

*Customer:

SPECIFICATION

ITEM	TOP LED DEVICE
MODEL	SSC-FCW100
REVISION DATE	Rev1.4(060313)

[Contents]

1. Features
2. Absolute maximum ratings
3. Electro-optical characteristics
4. Soldering profile
5. Outline dimension
6. Reel dimension
7. Packing
8. Precaution for use

Drawn by	Checked by	Approved by



1. Features

- White colored SMT package
- Suitable for all SMT assembly methods ; Suitable for all soldering methods

2. Absolute Maximum Ratings^{*1}

(Ta=25°C)

Parameter	Symbol	Value	Unit
Power Dissipation	P_d	560	mW
Forward Current	I_F	175	mA
Peak Forward Current	I_{FM}^{*2}	900	mA
Reverse Voltage	V_R	5	V
LED Junction Temperature	T_j	125	°C
Operating Temperature	T_{opr}	-30 ~ 85	°C
Storage Temperature	T_{stg}	-40 ~ 100	°C

*1 Care is to be taken that Power Dissipation does not exceed the Absolute Maximum Rating of the product.

*2 I_{FM} conditions is Pulse width $T_w \leq 0.1ms$, Duty ratio $\leq 1/10$

3. Electro-Optical Characteristics

(Ta=25°C)

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Forward Voltage	V_F	$I_F = 175 \text{ mA}$	2.7	3.0	3.7	V
		$I_F = 320 \text{ mA}$		3.2		
Reverse Current	I_R	$V_R = 5V$	-	-	30	μA
Luminous Intensity ^{*1}	I_V	$I_F = 175 \text{ mA}$		4	5	cd
		$I_F = 320 \text{ mA}$ (Flash mode ^{*2})		6.5		
Luminous Flux ^{*3}	Φ_V	$I_F = 175 \text{ mA}$		16	25	lm
Illumination ^{*4}	lx	$I_F = 175 \text{ mA}$	-	5.3	7	lux
		$I_F = 320 \text{ mA}$ (Flash mode ^{*2})	-	8.7		
Viewing Angle ^{*5}	$2\theta_{1/2}$	$I_F = 175 \text{ mA}$	-	130	-	deg.
Chromaticity Coordinates	X	$I_F = 175 \text{ mA}$	-	0.31	-	-
	Y	$I_F = 175 \text{ mA}$	-	0.31	-	-

*1. The luminous intensity I_V is measured at the peak of the spatial pattern which may not be aligned with the mechanical axis of the LED package.
Luminous Intensity Measurement allowance is $\pm 10\%$.

*2. Flash mode conditions is Pulse width $T_w = 1\text{sec}$, Duty ratio = 2/7

*3. Luminous Flux Measurement allowance is $\pm 10\%$.

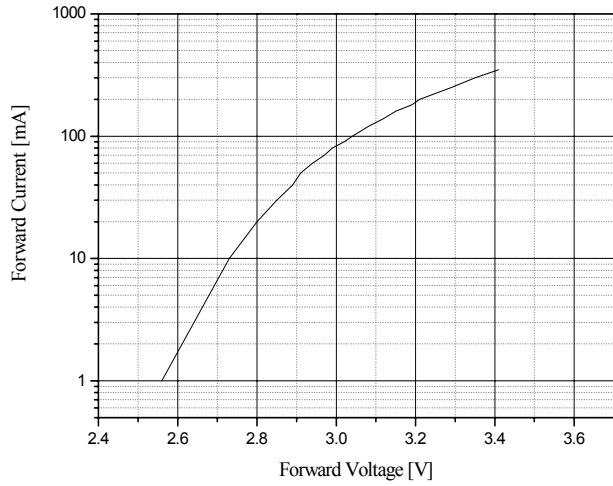
*4. This luminous intensity (Lux) is measured at a distance of 1m with condition $T_a=25^\circ\text{C}$ and it has 10% tolerance.

*5. $\theta_{1/2}$ is the off-axis where the luminous intensity is 1/2 of the peak intensity.

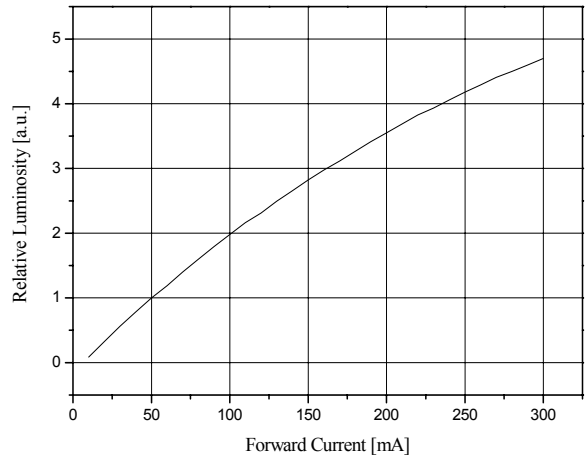
Note : All measurements were made under the standardized environment of SSC.

(Tolerance : Color Coordinate ± 0.005 , VF ± 0.1)

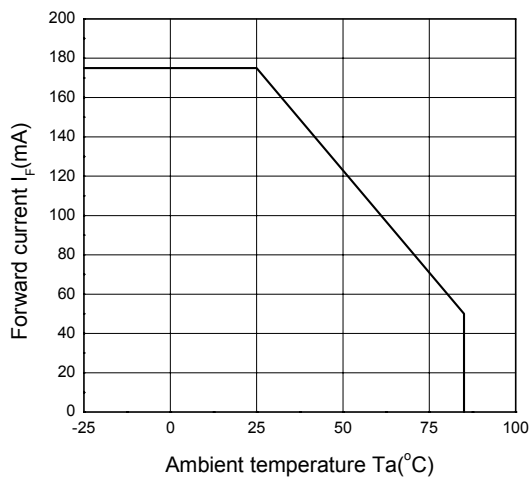
Forward Current vs. Forward Voltage



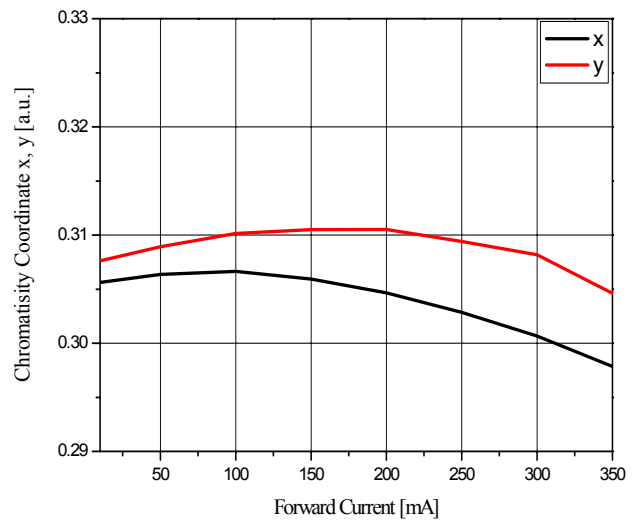
Luminous Intensity vs. Forward Current



Forward Current Derating Curve

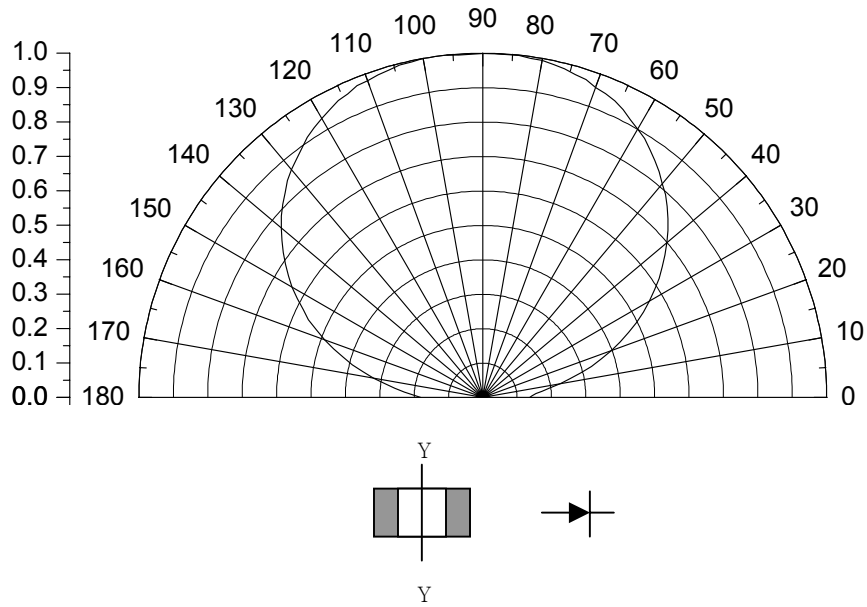


Forward Current vs Chromaticity Coordinate

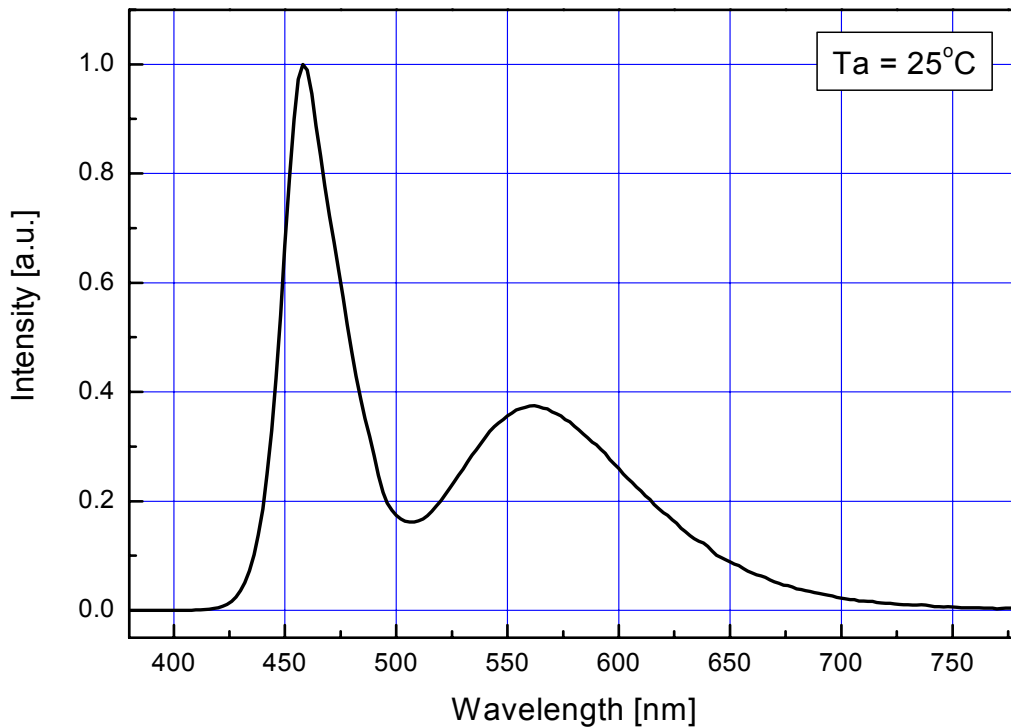


(Ta=25°C, IF=175mA)

Radiation Diagram



Spectrum



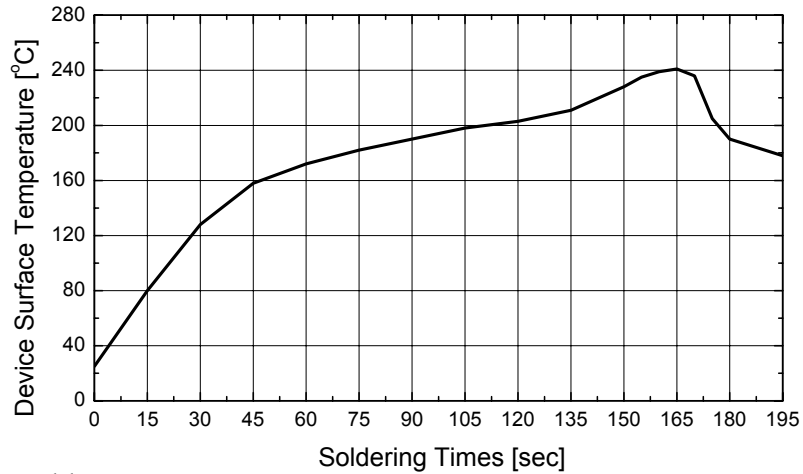
4. Soldering Profile

The LED can be soldered in place using the reflow soldering method.

(1) Lead solder

Preliminary heating to be at maximum 210°C for maximum 2 minutes.

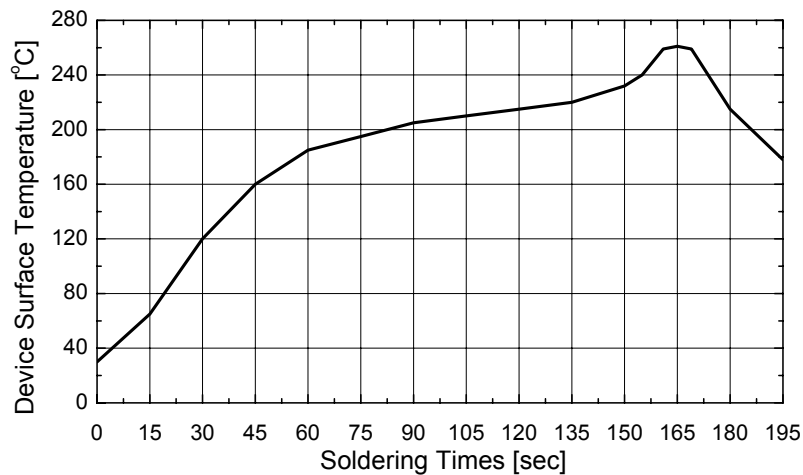
Soldering heat to be at maximum 240°C for maximum 10 seconds.



(2) Lead-free solder

Preliminary heating to be at maximum 220°C for maximum 2 minutes.

Soldering heat to be at maximum 260°C for maximum 10 seconds.



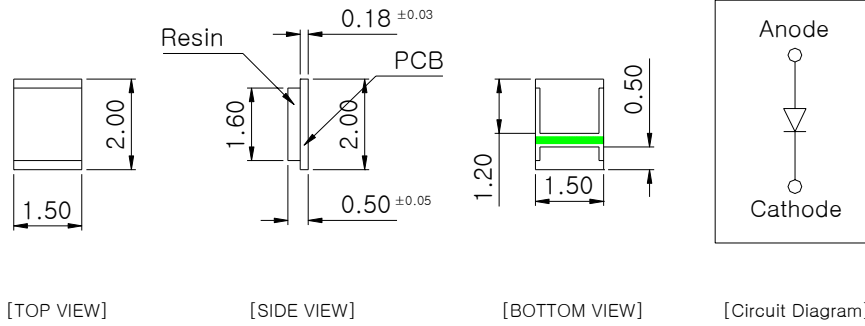
(3) Hand Soldering conditions

Not more than 3 seconds @MAX280°C, under Soldering iron.

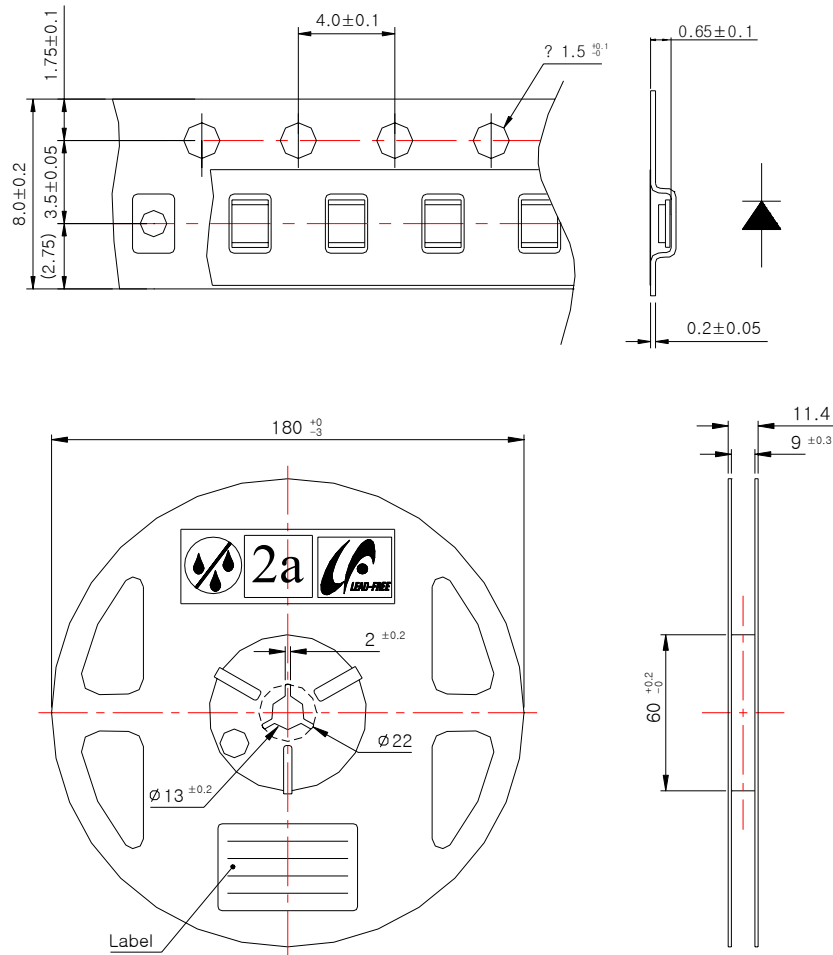
Note : In case that the soldered products are reused in soldering process, we don't guarantee the products

5. Outline Dimension

Tolerance: ± 0.05 , Unit: mm



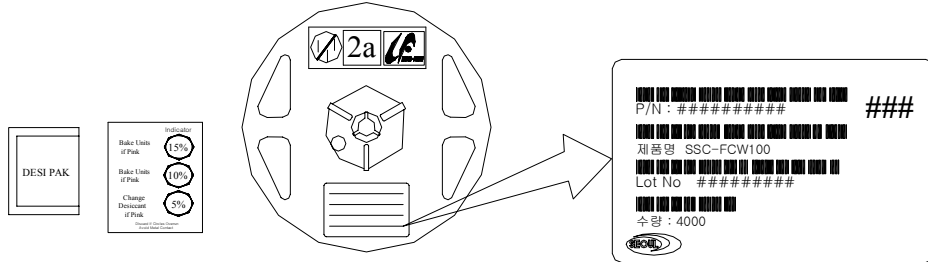
6. Reel Dimension



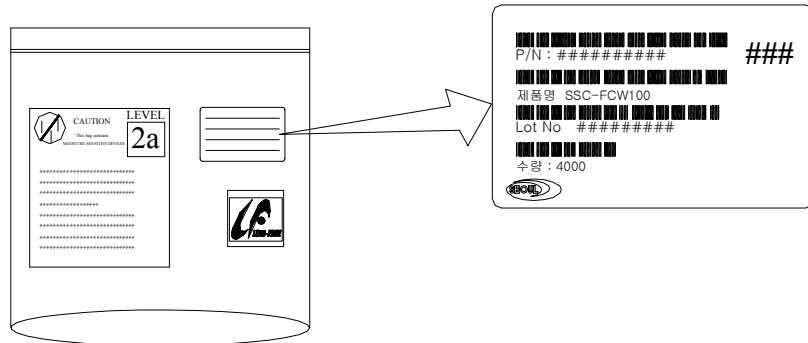
Tolerance: ± 0.2 , Unit: mm

7. Packing

Reel

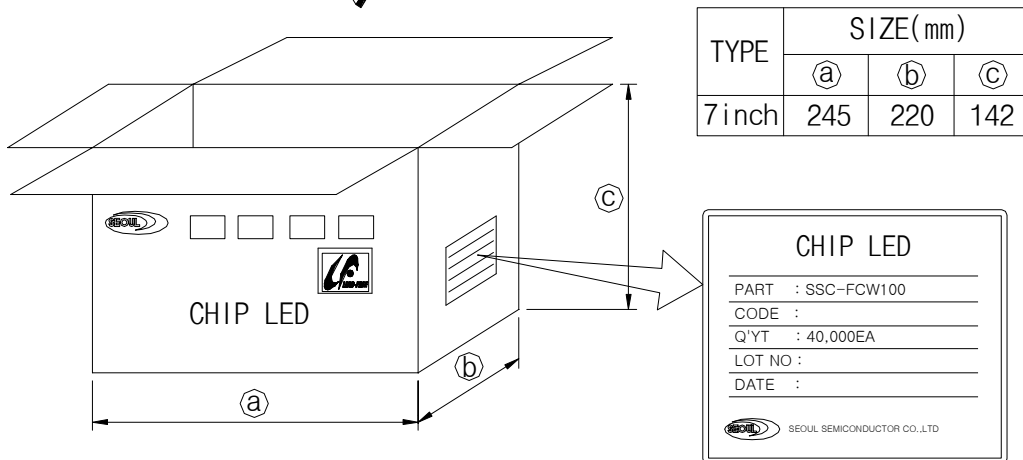


Aluminum Vinyl Bag



Outer Box

*Material : Paper(SW3B(B))



8. Precaution for use

(1) Storage

In order to avoid the absorption of moisture, it is recommended to store in the dry box (or desiccator) with a desiccant . Otherwise, to store them in the following environment is recommended.

Temperature : 5 °C~30 °C Humidity : 60%HR max.

(2) Attention after opened

However LED is corresponded SMD, when LED be soldered dip, interfacial separation may affect the light transmission efficiency, causing the light intensity to drop. Attention in followed.

a. After opened and mounted, the soldering shall be quickly. b. Keeping of a fraction

Temperature : 5 ~ 40 °C Humidity : less than 30%

(3) In case of more than 1 week passed after opening or change color of indicator on desiccant components shall be dried 10-12hr. at 60±5 °C.

(4) In case of supposed the components is humid, shall be dried dip-solder just before.

100Hr at 80±5 °C or 12Hr at 100±5 °C.

(5) Any mechanical force or any excess vibration shall not be accepted to apply during cooling process to normal temp. after soldering.

(6) Quick cooling shall not be avoid.

(7) Components shall not be mounted on warped direction of PCB.

(8) Anti radioactive ray design is not considered for the products listed here in.

(9) 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.

(10) When the LEDs are illuminating, operating current should be decided after considering the ambient maximum temperature.

(11) LEDs must be stored to maintain a clean atmosphere. If the LEDs are stored for 3 months or more after being shipped from SSC, a sealed container with a nitrogen atmosphere should be used for storage.

(12) The LEDs must be soldered within seven days after opening the moisture-proof packing.

(13) Repack unused products with anti-moisture packing, fold to close any opening and then store in a dry place.

(14) The appearance and specifications of the product may be modified for improvement without notice.

(15) Static Electricity and surge damages the Blue LEDs.

It is recommended to use a wrist band or anti-electrostatic glove when handling the LEDs.

All devices, equipment and machinery must be properly grounded.

(16) It is recommended to use individual resistor separately when the LEDs applies in parallel circuit so that it may improve the light deviations.