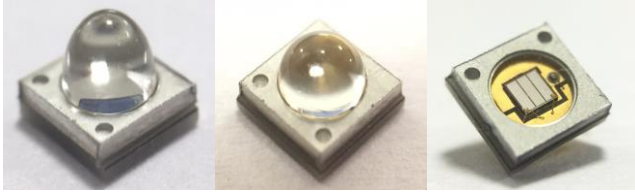


3939 Quartz LED Series



(30D)

(60D)

(120D)

Quartz Lens

Quartz Lens

Quartz Lens

◆ Outline :

30°: 3.9*3.9*3.2mm

60°: 3.9*3.9*2.6mm

120°: 3.9*3.9*1.6mm

◆ UVC power output ~100mW (Typ.)

◆ Optional optical quartz lens

◆ Long lifetime

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Features

- ROHS and REACH-compliant
- MSL 4 qualified according to J-STD 020
- ESD 2KV

Applications

- Disinfection / Sterilization
- Bio-Analysis / Detection
- Fluorescent Spectroscopy, Sensor Light



3939 UVC

■ Product List

- Patented chip

Peak Wavelength Range	Beam Angle	Part Number
250~260nm	30°	3939A25503F000
	60°	3939C25503F000
	120°	3939F25503F000
260~270nm	30°	3939A26503F000
	60°	3939C26503F000
	120°	3939F26503F000
270~280nm	30°	3939A27503F000
	60°	3939C27503F000
	120°	3939F27503F000



3939 UVC

■ Maximum rating (Ta : 25°C)

Characteristics	Symbol	Min.	Typical	Max.	Unit
DC Forward Current ¹	I _F	---	---	500	mA
Forward Voltage	V _F	6.0	---	8.0	V
Junction Temperature ³	T _j	---	--	85	°C
Storage Temperature Range	T _{sto}	-40	—	100	°C
Operating Temperature Range	T _{opr}	-30		60	°C
Soldering Temperature	T _{sol}		---	245	°C
Thermal Resistance Junction / Solder Point	R _{th}	---	12.5	---	°C/W
Beam Angle	2θ _{1/2}	---	30 60 120	---	Deg

◇ Notes:

1. For other ambient, limited setting of current will depend on de-rating curves.
2. D=0.01s duty 1/10.
3. When driving at maximum current the T_j must be kept below 85°C
4. Viewing angle(2θ_{1/2}) ± 10°

■ Peak-Wavelength Binning

Peak Wavelength			unit: nm@500mA
Bin Code	Min	Max	
UVC	250	260	
	260	270	
	270	280	

◇ Notes:

1. Binning current is 500mA
2. Wavelength tolerance ± 2nm

■ Voltage Binning

		Voltage		unit: V@500mA
Peak Wavelength	Bin Code	Min	Max	
250~280nm	V1	6.0	8.0	

◇ Notes:

1. Binning current is 500mA

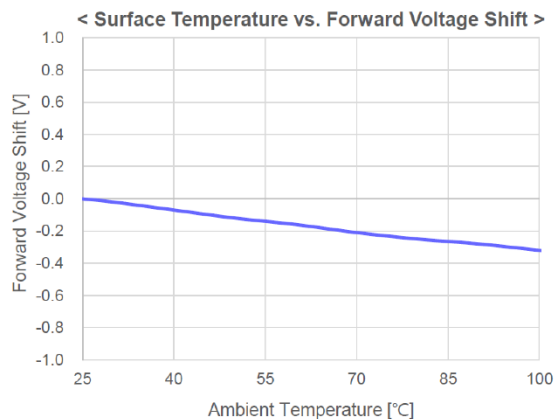
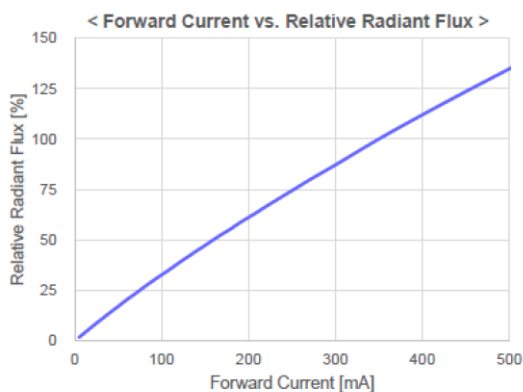
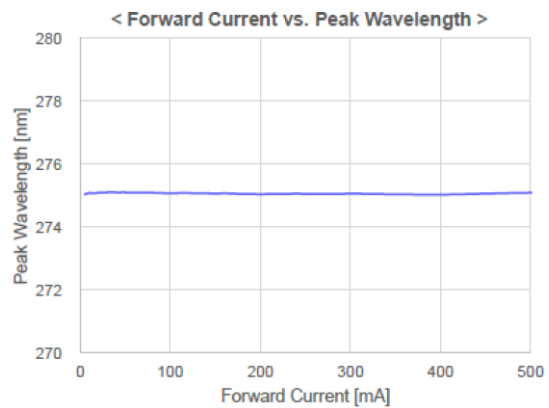
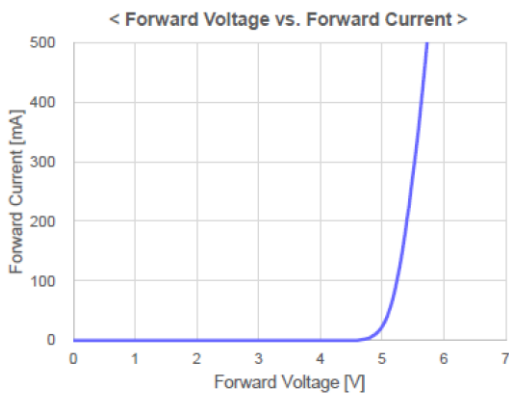
■ Radiant flux (Power) binning

		Radiant flux (Power)		unit: mw@500mA
Peak Wavelength	Bin Code	Min	Max	
250~280nm	H3	80	100	
	H4	100	120	

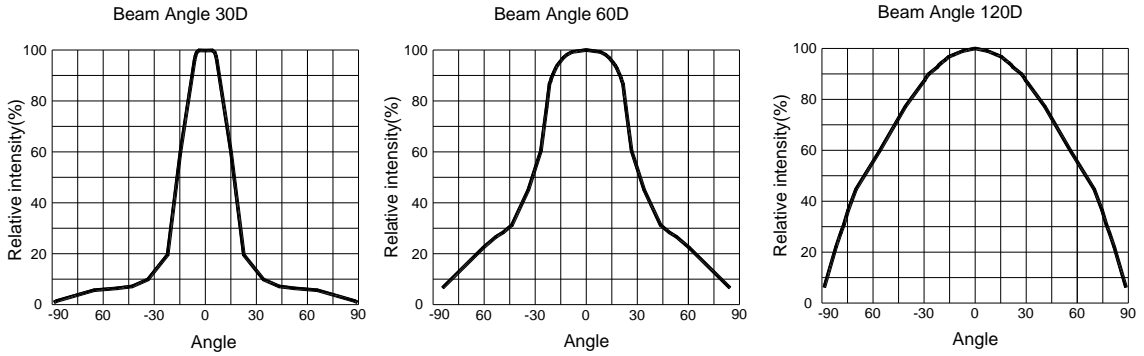
◇ Notes:

1. Binning current is 500mA
2. Power tolerance $\pm 10\%$

■ Characteristics



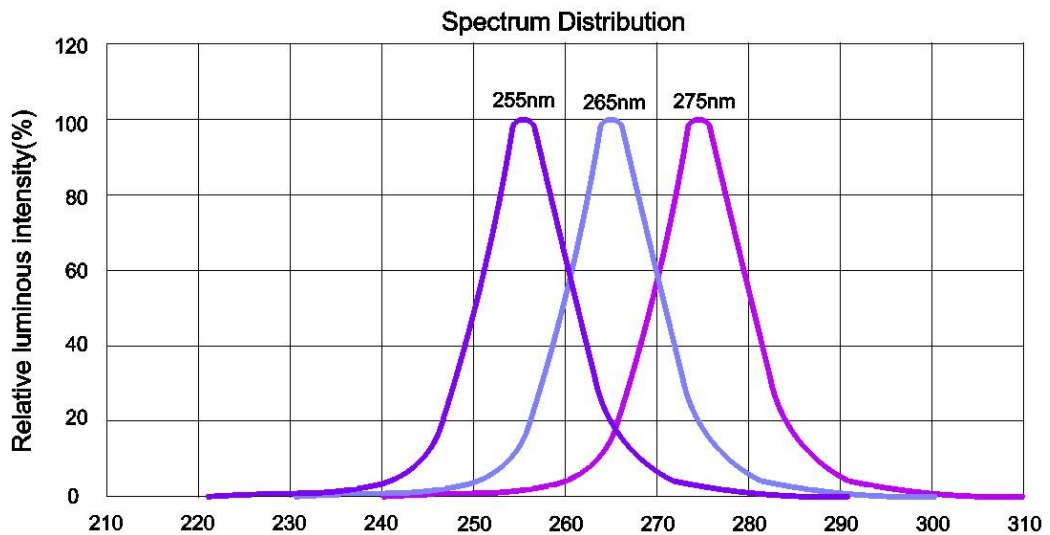
■ Typical spatial distribution ($2\theta_{1/2}$)



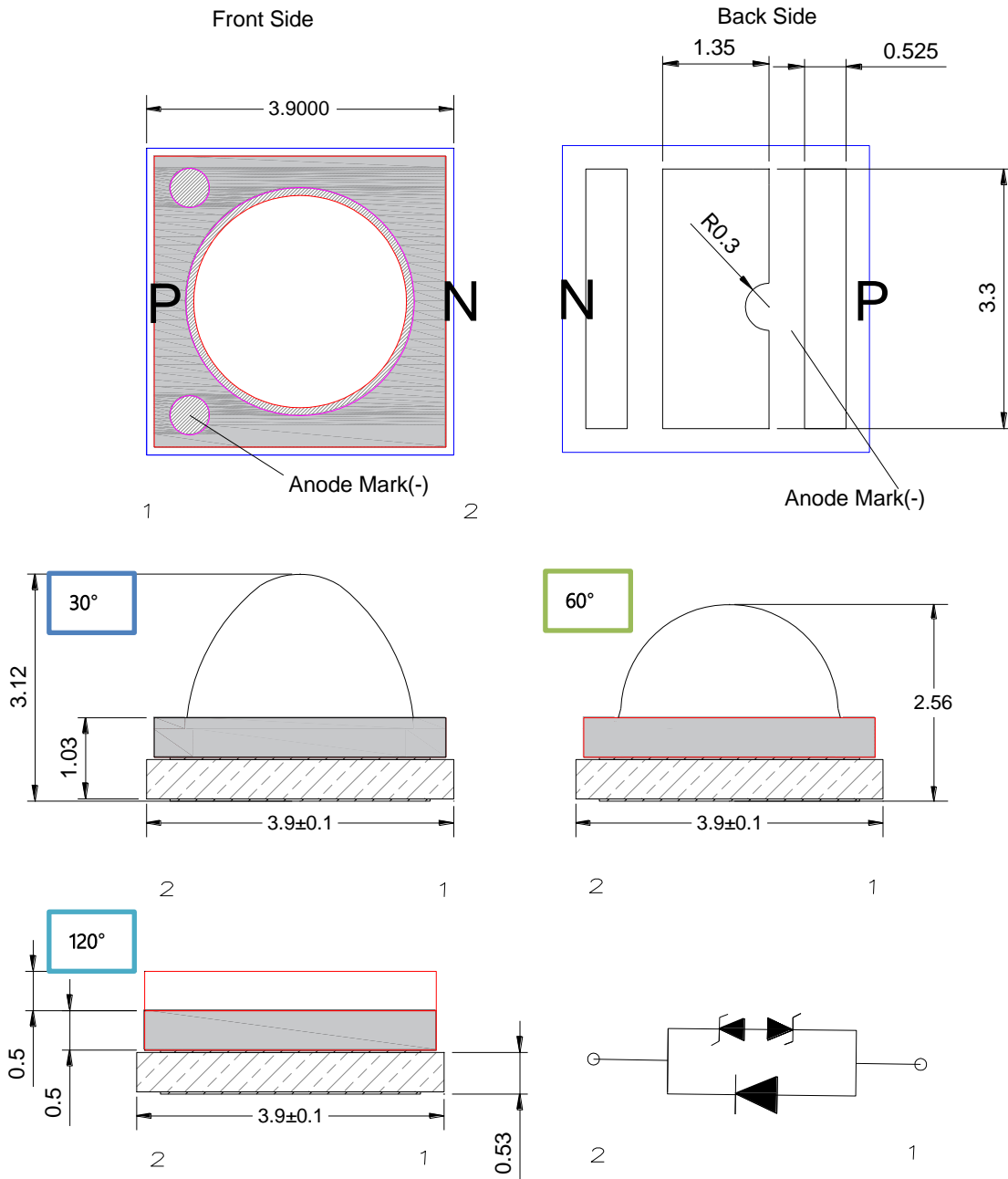
✧ Notes:

Viewing angle($2\theta_{1/2}$) $\pm 10^\circ$

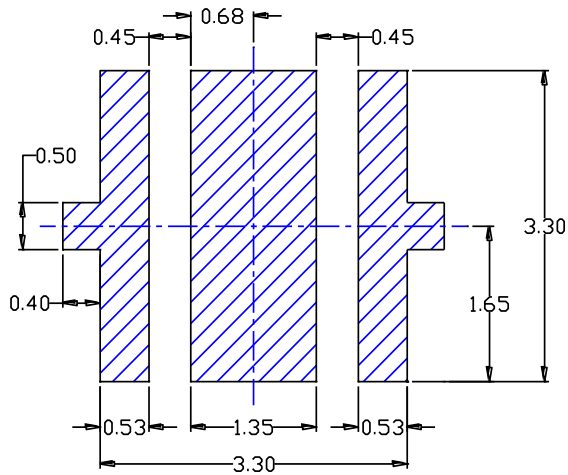
■ Relative spectral power distribution



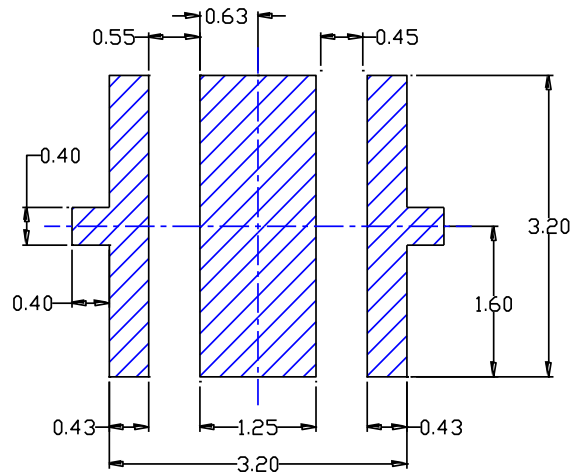
■ Dimensions & Polarity



■ Suggest stencil pattern (Recommendations for reference)



RECOMMENDED PCB SOLDER PAD



RECOMMENDED STENCIL PATTERN
(HATCHED AREA IS OPENING)

§ Suggest stencil $t = 0.12$ mm

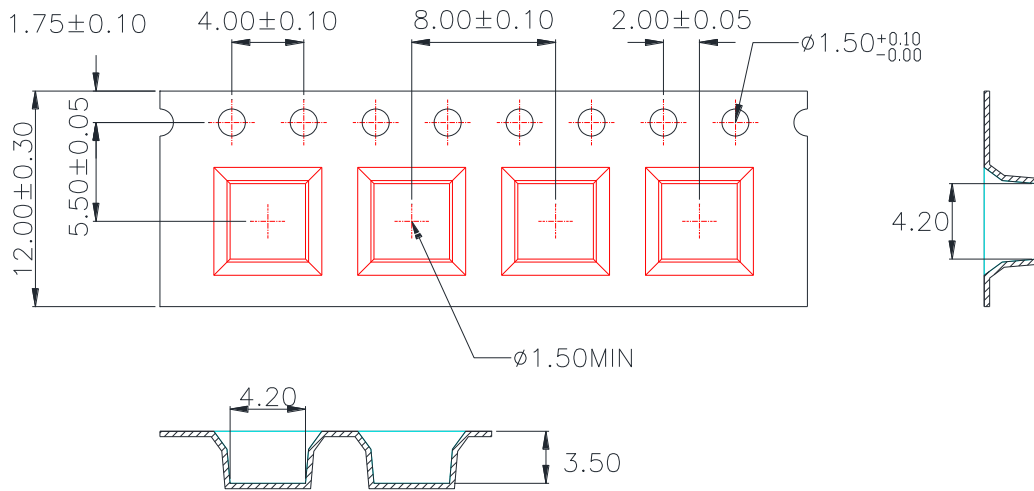
◇ Note:

§ All dimensions are in millimeters.

§ Tolerance is ± 0.13 mm unless other specified.

■ Packing

3939-30°



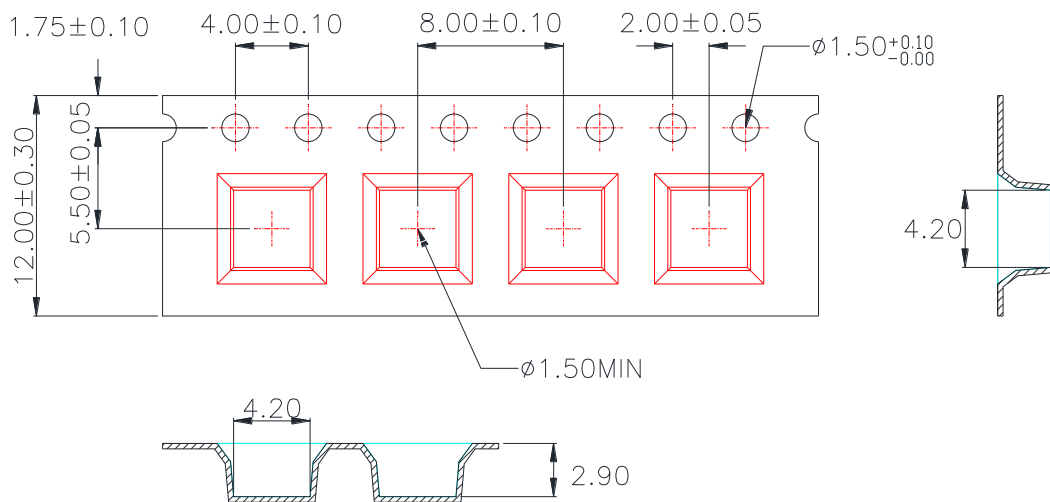
1. 10 sprocket hole pitch cumulative tolerance ± 0.20 .
2. Carrier camber is within 1 mm in 250 mm.
3. Material : Black Conductive Polystyrene Alloy.
4. All dimensions meet EIA-481-D requirements.
5. Thickness : 0.30 ± 0.05 mm.
6. Packing length per 22 " reel : 62.5 Meters(1:3).
7. Component load per 13" reel : 2500 pcs.



Taiwan Patent No : 157713
China Patent No : 01224591.7

W	12.00±0.30
A0	4.20±0.10
B0	4.20±0.10
K0	3.50±0.10

3939 120° / 60°

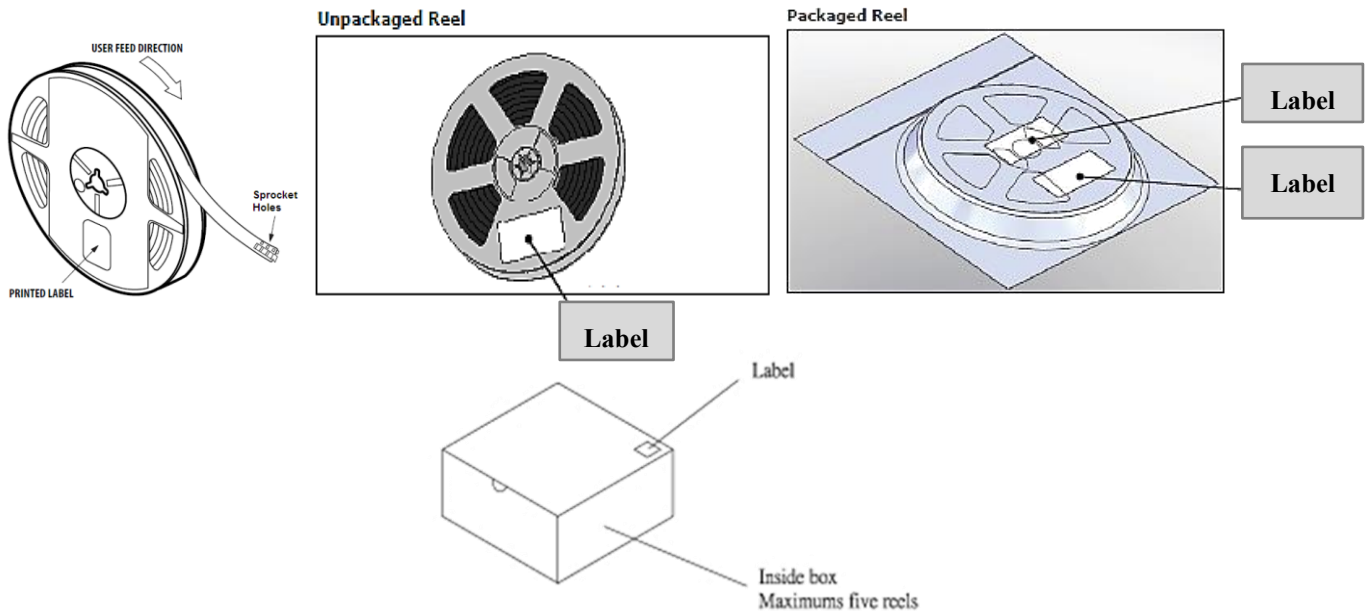
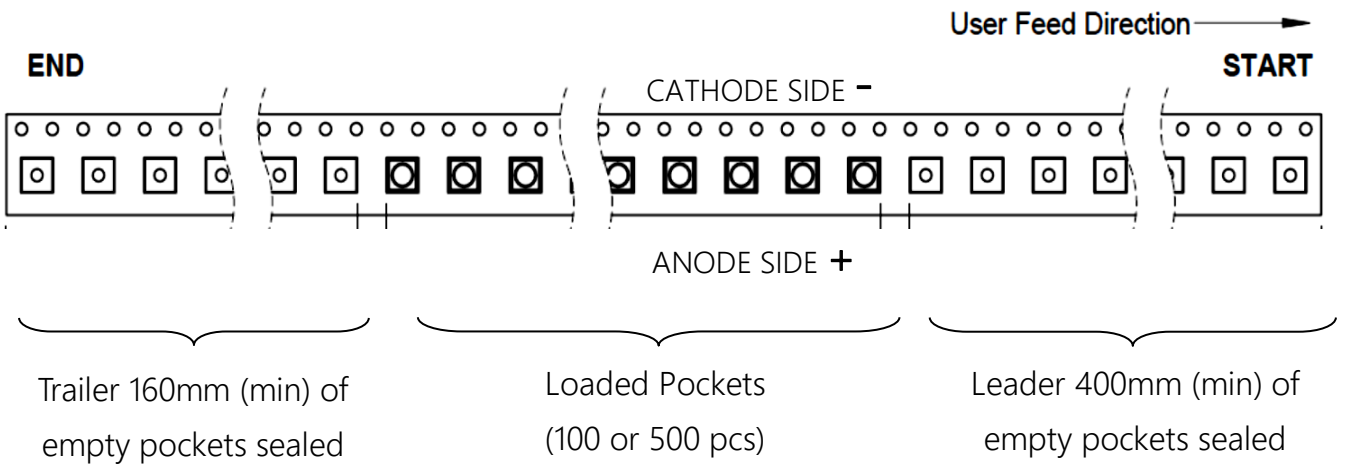


1. 10 sprocket hole pitch cumulative tolerance ± 0.20 .
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W	12.00±0.30
A0	4.20±0.10
B0	4.20±0.10
K0	2.90±0.10



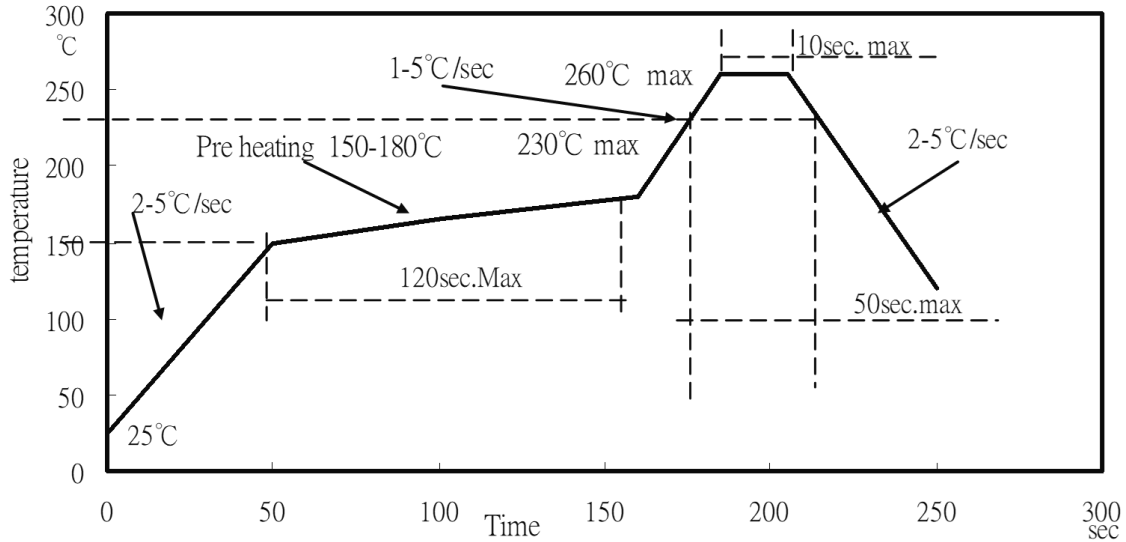
Notes:

1. Each Reel (minimum number of pieces is 100 and maximum is 500 is packed in a moisture-proof bag along with 1 packs of desiccant and a humidity indicator card;
2. A maximum of 6 moisture-proof bags are packed in an inner box (size: 240mm x 200mm x 105mm ±5mm)
3. A maximum of 4 inner boxes are put in an outer box (size: 410mm x 255mm x 230mm ± 5mm)
4. Part No., Lot No., quantity should be indicated on the label of the moisture-proof bag and the cardboard box.

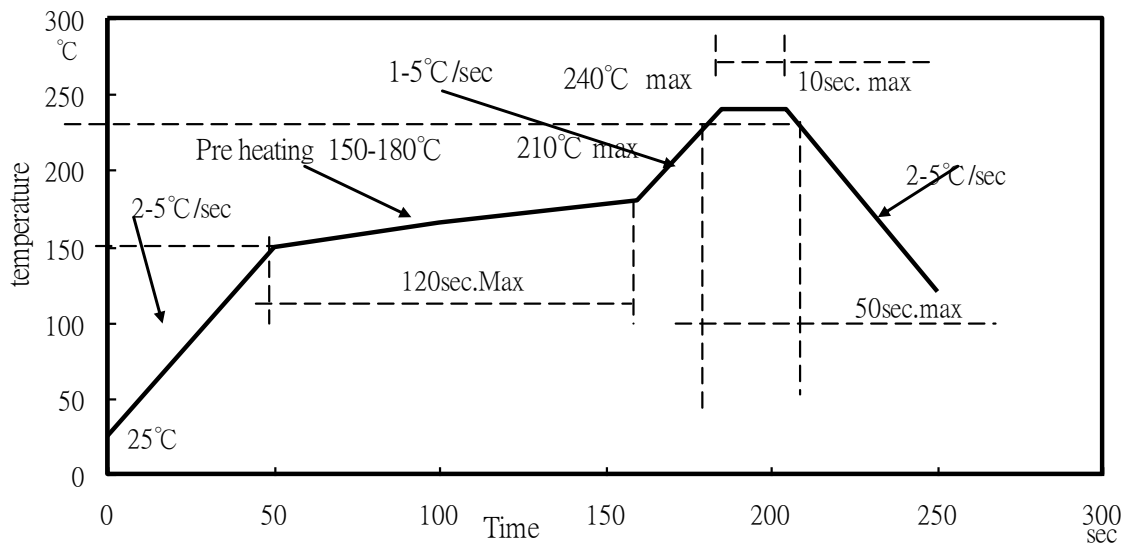
■ Reflow Profile

IR reflow soldering Profile

Lead Free solder



Lead solder



Notes:

1. The recommended reflow temperature is 240°C(±5°C). The maximum soldering temperature should be limited to 260°C.
2. Do not stress the silicone resin while it is exposed to high temperature.
3. The number of reflow process should not exceed 3 times.

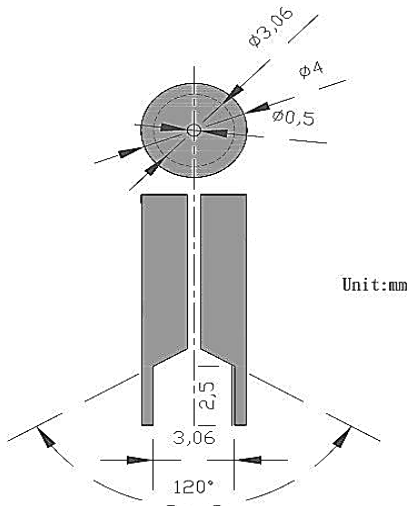
■ Precautions

1. Recommendation for using LEDs

- 1.1 The lens of LEDs should not be exposed to dust or debris. Excessive dust and debris may cause a drastic decrease in the luminosity.
- 1.2 Avoid mechanical stress on LED lens.
- 1.3 Do not touch the LED lens surface. It would affect the optical performance of the LED due to the LED lens' damage.
- 1.4 Pick & place tools are recommended for the remove of LEDs from the factory tape & reel packaging

2. Pick & place nozzle

The pickup tool was recommended and shown as below



3. Lens handling

Please follow the guideline to pick LEDs

- 3.1 Use tweezers to pick LEDs
- 3.2 Do not touch the lens by using tweezers
- 3.3 Do not touch lens with fingers
- 3.4 Do not apply more than 4N of lens (400g) directly onto the lens

4. Lens cleaning

In the case which a small amount of dirt and dust particles remain on the lens surface, a suitable cleaning solution can be applied.

- 4.1 Try a gentle wiping with dust-free cloth
- 4.2 If needed, use dust-free cloth and isopropyl alcohol to gently clean the dirt from the lens surface.
- 4.3 Do not use other solvents as they may directly react with the LED assembly
- 4.4 Do not use ultrasonic cleaning which will damage the LEDs