

High Power Ceramic 3535 IR Series 3W
C35I-***11C1A-****



Product Brief (产品简介)

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
- . Pb-free reflow soldering application
- . **IR SERIES**

Key Applications (应用)

- Architectural lighting
- Industrial lighting
- Portable torch
- Plant Factory
- Flower Production
- Tissue Culture
- Refreshment

Table 1. Product Selection Table (产品目录)

Parameter	Wavelength (5nm/Bin)			Max. Current mA
	Color	Min.	Max.	
C35I-76011C1A-LGUV	IR	760	765	1000
C35I-78011C1A-LGUV	IR	780	785	1000
C35I-78511C1A-LGUV	IR	785	790	1000
C35I-80511C1A-LGTV	IR	805	810	1000
C35I-82511C1A-LGUV	IR	825	830	1000
C35I-83011C1A-LGTV	IR	830	835	1000
C35I-85011C1A-LGUV	IR	850	855	1000
C35I-85011C1A-HGUV	IR	845	855	3.0V 1000mA
C35I-85011C1A-LGMV	IR	850	855	700
C35I-88011C1A-LGUV	IR	880	885	1000
C35I-90511C1A-LGUV	IR	905	910	1000
C35I-94011C1A-LOVV	IR	940	945	1000
C35I-94011C1A-LSMV	IR	940	945	700
C35I-94511C1A-HOUV	IR	940	950	3.0V 1000mA
C35I-97511C1A-LGUV	IR	960	970	1000
C35I-98011C1A-LGUV	IR	980	985	1000
C35I-130011C1A-LGUV	IR	1300	1350	1000

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Performance

Table 2. Electro Optical Characteristics (光电特性), $I_F = 700\text{mA}$, $T_a = 25^\circ\text{C}$, $\text{RH}60\%$

Color	Part Number	Wavelength (nm)	Forward Current	Forward Voltage (V)		Radiometric Power (mW)	
				Min.	Max.	Min.	Max.
IR	C35I-76011C1A-LGUV	760-765	700	2.0	2.2	650	700
IR	C35I-78011C1A-LGUV	780-785	700	1.8	2.0	550	600
IR	C35I-78511C1A-LGUV	785-790	700	1.8	2.0	550	600
IR	C35I-80511C1A-LGTV	805-810	700	1.6	1.8	600	650
IR	C35I-82511C1A-LGUV	825-830	700	1.6	1.8	550	600
IR	C35I-83011C1A-LGTV	830-835	700	1.6	1.8	650	700
IR	C35I-85011C1A-LGUV	850-855	700	1.4	1.6	600	650
IR	C35I-85011C1A-HGUV	845-855	700	3.0	3.4	900	950
IR	C35I-85011C1A-LGMV	850-855	350	1.4	1.6	250	300
IR	C35I-88011C1A-LGUV	880-885	700	1.4	1.6	550	600
IR	C35I-90511C1A-LGUV	905-910	700	1.6	1.8	550	600
IR	C35I-94511C1A-HOUV	940-950	700	2.8	3.2	1100	1200
IR	C35I-94011C1A-LOVV	940-945	700	1.4	1.6	650	700
IR	C35I-94011C1A-LSMV	940-945	350	1.4	1.6	200	250
IR	C35I-97511C1A-LGUV	960-970	700	1.4	1.6	400	450
IR	C35I-98011C1A-LGUV	980-985	700	1.4	1.6	300	350
IR	C35I-130011C1A-LGUV	1300-1350	700	1.4	1.6	300	350

Performance

Table 3. Absolute Maximum Ratings (最大额定参数), Ta = 25°C, RH60%

Item	Symbol	Absolute Maximum Ratings	Unit
Forward Current	IF	1000	mA
Power Dissipation	PD	2.0	W
Reverse Voltage	VR	5	V
Operating Temperature	Topr	-40~+85	°C
Storage Temperature	Tstg	-40~+100	°C
Electrostatic Discharge	ESD	2000	V
View Angle	2θ1/2	120	Deg.

- Tolerance of measurement of Luminous Flux or Radiometric Power: $\pm 10\%$
- Tolerance of measurement of wavelength: $\pm 2\text{nm}$
- Tolerance of measurement of Forward Voltage: $\pm 0.05\text{V}$
- All the data are just for reference, specific parameters refer to the label



Relative Spectral Distribution

Fig 1. Color Spectrum (光谱图), Ta = 25°C, RH60%

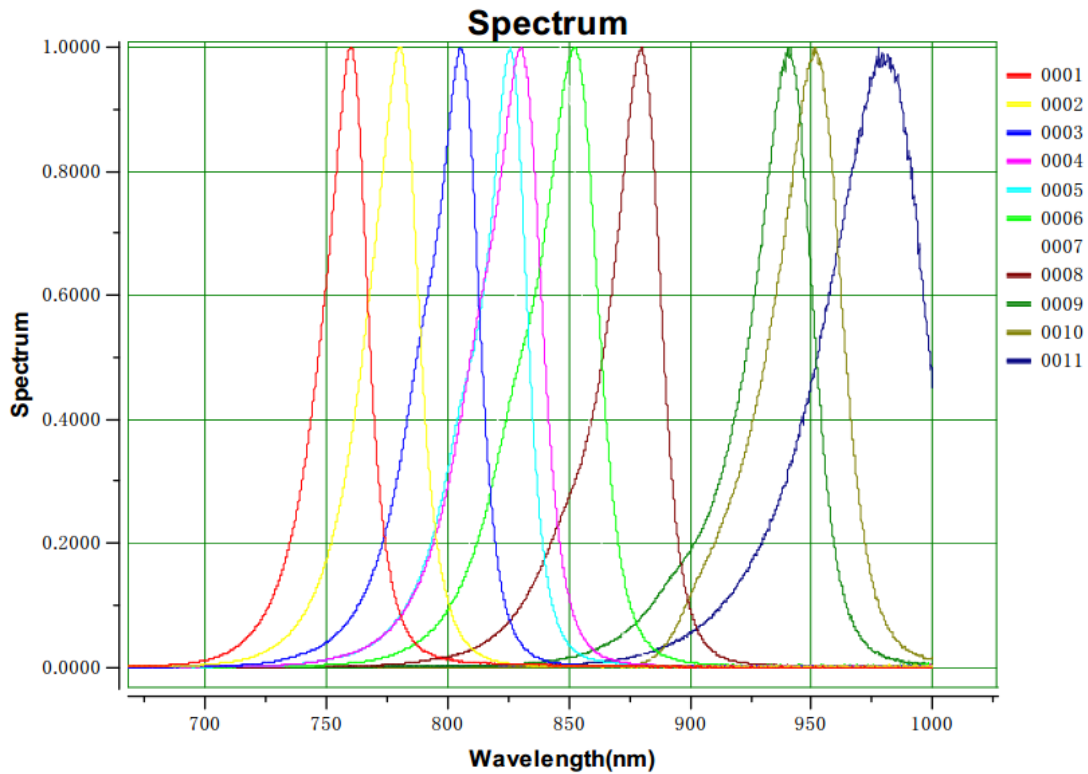
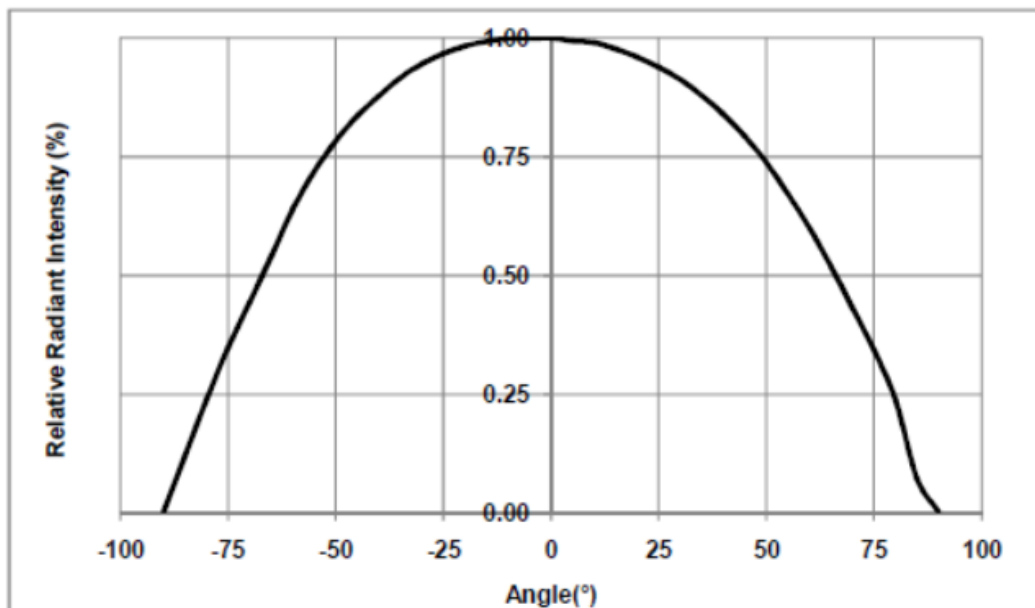


Fig 2. Radiation Diagram (发光角度), Ta = 25°C, RH60%





Outline Vs. Recommended Solder Pad

Fig 3. Mechanical Dimensions (产品尺寸)

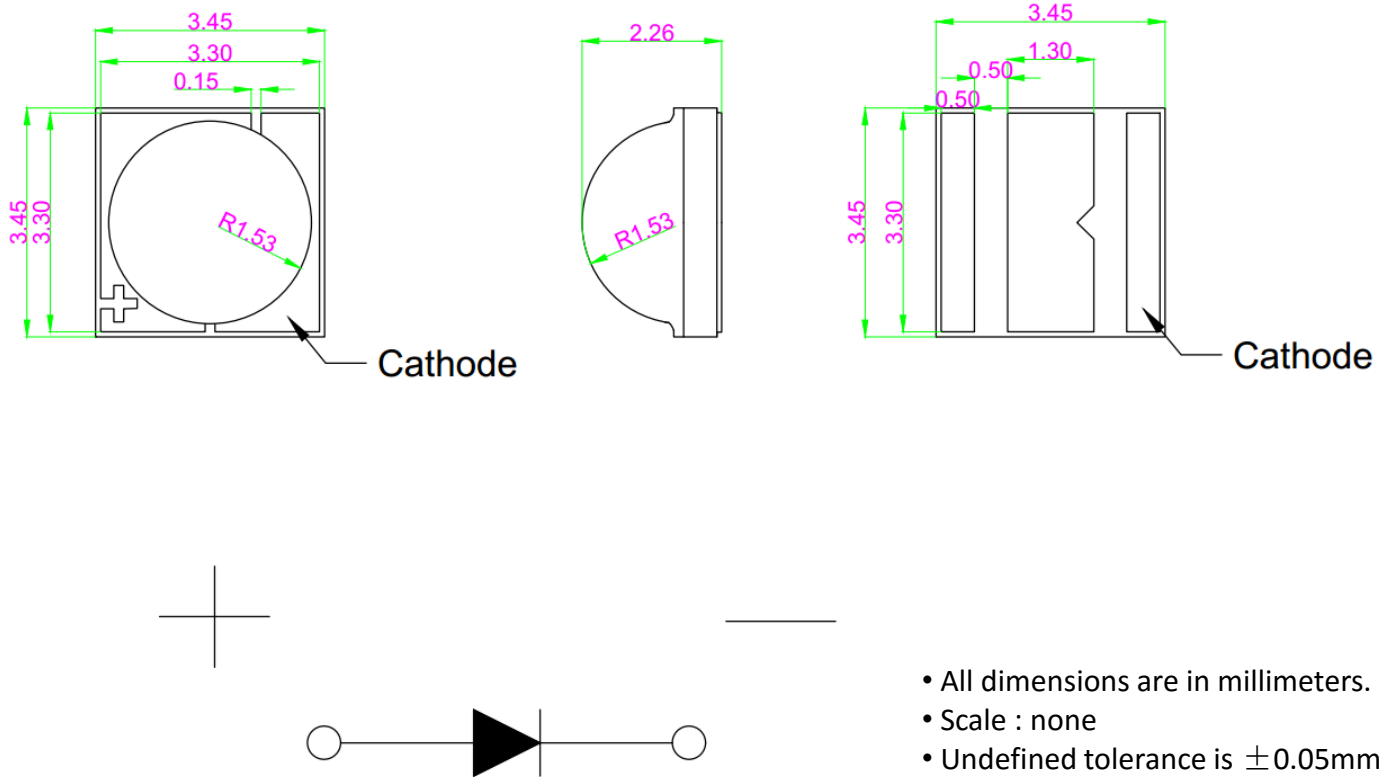
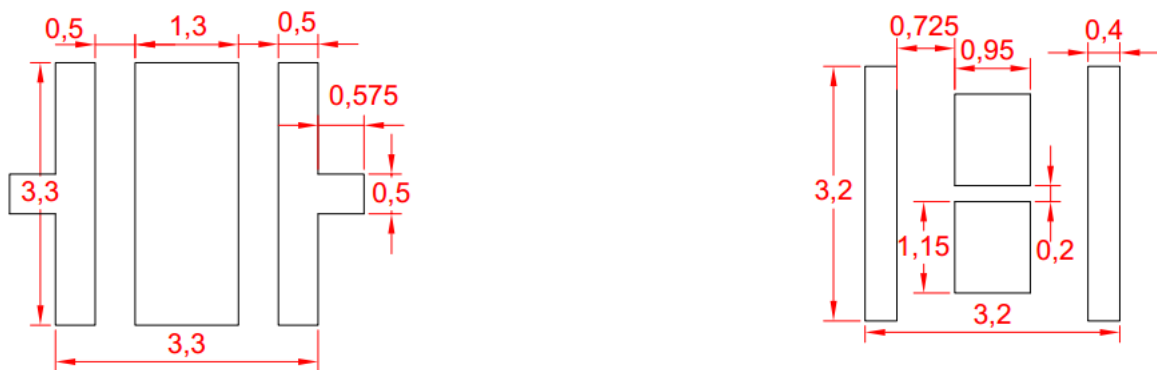


Fig 4. Recommended Solder Pad



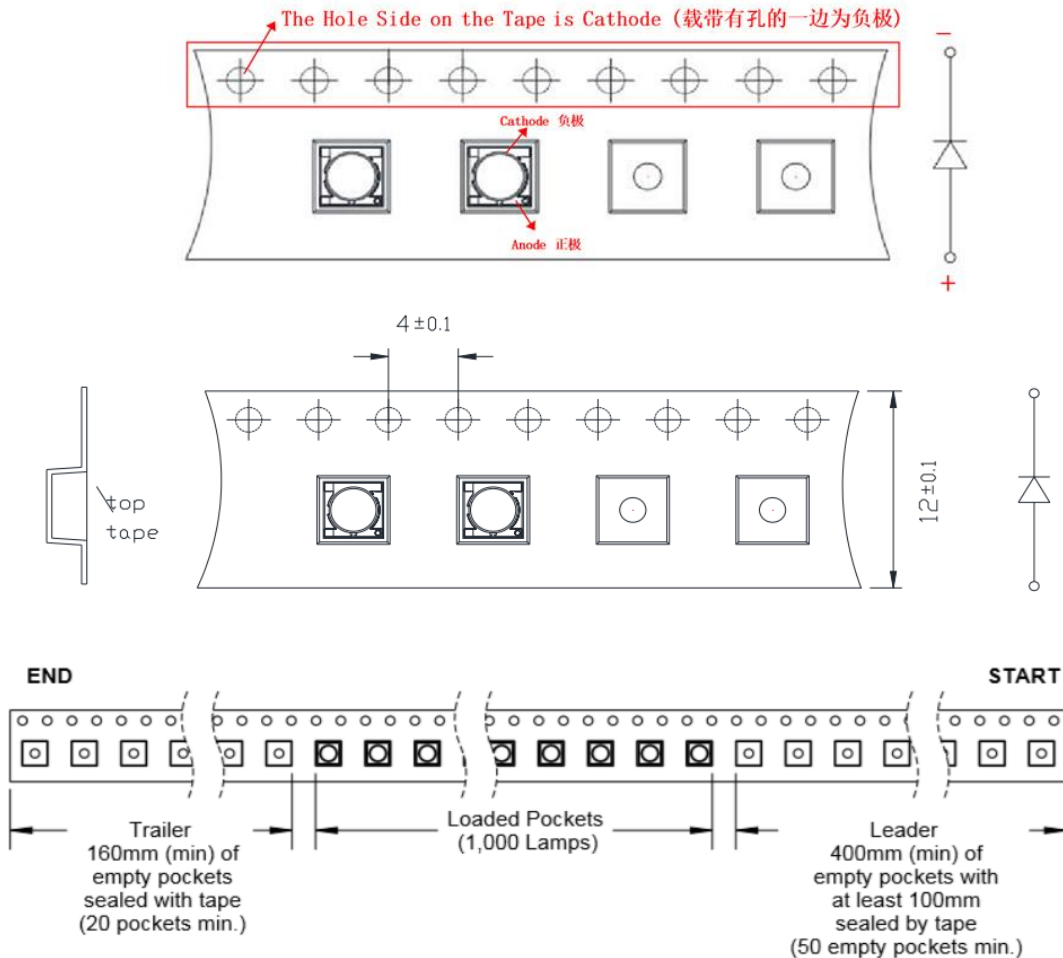
Recommended PCB Solder Pad

Stencil: 0.12mm
Recommended Stencil Pattern

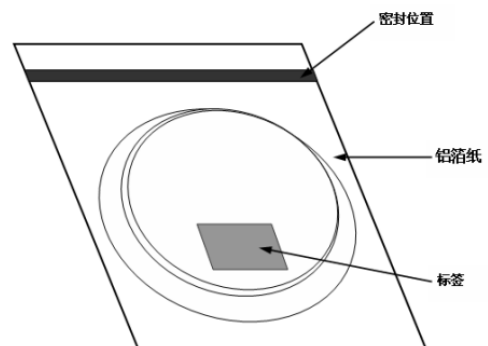
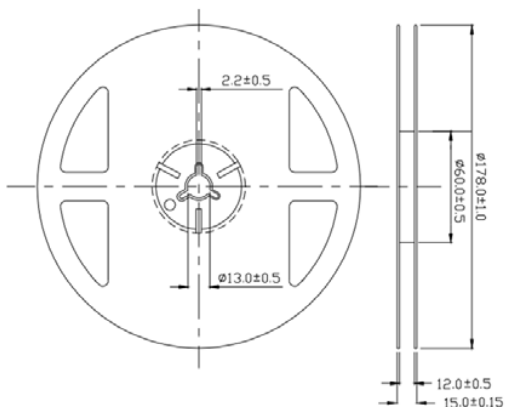


Packaging Information

Fig 5. Reel Packaging 1000pcs/Reel (卷带包装, 1000pcs/卷)

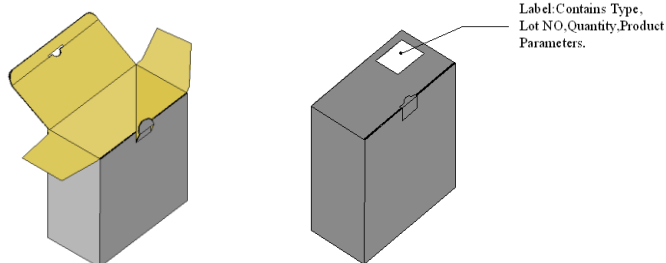


- Quantity : Max 1000pcs/Reel
- Cumulative Tolerance : Cumulative Tolerance/10 pitches to be $\pm 0.25\text{mm}$
- Adhesion Strength of Cover Tape Adhesion strength to be 0.1-0.7N when the cover tape is turned off from the carrier tape at the angle of 10° to the carrier tape.
- Package : P/N, Manufacturing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



Packaging Information

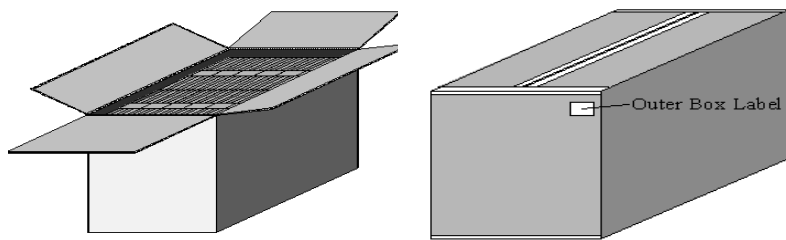
Inner Box (内箱)



Label (标签)

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

Outer Box (外箱)



* Capacity 30 or 60 reels per box (外箱容量: 30或60卷)

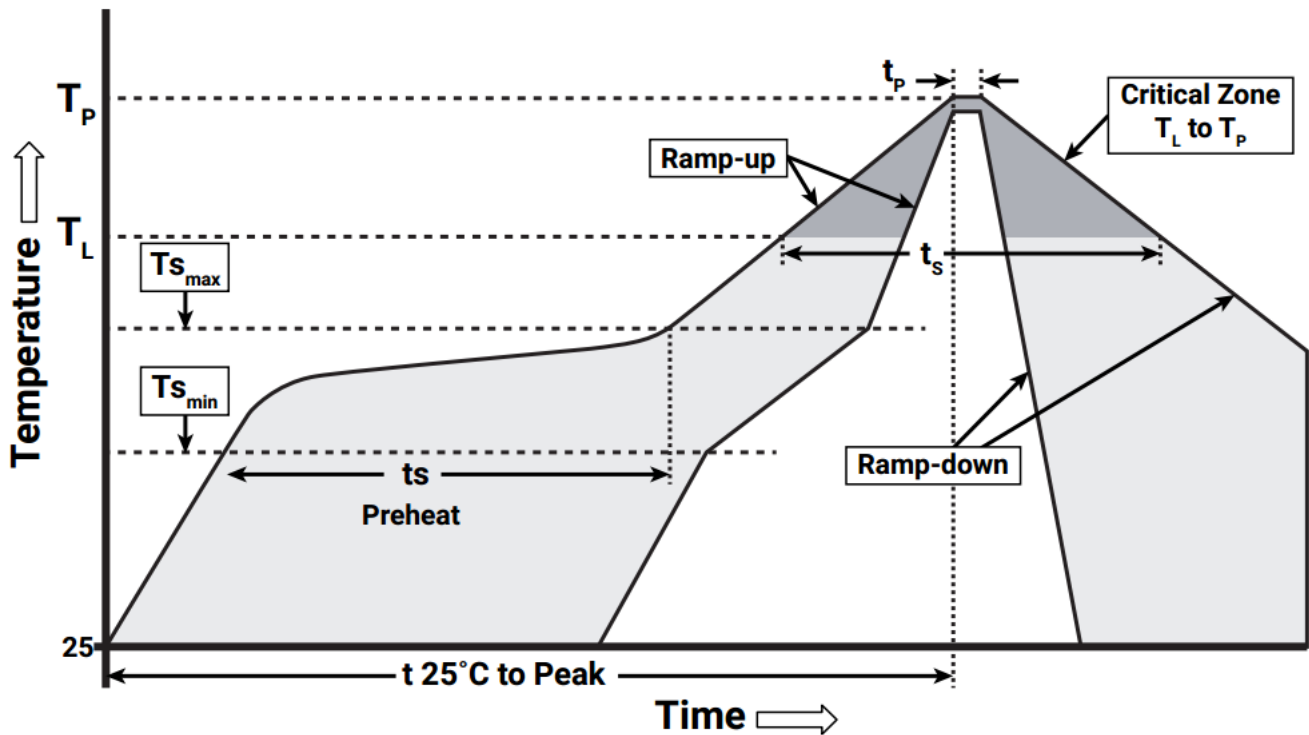
Table 4. Part Numbering System : C □□ □ - □□□ □ □ □ □ - □□□□
X1 X2 X3 X4 X5 X6 X7 X8
C 35 C - 850 1 1 C1 A - LGUV

Item Number Code	Description	Item Number
X1	LED Type Code 产品代码	60: 6060; 30: 3030; 35: 3535;
X2	Light Color 发光颜色	W: White Color; C: Colored; I: IR; U: UV
X3	Wavelength 波长	280: 280nm; 365: 365-370nm; 390: 395-400nm
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	LumiS Material Code



Reflow Soldering

Recommended Mid-Temperature Solder Paste
建议使用中温锡膏



Profile Feature	Lead-Free Solder
Average Ramp-Up Rate ($T_{s_{max}}$ to T_P)	1.2 °C/second
Preheat: Temperature Min ($T_{s_{min}}$)	120 °C
Preheat: Temperature Max ($T_{s_{max}}$)	170 °C
Preheat: Time ($t_{s_{min}}$ to $t_{s_{max}}$)	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 (t_p)	20-40 seconds
Ramp-Down Rate	1 - 6 °C/second
Time 25 °C to Peak Temperature	4 minutes max.

Pre-caution

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, LEDs will be damaged.
2. Repairs should not be done after the LEDs 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 LEDs 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. LEDs 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.

Published by

Published By:

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Company Profile

Set up as a high-tech company in 2011, LumiSee has been dedicated in the R&D and manufacturing of High Power Ceramic products such as 3535/5050 RGB/RGBW/R/G/B/Y LED diode, UVA and IR recognition.

Based on the technological innovation & healthy life, LumiSee sticks to safety and health, quality and innovation with the concept of creating a new vision of LED technology and providing new applications in LED industry, further more LumiSee would take good advantages of Outdoor Lighting, Plant Glowing, health and safety, energy saving and environmental protection.

With years of engineers and a professional management team in LED industry, LumiSee has established strategical cooperation with famous companies both at home and abroad, but also developed together the LED applications of curing, health, medical care, security and safety etc.

LumiSee focuses on independent innovation and R&D. Now with dozens of inventions and utility model patents having been authorized, LumiSee would continue to recruit elites for industry innovations, improvements and services. LumiSee could strive to be one of the most influential companies in the field of health and safety of global LED industry.