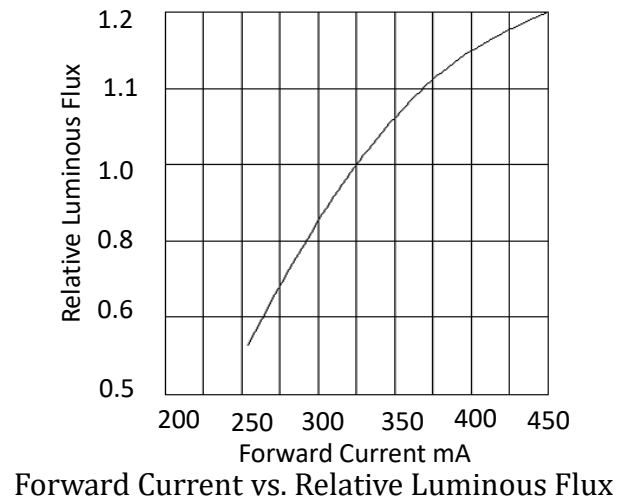
Beam Angle $\pm 5^\circ$ 发光角度 $\pm 5^\circ$



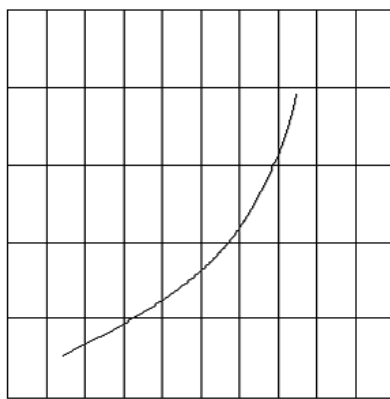
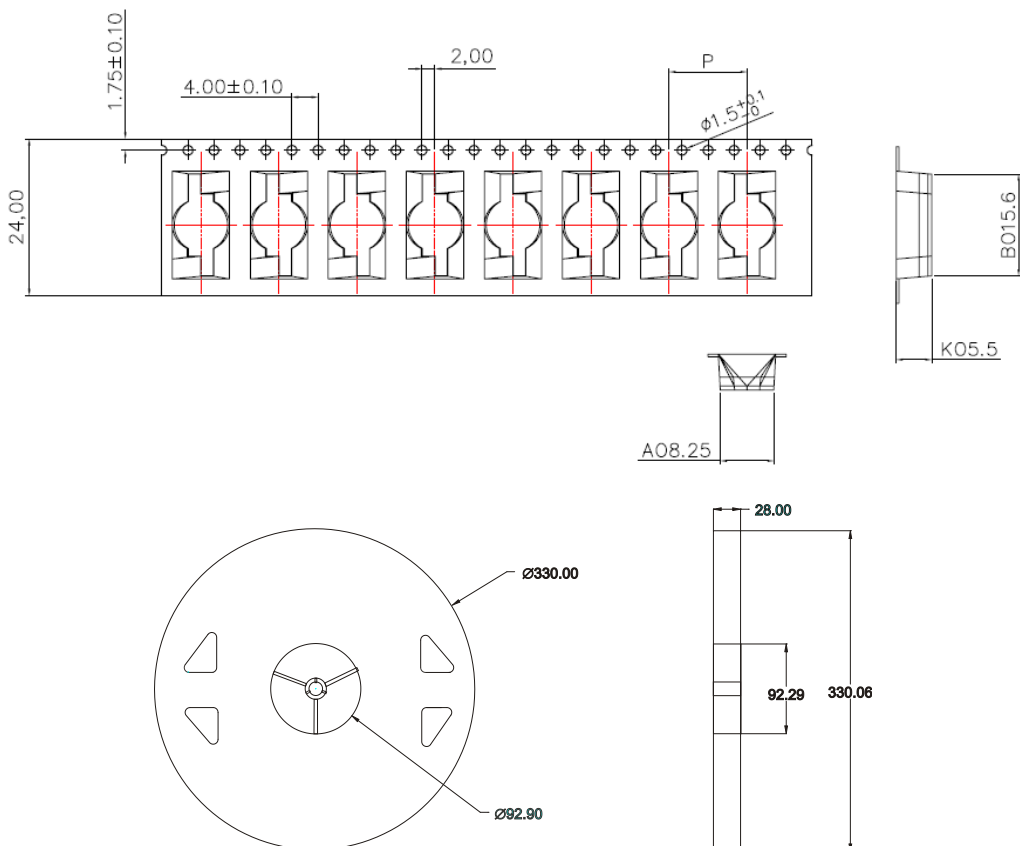
Radiative Intensity Curve

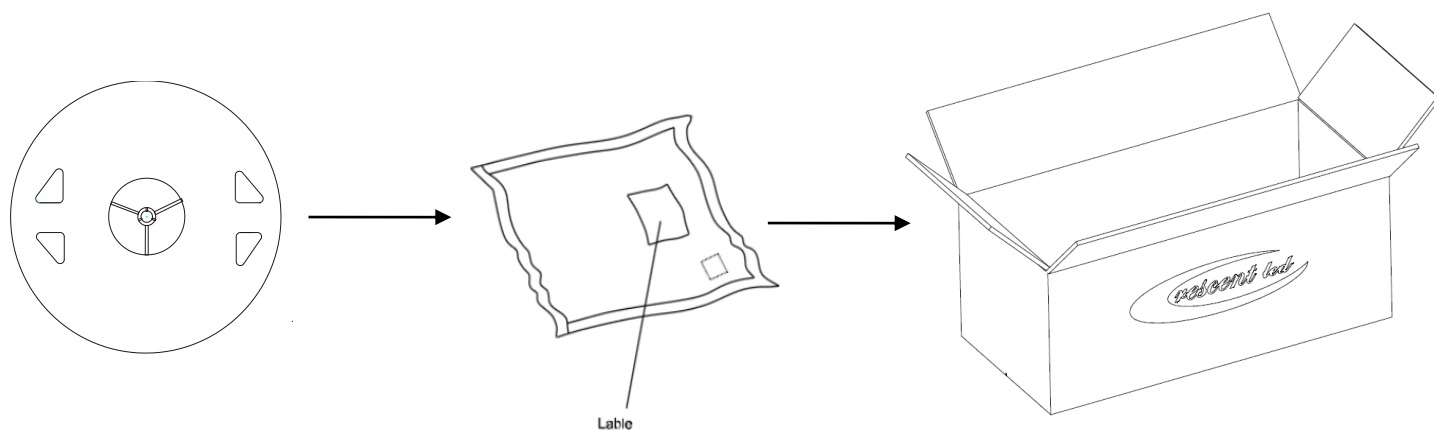


1W



10、 Packing Specification



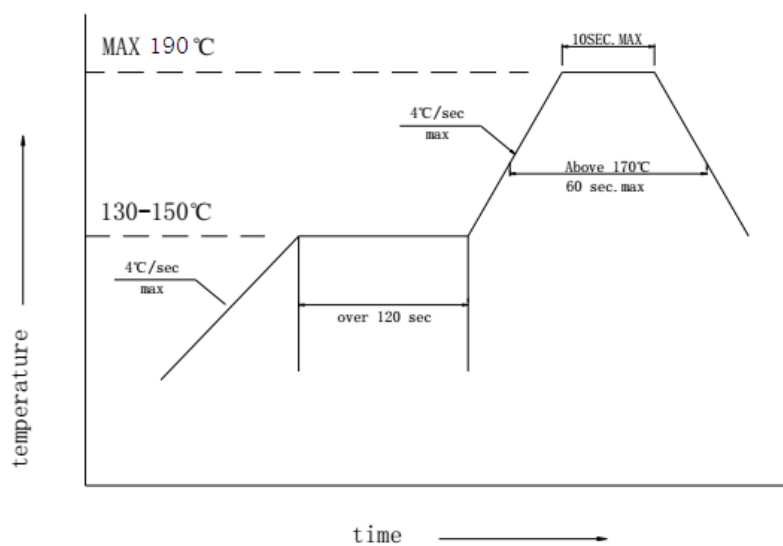


1000pcs/roll
unit:mm

11.Reflow soldering instructions

- 1.recommend to use a convection type reflow machine with 8 zones.
- 2.recommend to use Lead-Free Paste with a melting point between 190°C200°C
- 3.the reflow soldering time should not be more than 400s.

Temperature-Time
温度-时间图



12、 User Manuel

12.1.(storage):

To avoid moisture, we recommend storage conditions for the unopened LED +5 ~ +30 °C, relative humidity <60%. LED should be used within 24 Hrs. of opening the package. Please make sure to dehumidify and vacuum pack the remaining/ unused LED. Dehumidifying condition: +60 ° C ± 5 ° C, 12 Hrs. Effective age for the sealed led is one year.

12.2 (the assembly notes):

Soldering Conditions: Reflow soldering is recommended for this LED, the maximum temperature of reflow should not exceed 190°C (when using at 700mA, please adopt the soldering operation mode with copper pad at the bottom. Please consider the life time risk if use the thermal conductive resin with Copper pad at the bottom).If hand soldering, set soldering iron temperature at 350°C and soldering time not More than 3 seconds,after the first soldering, make sure the substrate surface temperature returns to ambient temperature before a second soldering. Do not bend the LED PCB after soldering. Use recommended cleaning agent for PCB cleaning (Should not be use directly in the fluid) Please make sure when soldering, there is no external force on the soldering surface (such as pressure,friction or sharp metal nails, etc.), to avoid gold wire deformation or damage and other abnormalities.If beyond recommended conditions, we cannot guarantee the LED stability, please do the risk assessment first.

12.3 (anti-Static Measures):

Please take adequate measures to prevent electrostatic generation, such as wearing electrostatic ring or anti-static fingerstall etc; any relative products like plant equipment, machinery, carrier and transportation units shall be connected to discharging unit/ ground. After assembly, please make sure to discharge Static Electricity with proper ESD equipment.

12.4 (temperature Control):

Recommended temperature conditions for enhanced product life: The temperature of copper pad is <75°C .During assembly, please ensure that a good quality thermal paste is applied and distributed evenly over the surface.While using thermal pad (Heat Sink), make sure LED is firmly tightened and there is no gap between surfaces.This product Heating conditions, tested at 500V with medium surface contact.

12.5 (drive control):

Drive this product at constant current. Output current range specifications should be according to the operational and other conditions, as mentioned in data sheet. Before using a constant voltage source or altered specifications, other than recommended, please consider risk factors.

12.6 (other):

--- Product is not suitable to use in following conditions;

-
- Direct or indirect wet / damp conditions, such as rain, etc;
 - in contact with sea water and erosive materials;
 - Exposed to corrosive gases (e.g., Cl₂, H₂S, NH₃, SO_x, NO_x, etc.);
 - Exposed to dust, liquids or oils;