



Specification

SSC-FCW302

SSC		Customer
Drawn	Approval	Approval

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1. Features

- Package : 3.5 × 2.8 × 0.85 mm
- Applications : Mobile Handset Flash Light

2. Absolute maximum ratings

(Ta=25°C)

Parameter	Symbol	Value	Unit
Power Dissipation	P_d	1020	mW
Forward Current	I_F	300	mA
Peak Forward Current	I_{FM}^{*1}	1000	mA
Reverse Voltage	V_R	5	V
Operation Temperature	$T_{opr.}$	-30 ~ 80	°C
Storage Temperature	$T_{stg.}$	-40 ~ 100	°C

*1 I_{FM} conditions: Pulse width $T_w \leq 300ms$ and Duty ratio $\leq 1/10$

3. Electro-Optical Characteristics

(Ta=25°C)

Parameter	Symbol	Condition	Min	Typ	Max	Unit	
Forward Voltage	V_F	$I_F=300mA$	-	3.4	-	V	
Zener Forward Voltage	$V_{F(z)}$	$I_F=10mA$	0.6	-	1.5	V	
Luminous Flux*1	L_F	FCW302A	$I_F=300 mA$	48	60	-	lm
			$I_F=1000 mA$ (Flash mode) ²	130	160	-	
		FCW302B	$I_F=300 mA$	63	79	-	
			$I_F=1000 mA$ (Flash mode) ²	180	190	-	
Chromaticity Coordinates	X	$I_F=300 mA$	-	0.3226	-		
	Y	$I_F=300 mA$	-	0.3306	-		
Color Temperature	CCT	$I_F=300 mA$	-	5900	-	K	
Viewing Angle	$2\theta_{1/2}$	$I_F=300mA$	-	120	-	°	

*1 Luminous Flux is measured in integrating sphere

*2 Flash mode is Pulse width $T_w \leq 300ms$, Duty Ratio 1/10

[Note] (Tolerance : $I_V \pm 10\%$, color coordinate ± 0.01 , $V_F \pm 0.1$)

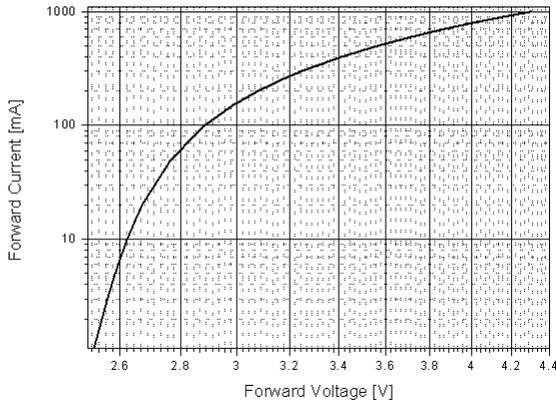
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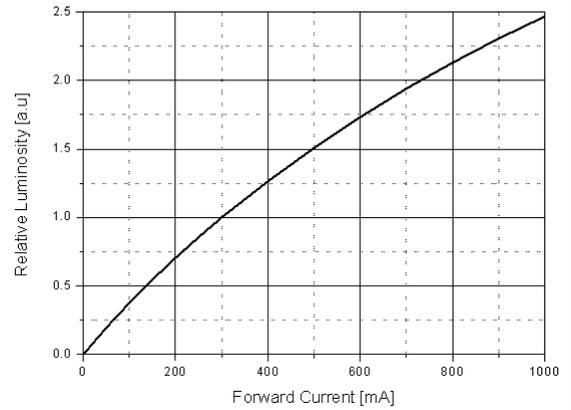
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4. Graphs

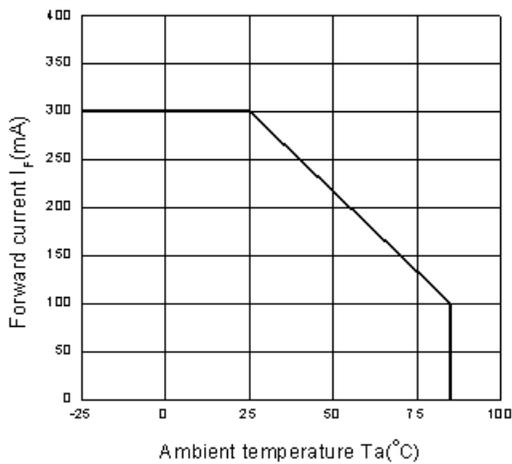
Forward Current vs. Forward Voltage



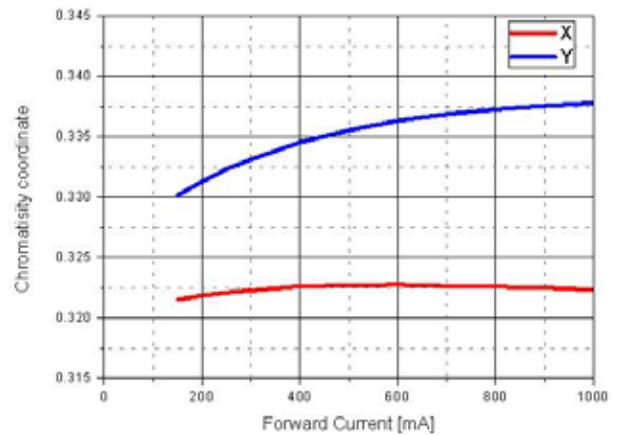
Luminous Intensity vs. Forward Current



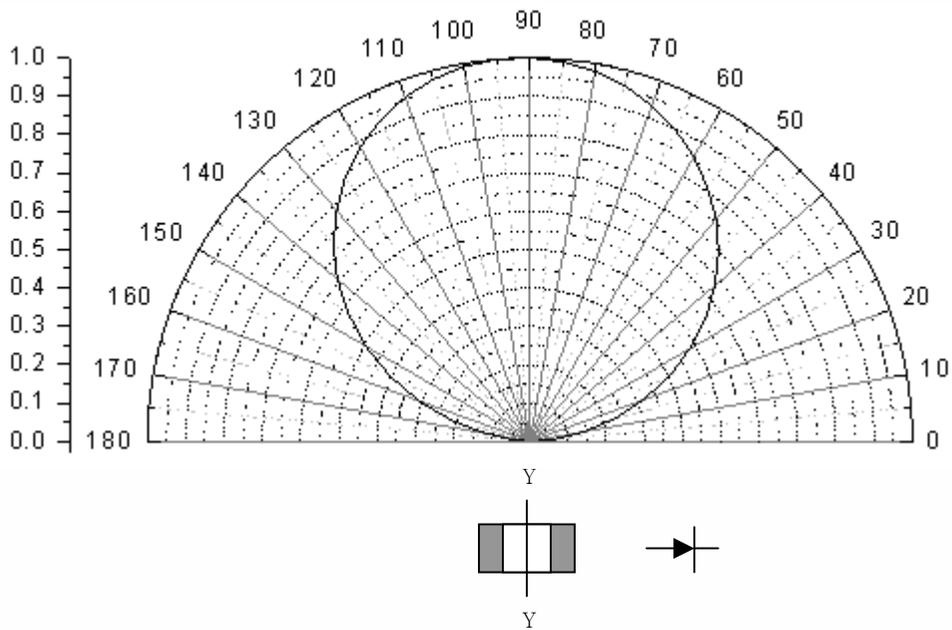
Forward Current Derate Curve



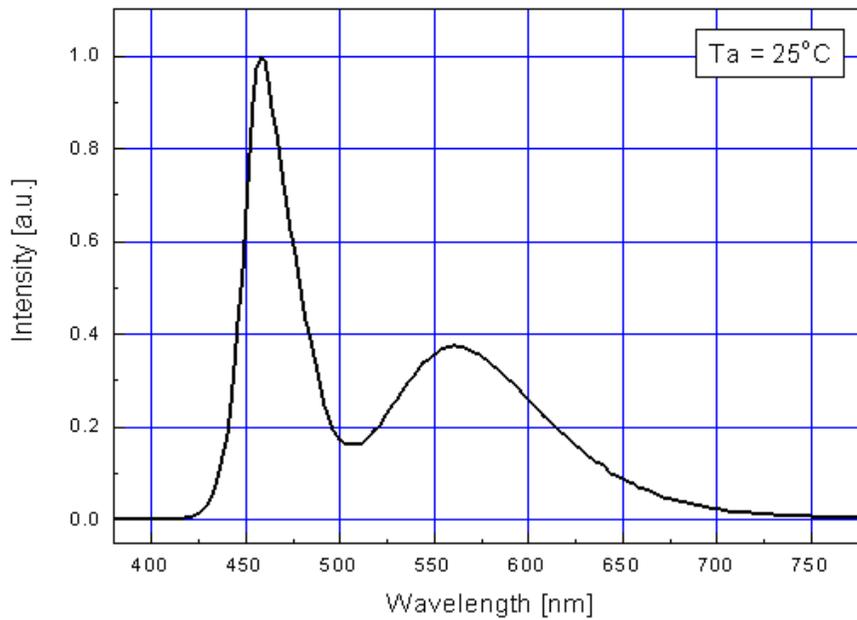
Forward Current vs. Chromaticity Coordinate



Radiation Diagram



Spectrum

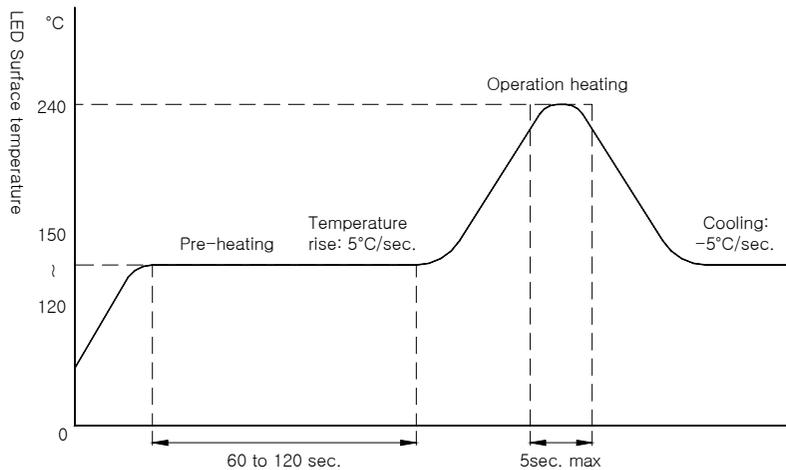


5. Soldering Profile

Reflow Soldering Conditions/ Profile

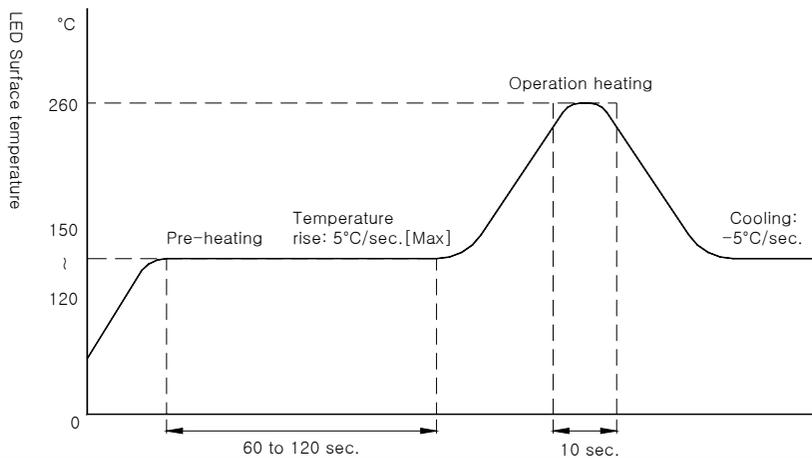
(1) Lead Solder

- Preliminary heating to be at 150°C max. for 2 minutes max.
- Soldering heat to be at 240°C max. for 5 seconds max.



(2) Lead-Free Solder

- Preliminary heating to be at 150°C max. for 2 minutes max.
- Soldering heat to be at 260°C max. for 10 seconds max.



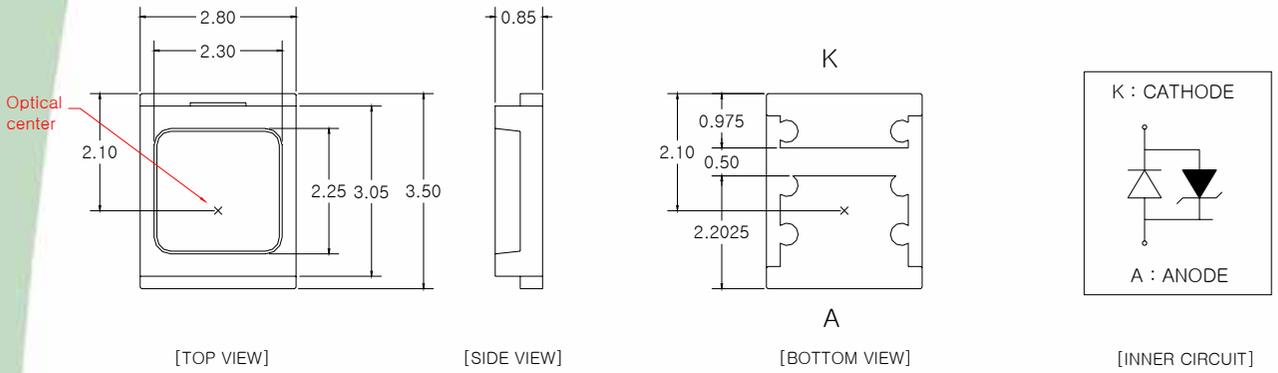
(3) Hand Soldering Condition

- Not more than 1 seconds @MAX280°C, under Soldering iron.

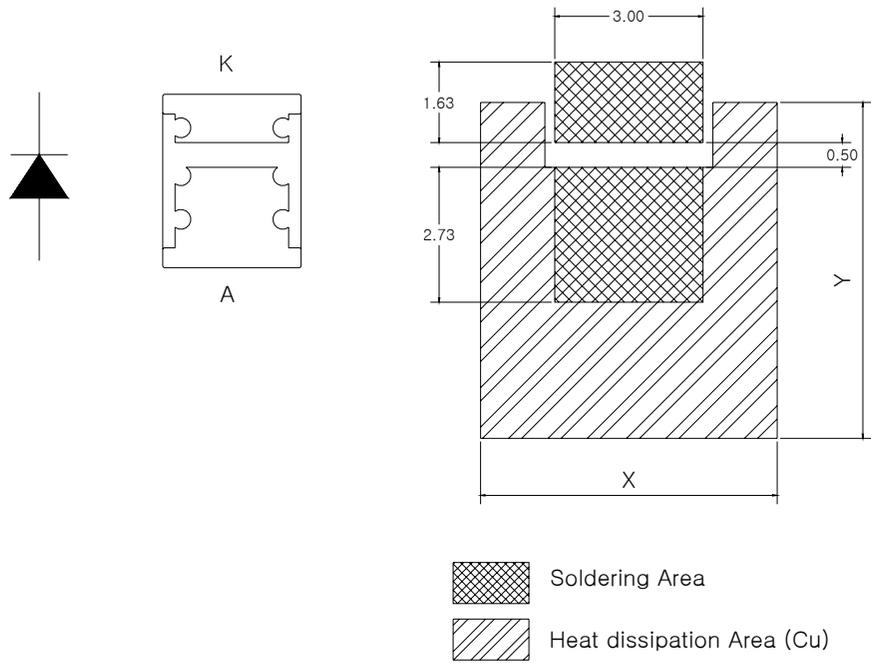
[Note] In case the soldered products are reused in soldering process, Seoul Semiconductor can not guarantee the performance of the products.

6. Outline Dimension

Tolerance: ± 0.1 , Unit: mm

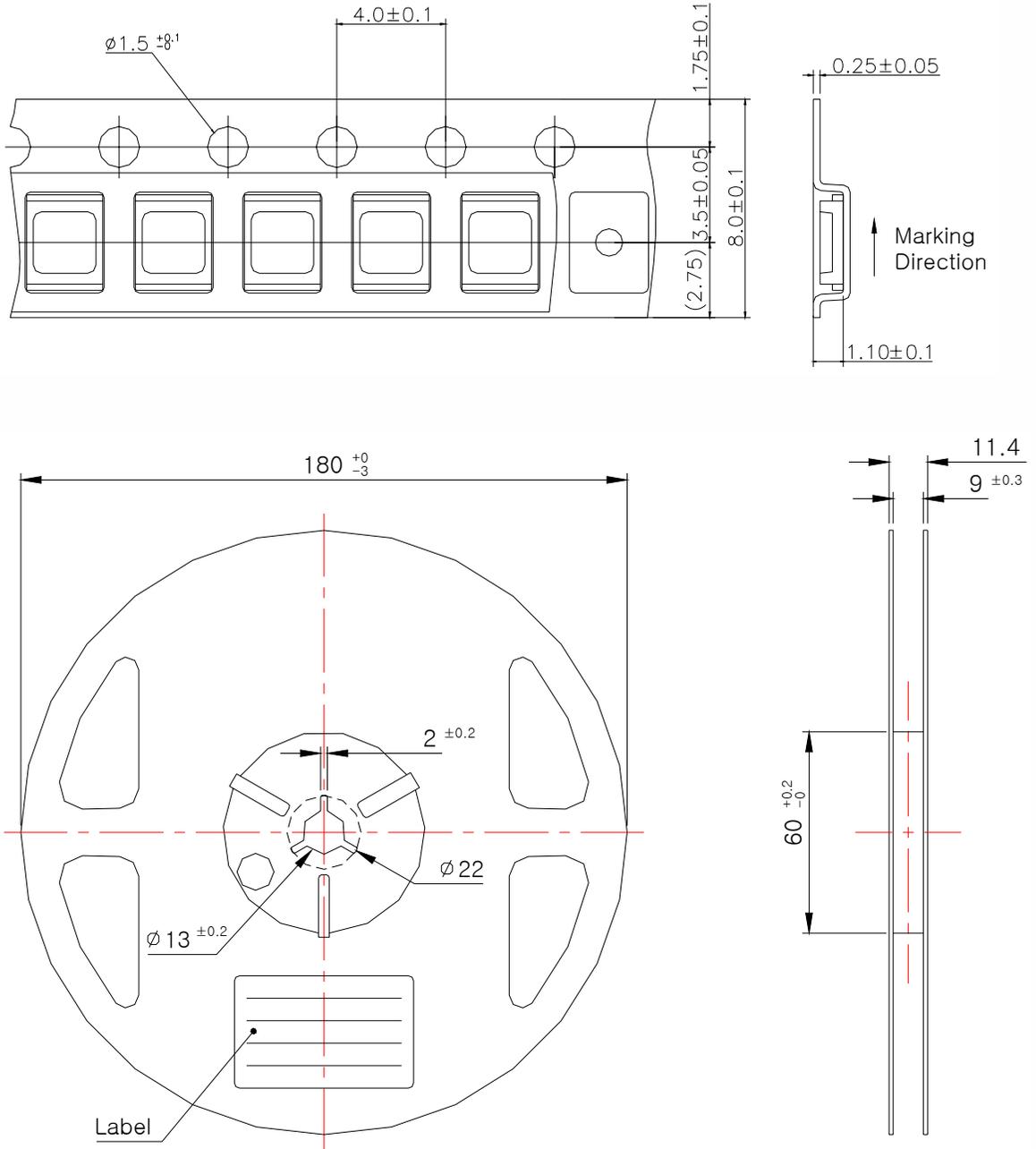


* Recommend solder pad pattern



7. Reel Dimension

Tolerance: ± 0.2 , Unit: mm



- 1) Quantity : 2000pcs/Reel
- 2) Cumulative Tolerance : Cumulative Tolerance/10 pitches to be ± 0.2 mm
- 3) 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 10°C angle to be the carrier tape
- 4) Package : P/N, Manufacturing data Code No. and quantity to be indicated on a damp proof Package

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8. Precaution for Use

1. **Storage**
To avoid absorption of moisture, it is recommended to store parts in a dry box (or desiccator) with a desiccant. Otherwise, storage in the following environment is recommended.
Temperature : 5°C~30°C Humidity : 60%HR max.
2. Parts stored more than one week after opening or if desiccant indicator shower color changes, it is highly recommended that LED's should be baked for 10~ 12 hours at 60°C±5°C
3. LEDs must be stored at clean atmosphere. If the LEDs are stored for 3 months or more after shipment from SSC, storage in a sealed container with a nitrogen is recomented.
4. If the LED is considered to be wet, it is highly recommended that the LED should be dried for 100Hr at 80±5°C or 12Hr at 100±5°C.
5. Any mechanical force or excess vibration should be avoided during temperature cooling process to normal temperature after reflow
6. Rapid cooling should be avoided
7. LED should not be placed on a flexible area of the PCB
8. This device should not be used in any type of fluid such as water, oil, organic solvent and etc. When washing is required, IPA should be used.
9. When the LED is operating in DC mode, the driving current should be determined after considering the thermal properties of the application and maximum ambient temperature requirements
10. **Damage prevention from ESD or Surge.**
 1. It is highly recommended to use the wrist-band or anti electrostatic gloves when handling the LED's
 2. All devices, equipments and machines mush be properly grounded