

Product Brief (产品简介)

High Power Ceramic 3535 3W Green Series



Description (描述)

- This surface-mount LED size is standard package: 3.45x3.45x2.26mm.
- The L35C series is designed for high flux output applications with high current operation capability.

Features And Benefits (特性优点)

- Designed for high current operation
- Low thermal resistance
- Superior corrosion robustness
- Superior high efficacy at rated current enables outstanding lm/W at system level
- Viewing angle at 50%I_v : 120°
- Lumen Maintenance:Testresults according to IESNA LM-80 available
- RoHS certification

Applications (应用)

- Outdoor lighting
- Landscape lighting
- Exhibition hall lighting
- stage lights

Table 1. Product overview (产品总览)

Parameter	Dominant Wavelength(nm)	Luminous Flux Rank (lm)
KGK3535SUGC-3W	Rank	IF=700mA
	520-540	240-280

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Performance Characteristics (性能特性)

Table 2. Product For Dominant Wavelength 520-540nm Electro Optical Characteristics
(光电特性) , IF = 700mA ,Ta = 25°C, RH60%

Parameter	Dominant Wavelength(nm)	Voltage Rank(V)	Main Luminous Flux Rank (lm)
Model No.	Rank	F=700mA	IF=700mA
	520-525	2.8-3.4	240-270
	520-525	2.8-3.4	240-270
	525-530	2.8-3.4	240-270
	530-535	2.8-3.4	240-270
	535-540	2.8-3.4	250-280

- Tolerance of measurements of the Luminous Fluxis ±7%.
- Tolerance of measurements of the Dominant Wavelength ±2nm.
- Voltage measurement tolerance is ±0.1V.
- The Radiometric Power was measured at the peak of the spatial pattern which may not be aligned with the mechanical axis of the LED package.
- The lumen table is only for reference.

Table 5. Electro and Thermal Characteristics (电热特性) , IF = 700mA , Ta = 25°C, RH60%

Item	Symbol	Min	Typ	Max	Unit	Condition
Forward Voltage	VF	2.8	-	3.4	V	IF=700mA
Reverse Current	IR	-	-	10	μA	VR=5V
View Angle	2θ1/2	-	120	-	°	IF=700mA
Thermal Resistance	(R _{thj-sp})	-	10	-	°C/W	IF=700mA
Electrostatic Discharge	ESD	-	2000	-	V	-

- Tolerance : VF :±0.1V.
- 2θ1/2 is the off-axis where the luminous intensity is 1/2 of the peak intensity.
- Thermal resistance : RthJS (Junction / solder) .

Table 6. Absolute Maximum Ratings (最大额定参数) , Ta = 25°C, RH60%

Item	Symbol	Absolute Maximum Ratings	Unit
Forward Current	IF	1200	mA
Pulse Forward Current	IFP	1500	mA
Power Dissipation	PD	4.08	W
Reverse Voltage	VR	5	V
Operating Temperature	T _{opr}	-40~ +100	°C
Storage Temperature	T _{stg}	-40~ +100	°C
Junction Temperature	T _j	125	°C

- IFP condition with Pulse: Width≤100μs Duty cycle≤1/10.
- LED’ s properties might be different from suggested values like above and below tables if operation condition will be exceeded our parameter range. Care is to betaken that power dissipation does not exceed the absolute maximum rating of the product.
- All measurements were made under the standardized environment of LumiSee LED.

Product Bin (产品分Bin)

Table 7. Luminous Flux Ranks (光通亮分档) , Ta = 25℃, RH60%, IF=700mA

Luminous Flux (lm)			Luminous Flux (lm)		
Code	Min	Max	Code	Min	Max
WB3	230	240	WB6	260	270
WB4	240	250	WB7	270	280
WB5	250	260	WB8	280	290

Table 8. Forward Voltage Ranks (电压分档) , Ta = 25℃, RH60%, IF=700mA

Forward Voltage Ranks(V)		
Code	Min	Max
BB8	2.8	3.0
BC0	3.0	3.2
BC2	3.2	3.4

Table 9. Dominant Wavelength Ranks (波长分档) , Ta = 25℃, RH60%, IF=700mA

Dominant Wavelength Ranks (nm)			Dominant Wavelength Ranks(nm)		
Code	Min	Max	Code	Min	Max
52A	520	522.5	53A	530	532.5
52B	522.5	525.0	53B	532.5	535.0
52C	525.0	527.5	53C	535.0	537.5
52D	527.5	530.0	53D	537.5	540

Typical Characteristics Curve (典型特征曲线)

Fig 1. Relative Spectral Luminous Flux Distaibution for Dominant Wavelength 522.5-537.5nm, IF=700mA,Ta = 25°C, RH60%

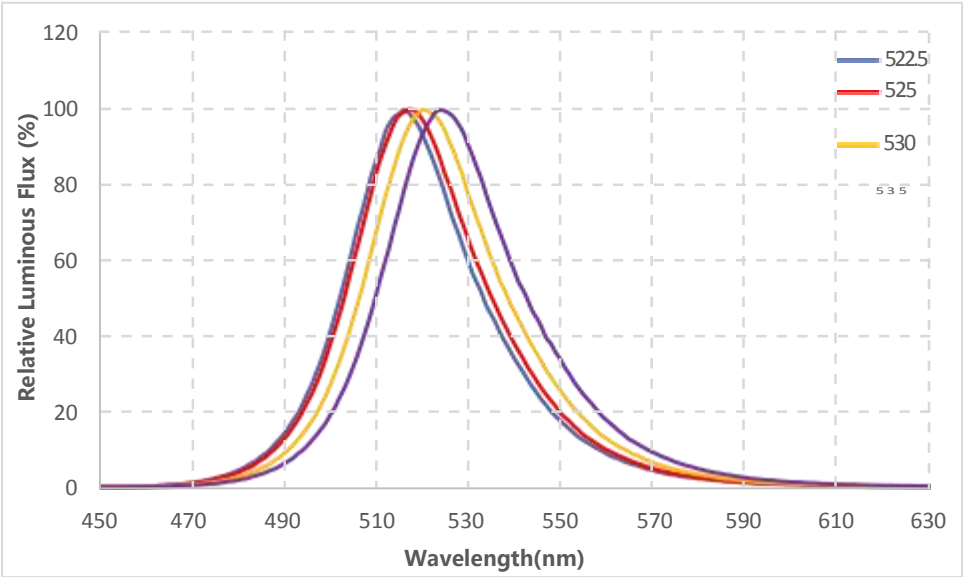


Fig 2. Viewing Angle Distribution , IF=700mA,Ta = 25°C, RH60%

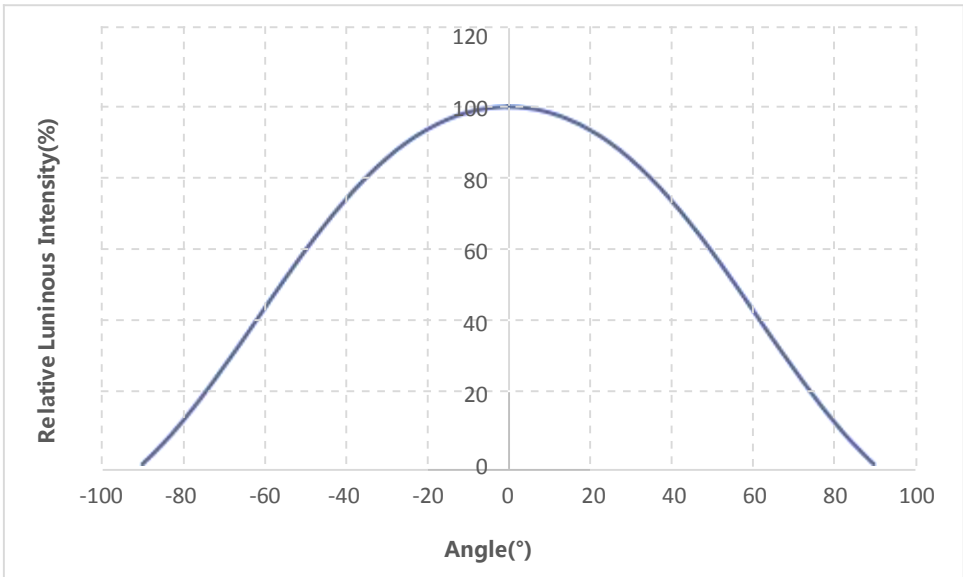


Fig 3. Relative Luminous Flux VS Forward Current,Ta = 25°C, RH60%

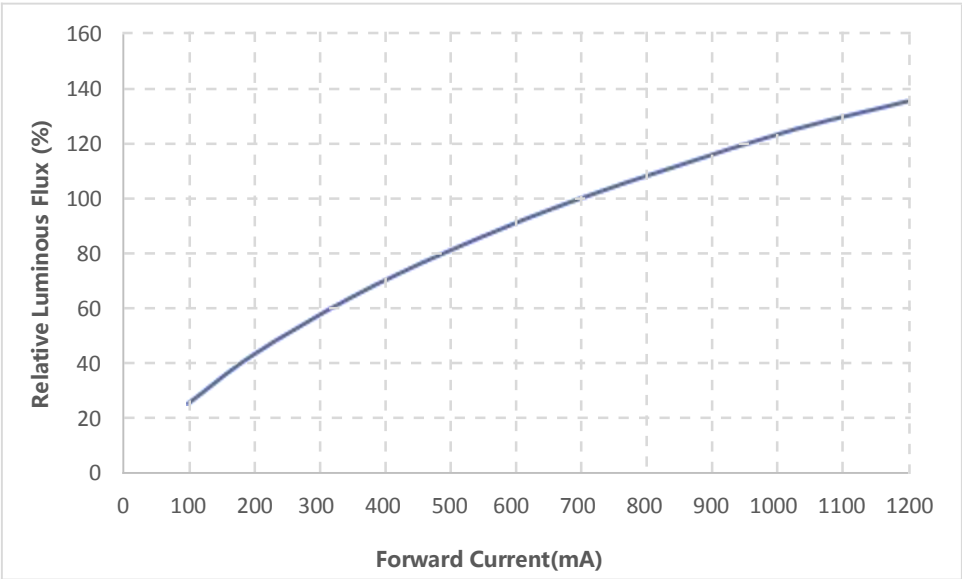


Fig 4. Forward Voltage VS. Forward Current Ta = 25°C, RH60%

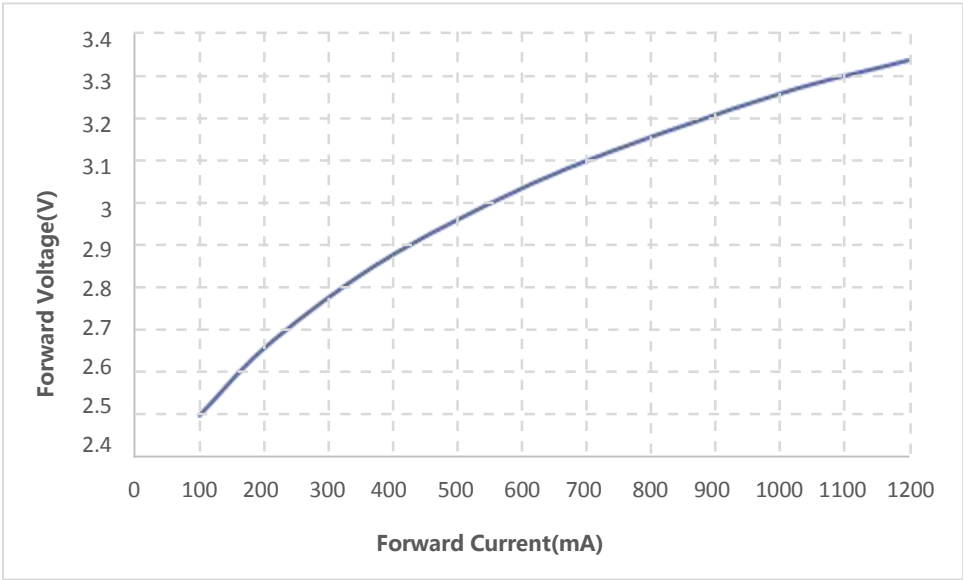


Fig 5. Relative Radiometric Power VS. Solder Temperature , IF=700 mA

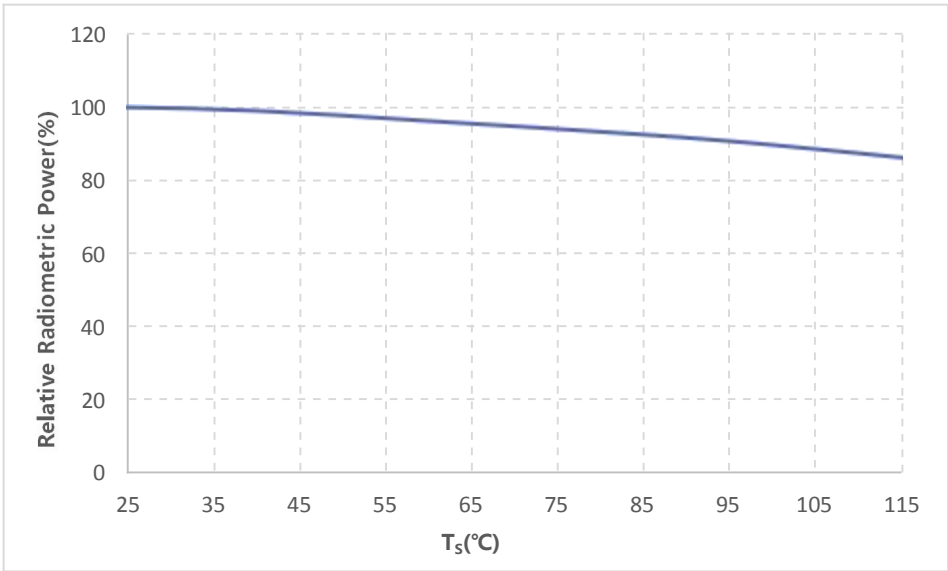
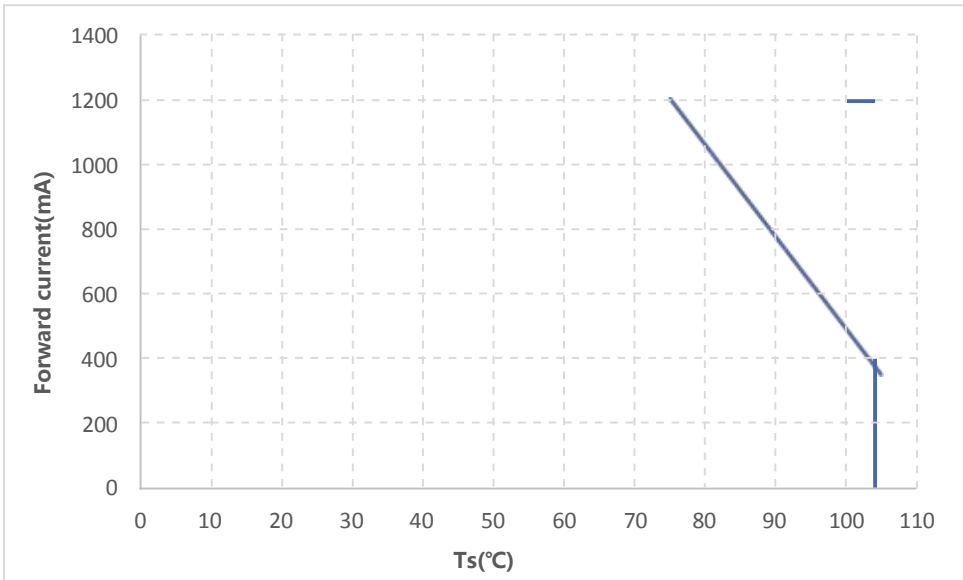


Fig 6. Forward Current VS Solder Temperature



Outline Vs. Recommended Solder Pad（外观与推荐焊盘）

Fig 7. Mechanical Dimensions（产品尺寸）

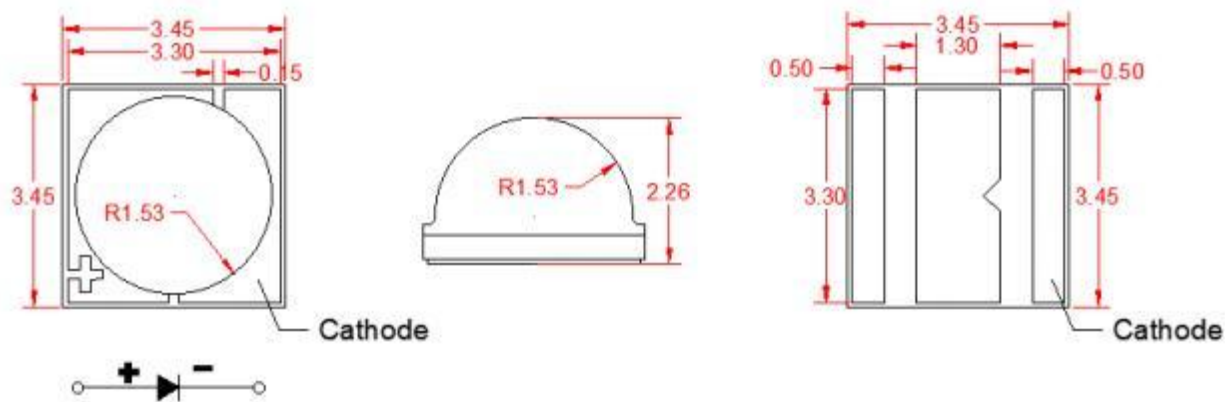


Fig 8. Recommended Solder Pad（推荐焊盘）



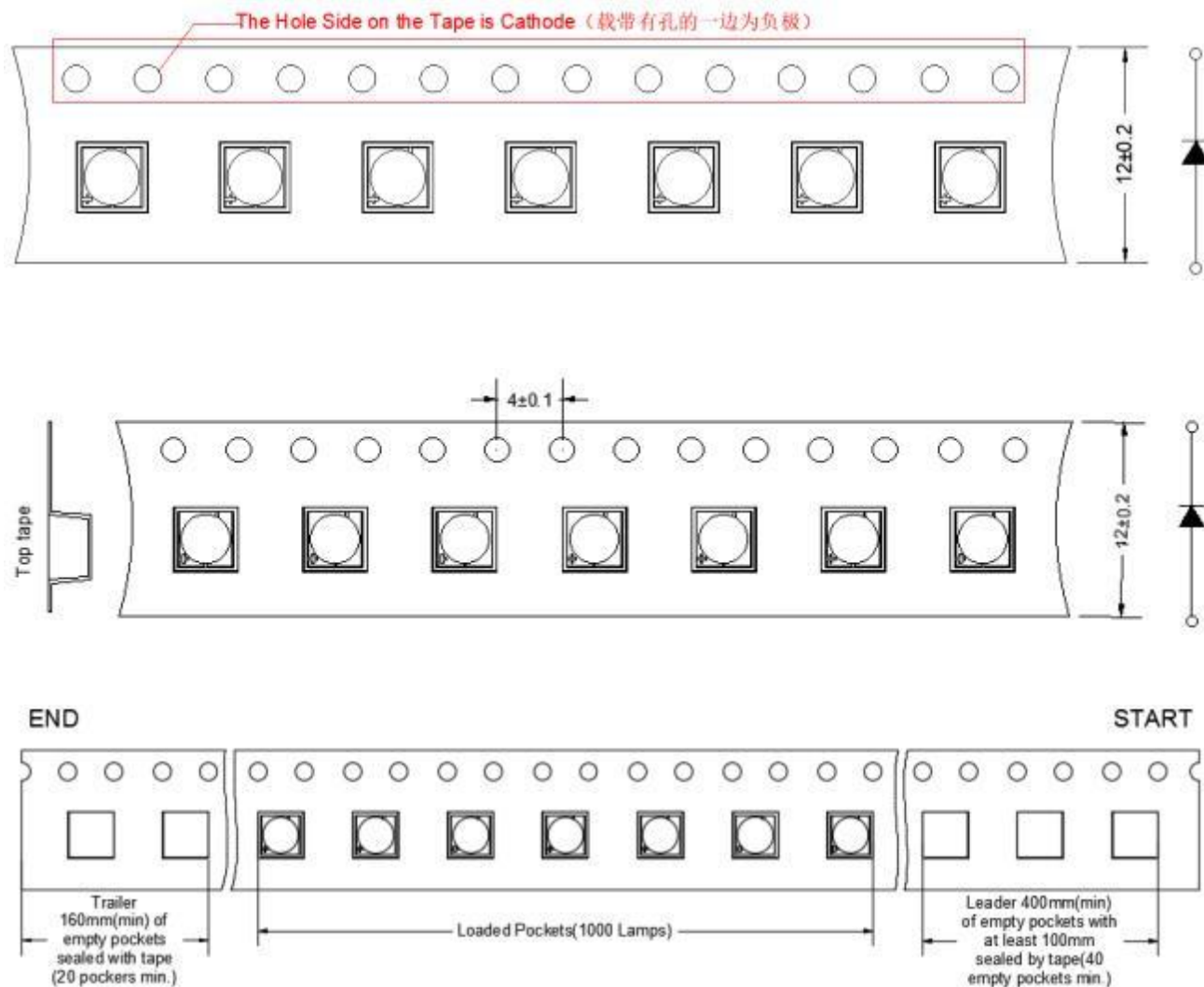
Recommended PCB Solder Pad

Recommended Stencil Pattern Stencil:0.12mm

- All dimensions are in millimeters.
- Scale: none.
- Undefined tolerance is $\pm 0.1\text{mm}$.

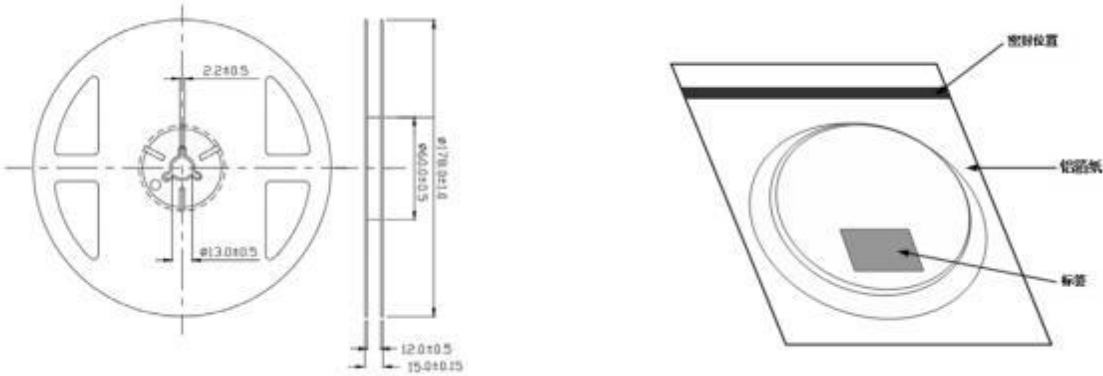
Packaging Information (包装信息)

Fig 9. Reel Packaging 1000pcs/Reel (卷带包装, 1000pcs/卷)



- Quantity : Max 1000pcs/Reel
- Cumulative Tolerance : Cumulative Tolerance/10 pitches to be ± 0.25 mm
- Adhesion Strength of Cover Tape Adhesion strength to be 0.1-0.7N when the cover tape is turned off from the carrier tape at the angle of 10° to the carrier tape.
- Package : P/N, Manufacturing data Code No. and Quantity to be indicated on a damp proof Package.

Reels (卷盘)



Inner Box (内箱)

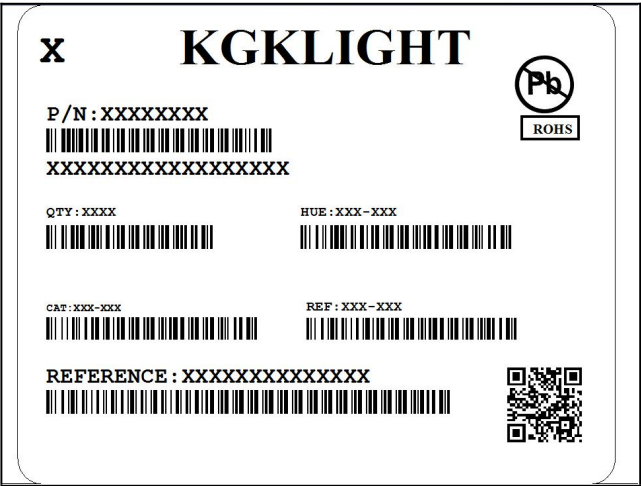


•Capacity 5 or 10 reels per box (内箱容量： 5或10卷)

Outer Box (外箱)



Table 10. Part Numbering System



Label（标签）

Item Number Code	Description	Item Number
X1	LED Type Code 产品代码	50: 5050; 30: 3030; 35: 3535;
X2	Light Color 发光颜色	W: White Color; C: Colored; I: IR; U: UV
X3	Wavelength波长	520:520nm
X4	No. of Serial Chip 晶片串联数量	1-Z.
X5	No. of Parallel Chip 晶片并联数量	1-Z.
X6	Lead Frame Code 支架代码	E1: EMC; E2: SMC; C1: Al ₂ O ₃ Ceramic; C2: AlN Ceramic
X7	Viewing Angle 发光角度	A: 120 Deg.; B: 30 Deg.; C: 60 Deg.; D: 90 Deg.
X8	Material Code 物料代码	

Reflow Soldering (回流焊)

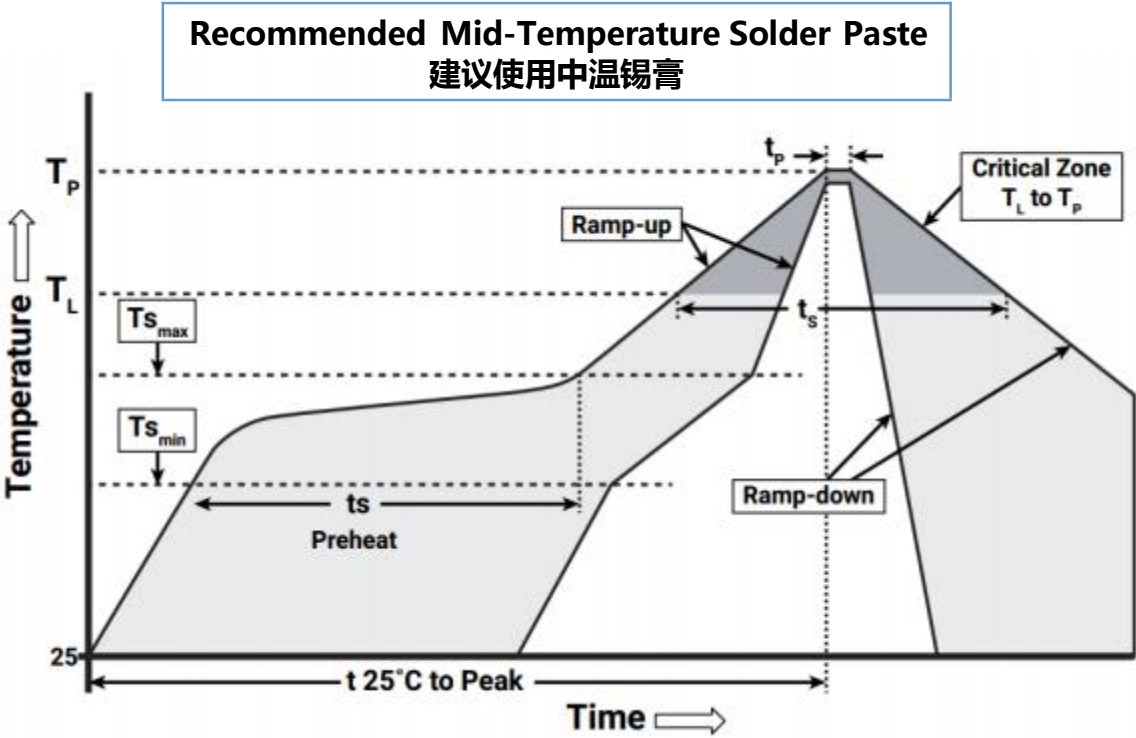


Table 11. Reflow profile characteristics

Profile Feature	Lead-Free Solder
Average Ramp-Up Rate(Ts _{max} to Tp)	1.2°C/second
Preheat:Temperature Min(Ts _{min})	120°C
Preheat:Temperature Max(Ts _{max})	170°C
Preheat:Time Max(ts _{min} to ts _{max})	65-150 seconds
Time Maintained Above:Temperature(T _L)	217°C
Time Maintained Above:Time(t _L)	45-90 seconds
Peak/Classification Temperature(T _p)	235-245°C
Time Within 5. C of Actual Peak Temperature(tp)	20-40 seconds
Ramp-Down Rate	1-6°C/ seconds
Time 25. C to Peak Temperature	4 minutes max

Pre-caution (警告)

Caution

1. Reflow soldering is recommended not to be done more than two times. In the case of more than 24 hours passed soldering after first, LED' s will be damaged.
2. Repairs should not be done after the LED' s have been soldered. When repair is unavoidable, suitable tools must be used.
3. Die slug is to be soldered.
4. When soldering, do not put stress on the LED' s during heating.
5. After soldering, do not warp the circuit board.

Notes on LumiSee Series soldering:

1. Recommend to use reflow machine.
2. Recommend to use heating plate soldering.
3. Manual soldering is not recommended.

Notes on reflow process:

1. To confirm whether the actual temperature curve in the reflow soldering conditions comply with recommended conditions. LED' s are guaranteed for one time reflow.
2. During reflow process do not apply force on LED active area.
3. After reflow process, PCB board should be cooled down before packing or storage.
