

## Part No.:684CC00808F000

### Features:

- Super High power 10W LED
- Customize circuit design:
  - 4 chip independent control
  - Outline : 6.8\*6.8\*3.7mm
- ALN substrate with anti-UV glasses Lens
- Customize peak wavelength
- Compatible backside metal pad design
- Beam Angle 60°

## ■ Maximum Rating (Ta : 25°C)

Characteristics	Symbol	Min.	Typical	Max.	Unit
DC Forward Current <sup>1</sup>	I <sub>F</sub>		500	1,000	mA
Pulse Forward Current <sup>2</sup>	I <sub>PF</sub>			1,300	mA
Forward Voltage	V <sub>F</sub>	2.8	3.4	3.8	V
Reverse Voltage	V <sub>R</sub>		-20		V
Leakage Current (5V)	I <sub>V</sub>			10	μA
Junction Temperature <sup>3</sup>	T <sub>j</sub>		115		°C
Storage Temperature Range	T <sub>stg</sub>	-40	-	100	°C
Soldering Temperature	T <sub>sol</sub>		260		°C
Thermal Resistance Junction / Solder Point	R <sub>th</sub>		0.2		°C/W
Viewing Angle	2θ <sub>1/2</sub>		60		Deg
Electrostatic Discharge (HBM)	ESD		1		KV
Operating Temperature Range	T <sub>opr</sub>	-40°C		+80°C	°C

Notes:

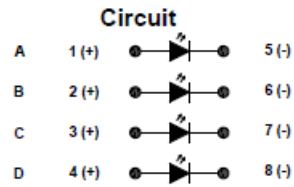
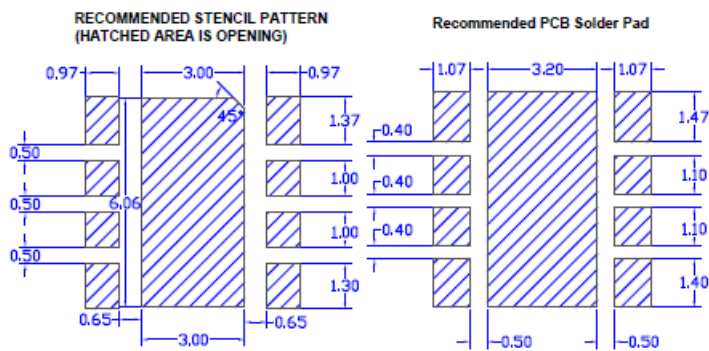
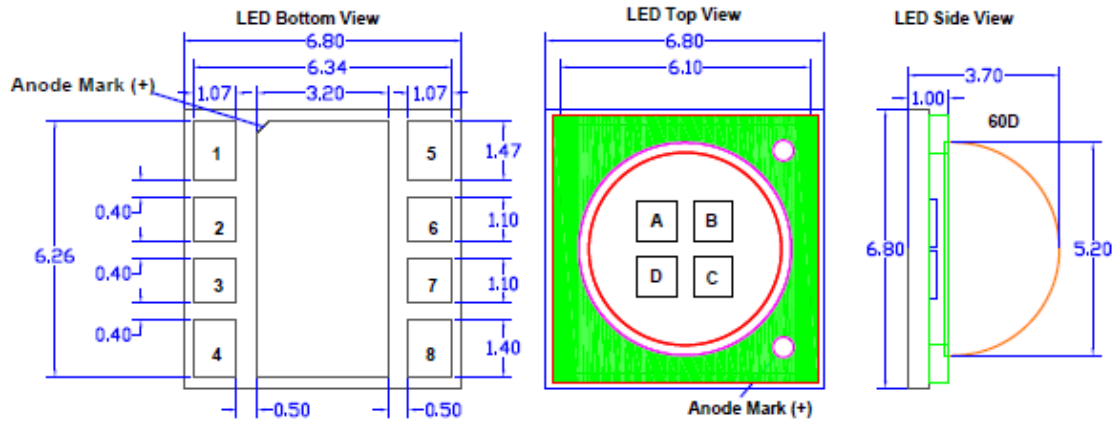
1. For other ambient, limited setting of current will depend on de-rating curves.
2. D=0.01s duty 1/10.
3. When drive on maximum current , T<sub>j</sub> must be kept below 115°C.
4. Viewing angle (2θ<sub>1/2</sub>) ± 10°.

## ■ Characteristic

Color	Radiometric Power (mW) @1000mA			Peak Wavelength (nm@1000mA)	Forward Voltage (V@1000mA)		Part Number
	Bin code	Min	Max		Min	Max	
IR	P80	800	1000	840~860nm	2.8	3.8	684CCD8510G000
	P10	1000	1200				

1. Tolerance of Forward voltage ( $V_F$ )  $\pm 0.4V$
2. Tolerance of Radiometric Power ( $P_o$ )  $\pm 10\%$
3. Tolerance of Wavelength  $\pm 2.5nm$

## ■ Dimensions & Circuit

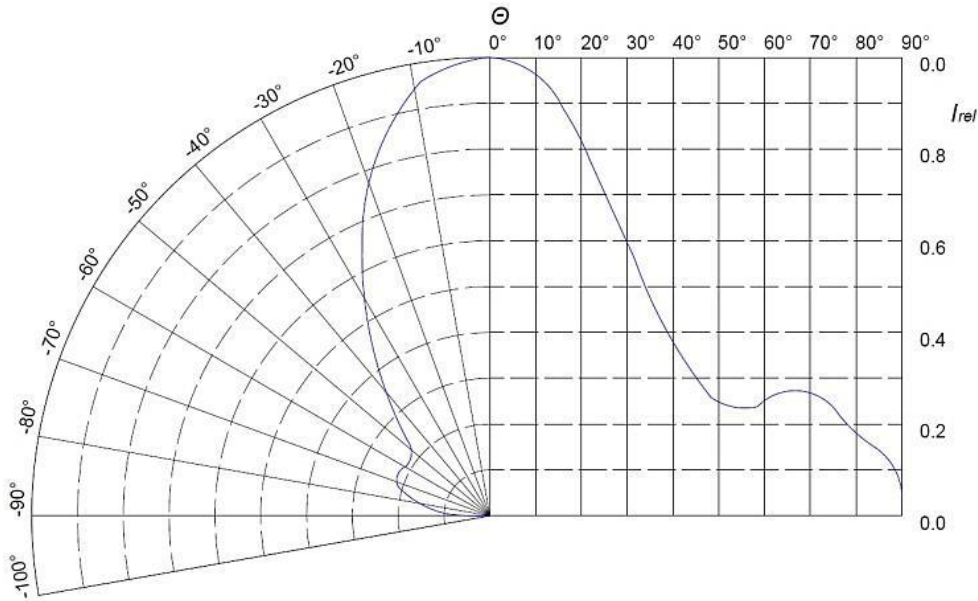


### ■ Notes:

§ All dimensions are in millimeters.

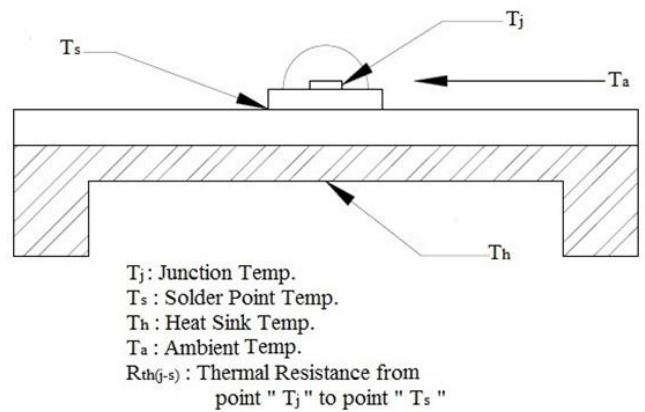
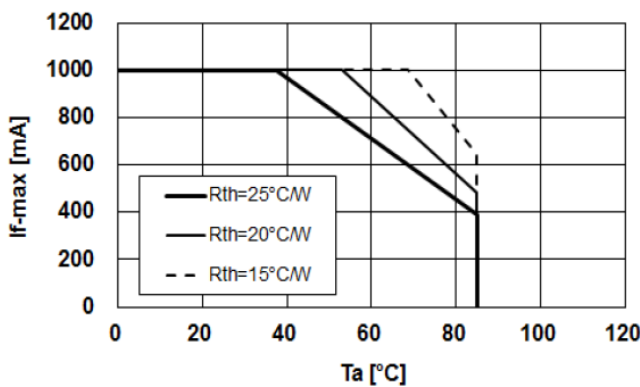
§ Tolerance is  $\pm 0.13\text{mm}$  unless other specified.

## ■ Typical Spatial Distribution

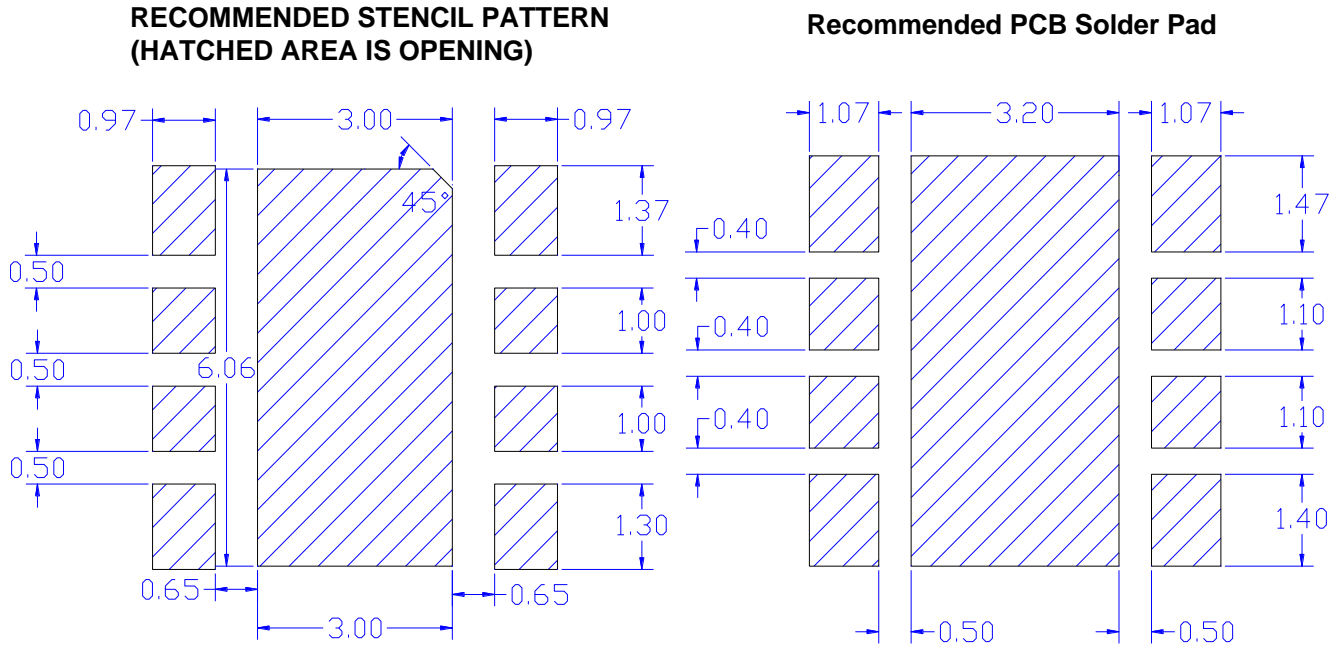


## ■ Thermal Design for De-rating

The maximum forward current is determined by the thermal resistance between the LED junctions and ambient. It is crucial for the end product to be designed in a manner that minimizes the thermal resistance from the solder point to ambient in order to optimize lamp life and optical characteristics.



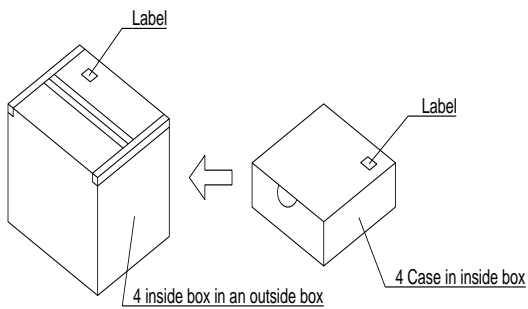
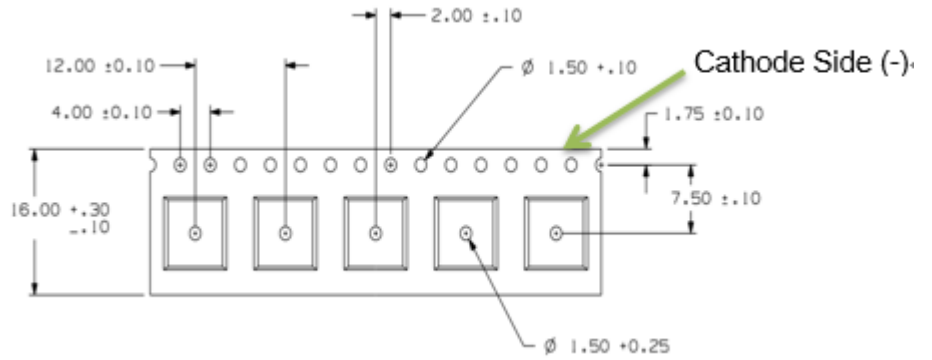
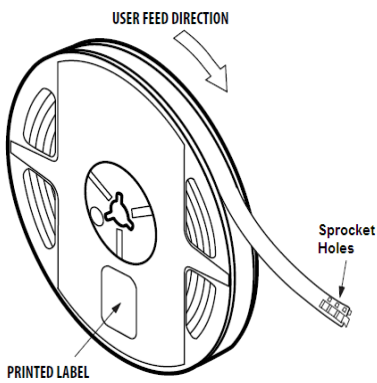
## ■ Suggest Stencil Pattern (Recommendations for reference)



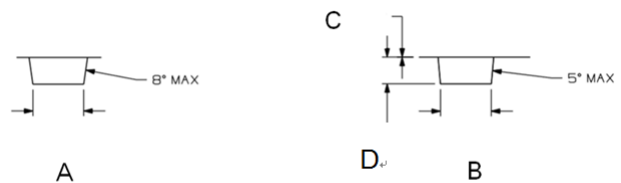
### ■ Notes:

- § Suggest stencil t = 0.12 mm
- § All dimensions are in millimeters.
- § Tolerance is  $\pm 0.13$  mm unless other specified.

## ■ Packing



Item	Dimension	Tolerance	Unit
A	7.35	±0.10	mm
B	7.25	±0.10	mm
C	0.33	±0.02	mm
D	4.35	±0.10	mm



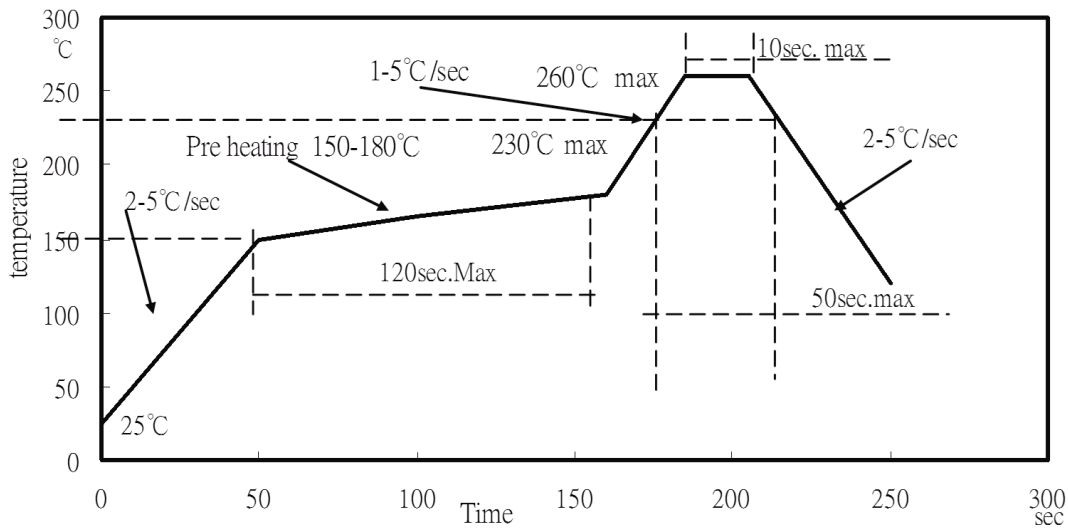
### Notes:

1. Each Reel (minimum 100 pcs and maximum 350 pcs) is packed in a moisture-proof bag along with 2 packs of desiccant and a humidity indicator card;
2. A maximum of 5 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.

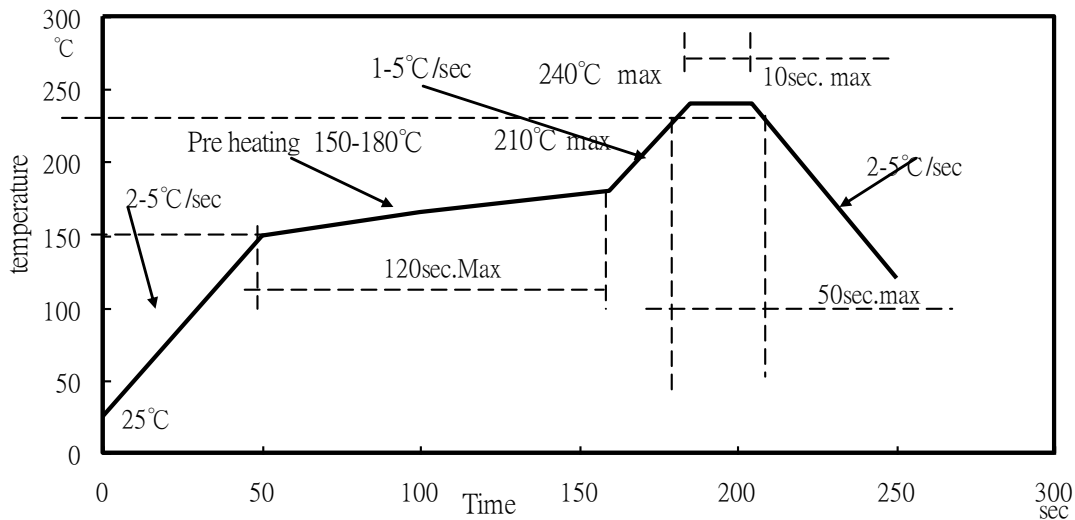
## Reflow Profile

### UV 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.