

Specification

ZC-6

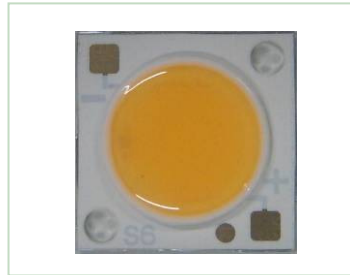
(SSC-SBWW1F1A)

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Specification

SBWW1F1A



Description

The ZC series are High Flux and High Efficacy COB (Chip On Board) series designed for easy to attach to lighting fixture directly without reflow process.

ZC series's thermal management perform exceeds other power LED solutions.

The Z-Power LED is ideal light sources for general illumination applications, custom designed solutions, and high performance lights.

Features

- Super high Flux output and high Luminance
- Designed for high current operation
- Lead Free product
- RoHS compliant

Applications

- Bulb
- Architectural lighting
- Task lighting
- Decorative / Pathway lighting

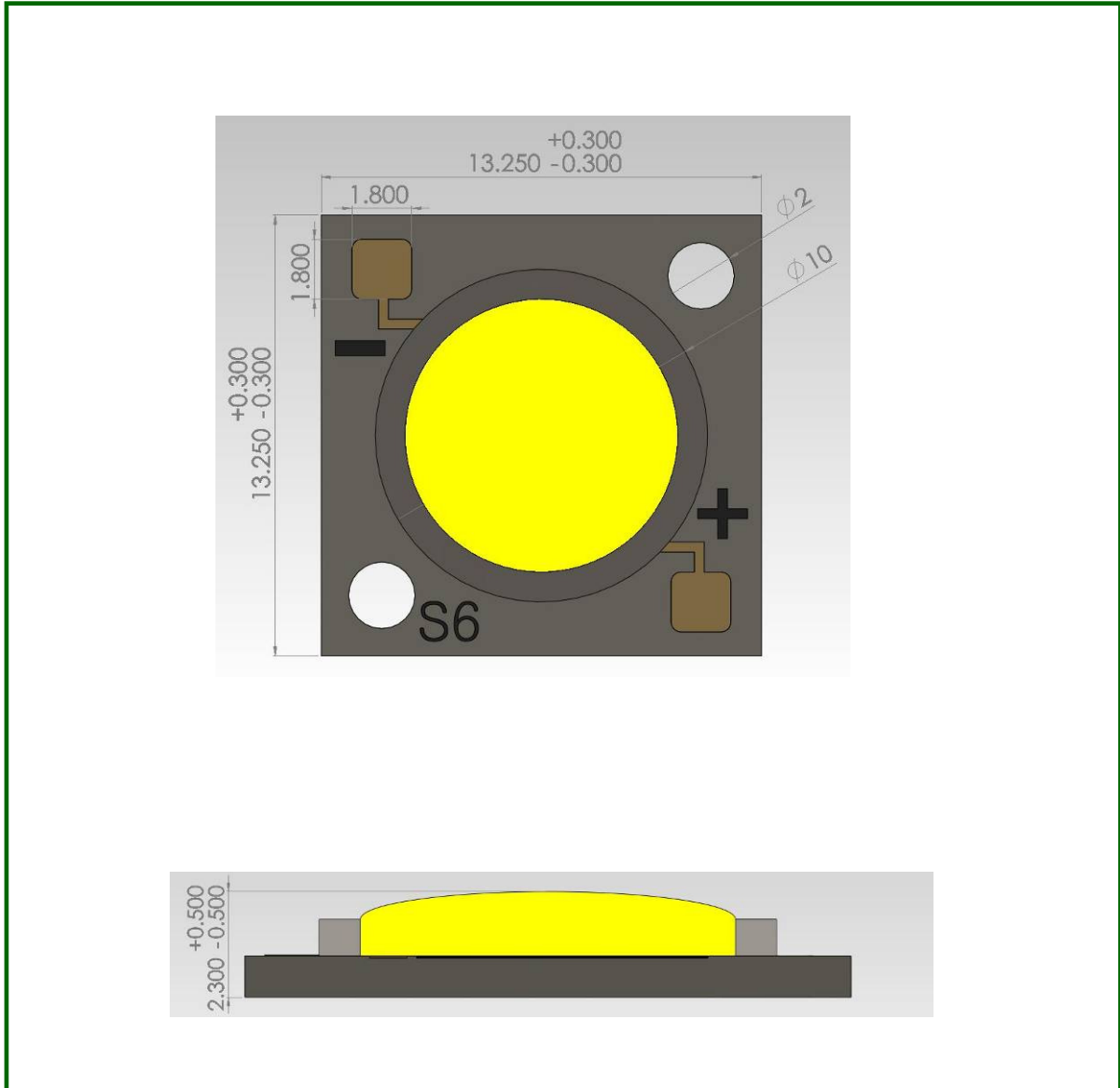
* The appearance and specifications of the product can be changed for improvement without notice.

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Outline dimensions



Notes :

- [1] All dimensions are in millimeters.
- [2] Scale : none
- [3] Undefined tolerance is ± 0.5mm

Characteristics of ZC-6 (SBWW1F1A)

1. Warm white

1-1 Electro-Optical characteristics at 7W(LED Consumption power) @0.27A

Parameter	Symbol	Value			Unit
		Min	Typ	Max	
Luminous Flux ^[1]	Φ_V ^[2]		560		lm
Correlated Color Temperature ^[3]	CCT	-	2700	-	K
CRI	R_a	80	-	-	-
Forward Current	I_F	50	270	300	mA
Forward Voltage	V_F	23.5	27	28	V
Thermal resistance (J to C) ^[4]	$R_{\theta_{J-C}}$		5		K/W
View Angle	$2\Theta_{1/2}$	115			deg.

1-2 Absolute Maximum Ratings

Parameter	Symbol	Value	Unit
Forward Current	I_F	300	mA
LED Power Dissipation	P_d	8.4	W
Junction Temperature	T_j	125	°C
Operating Temperature ^[5]	T_{opr}	-40 ~ +85	°C
Storage Temperature	T_{stg}	-40 ~ +100	°C
ESD Sensitivity (HBM)	-	± 8	kV

*Notes :

[1] SSC maintains a tolerance of ±10% on flux and power measurements.

[2] Φ_V is the total luminous flux output as measured with an integrating sphere.

[3] Correlated Color Temperature is derived from the CIE 1931 Chromaticity diagram.
CCT ±5% tolerance.

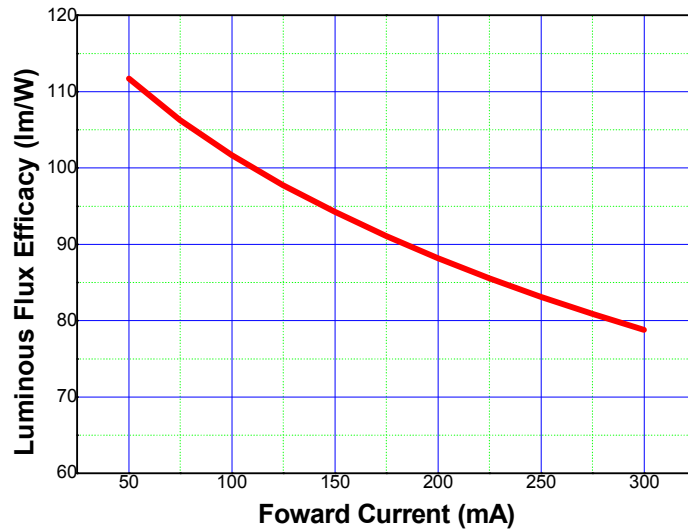
[4] At thermal Resistance, J to C means junction to COB's thermal check point.

[5] Operating temperature is ambient temperature.

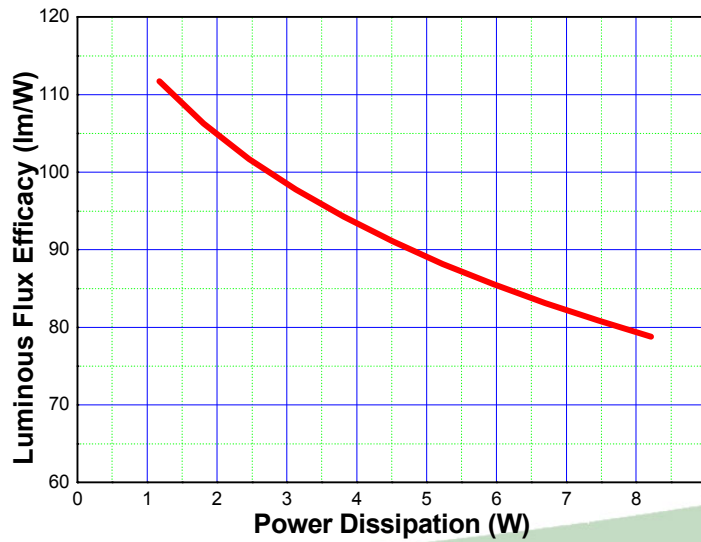
Luminous Flux Efficacy Characteristics

Current vs. Luminous Flux efficacy [lm/W], Ta=25 °C

Current (A)	Power Dissipation (W)	Luminous Flux Efficacy (lm/W)
0.27	7.3	80
0.20	5.2	88
0.05	2.9	112

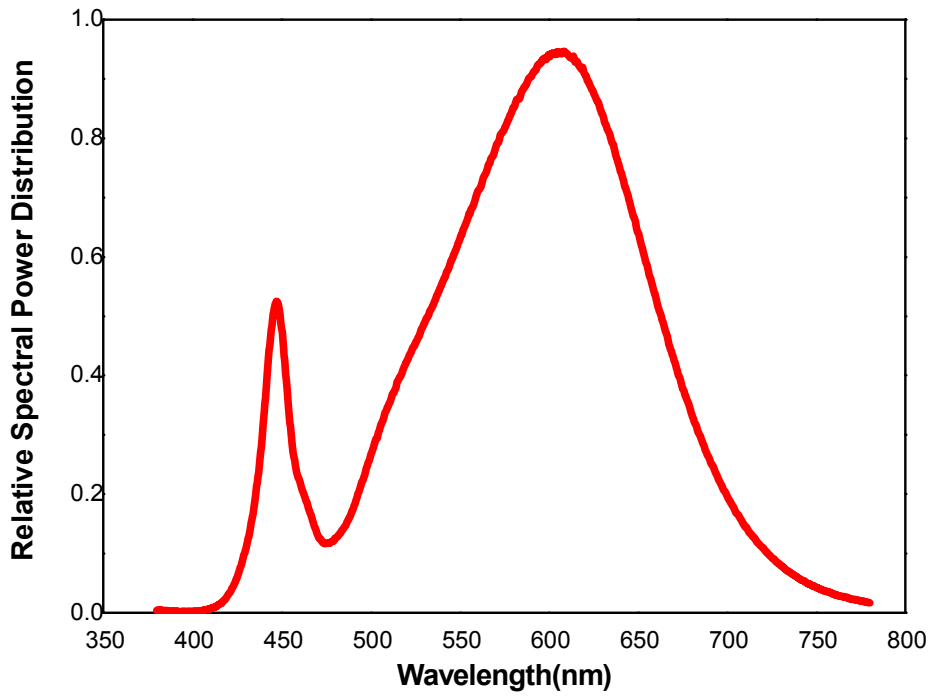


Power Dissipation vs. Luminous Flux efficacy [lm/W], Ta=25 °C



Color Spectrum

VF=27V, IF=270mA, Ta=25 °C



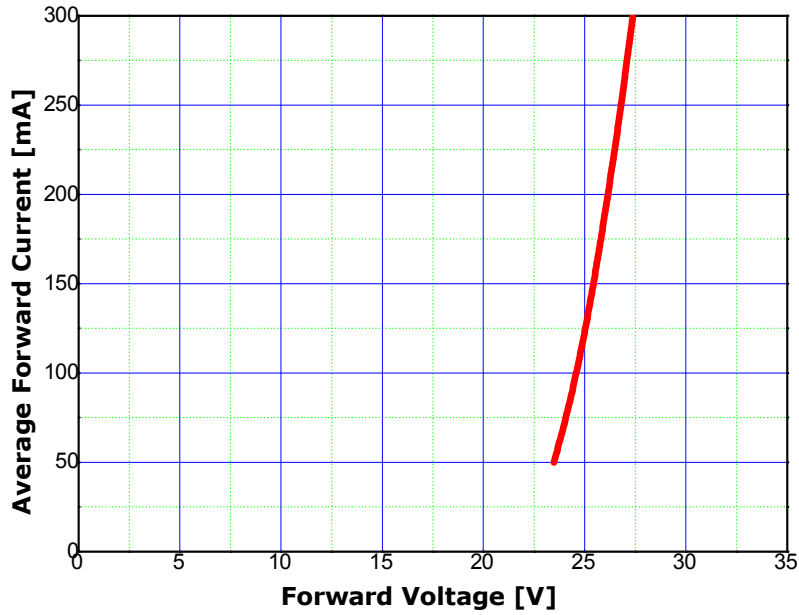
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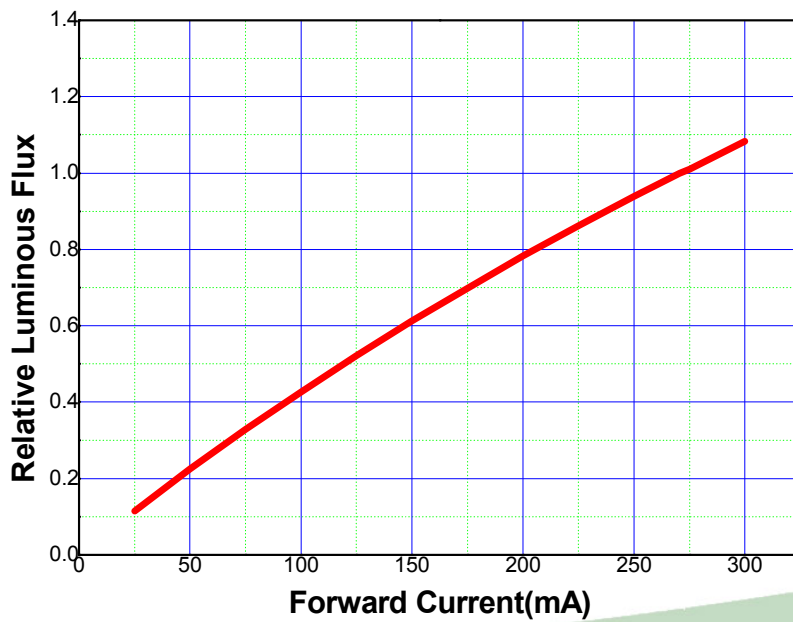
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Forward Current Characteristics

Forward Voltage vs. Forward Current, Ta=25℃

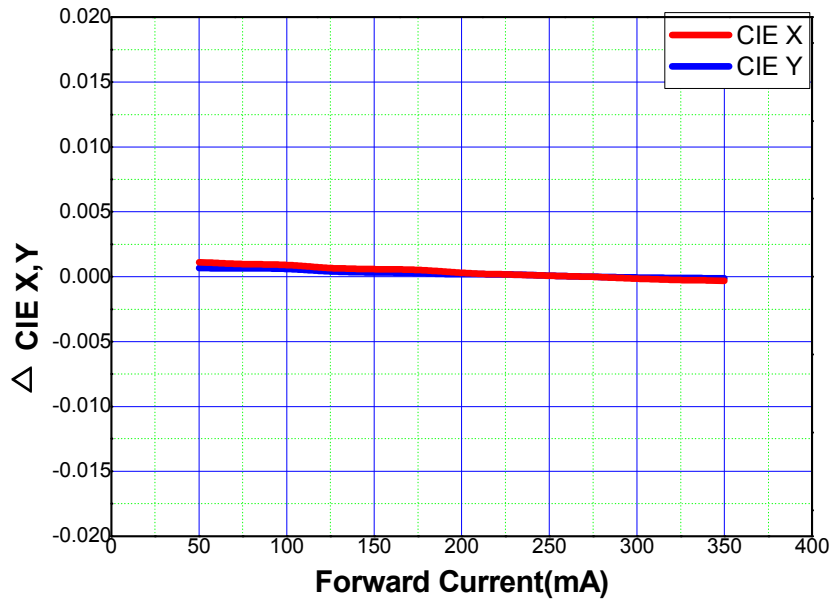


Forward Current vs. Luminous Flux, Ta=25℃



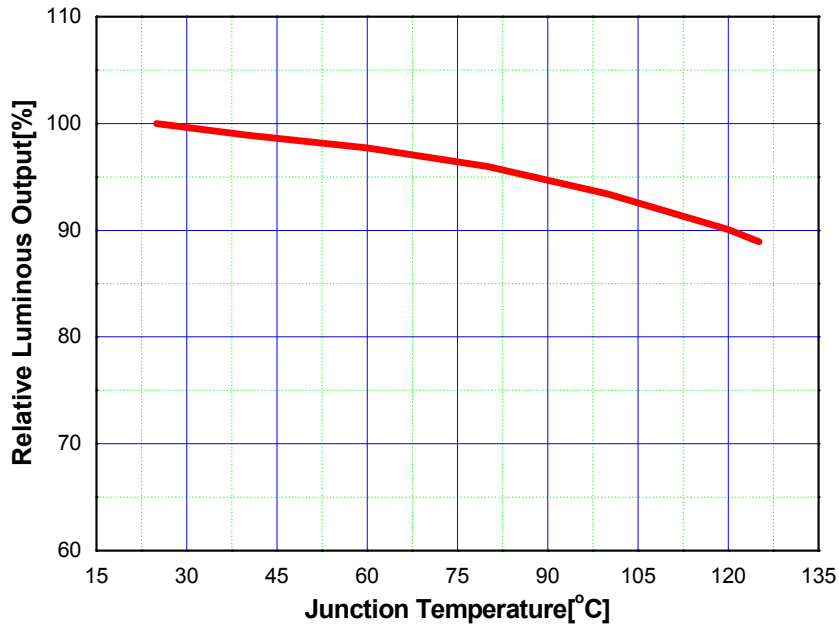
Forward Current Characteristics

CIE vs. Forward Current, Ta=25 °C



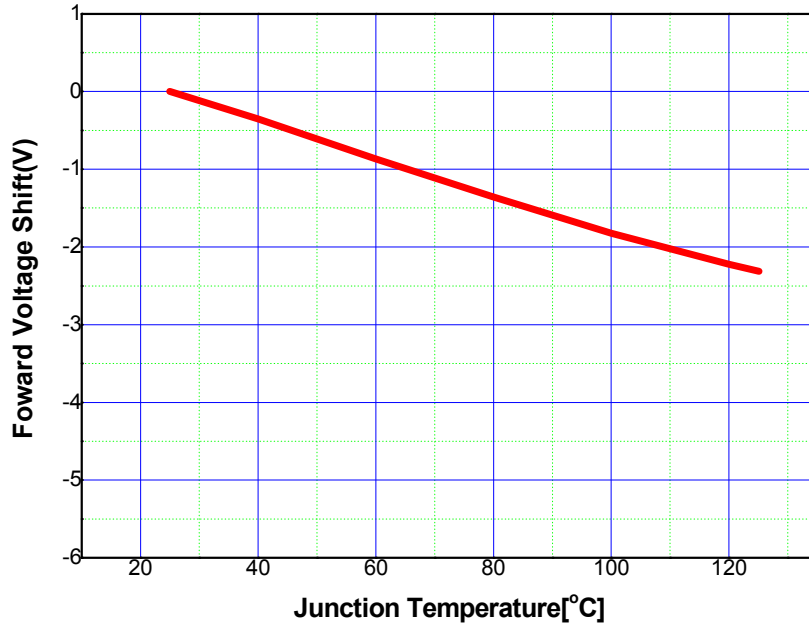
Junction Temperature Characteristics

Relative Light Output vs. Junction Temperature at IF=270mA

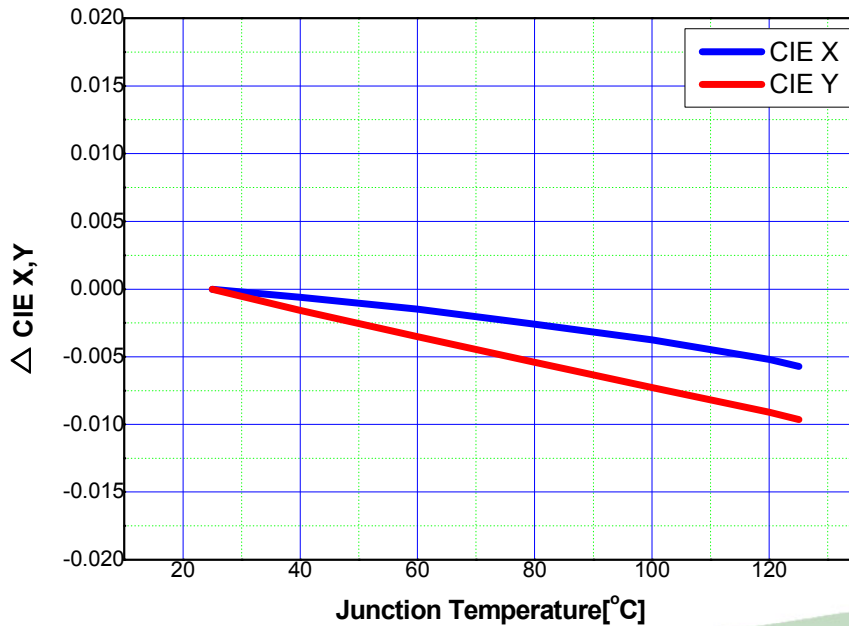


Junction Temperature Characteristics

VF vs. Junction Temperature at IF=270mA

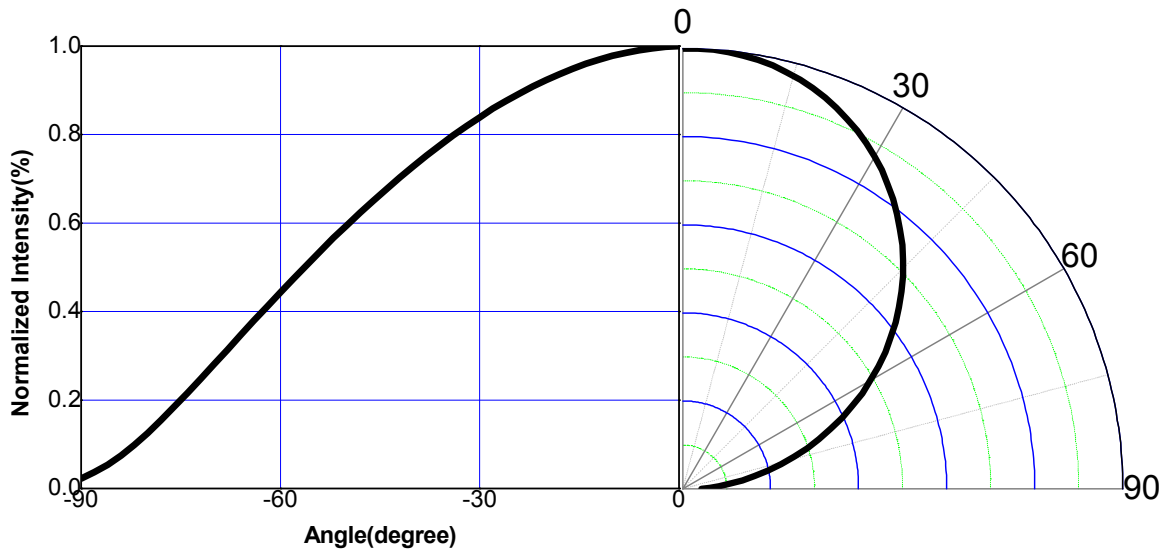


CIE vs. Junction Temperature at IF=270mA



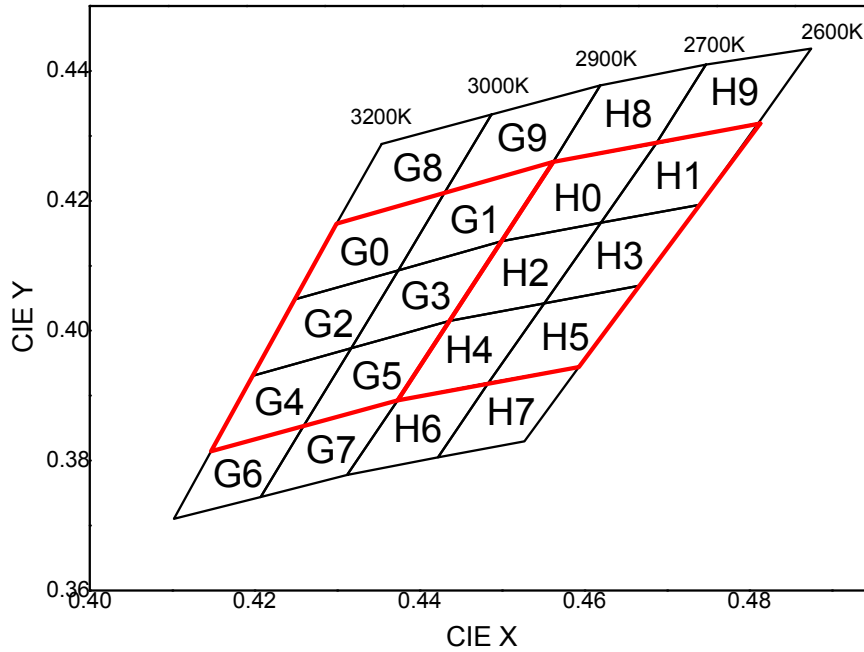
Radiation pattern

VF=27V, IF=270mA, Ta=25°C



Color & Binning

Color Rank at IF=270mA, Ta=25°C



*** Note**

Red area is ANSI chromaticity.

Color & Binning

Color Rank at IF=270mA, Ta=25℃

3000~3200K					
G0		G2		G4	
CIE X	CIE Y	CIE X	CIE Y	CIE X	CIE Y
0.4299	0.4165	0.4248	0.4048	0.4198	0.3931
0.4248	0.4048	0.4198	0.3931	0.4147	0.3814
0.4374	0.4093	0.4317	0.3973	0.4259	0.3853
0.443	0.4212	0.4374	0.4093	0.4317	0.3973
G6		G8			
CIE X	CIE Y	CIE X	CIE Y		
0.4147	0.3814	0.4354	0.4288		
0.4102	0.3710	0.4299	0.4165		
0.4207	0.3744	0.4430	0.4212		
0.4259	0.3853	0.4487	0.4333		
2900~3000K					
G1		G3		G5	
CIE X	CIE Y	CIE X	CIE Y	CIE X	CIE Y
0.4430	0.4212	0.4374	0.4093	0.4317	0.3973
0.4374	0.4093	0.4317	0.3973	0.4259	0.3853
0.4499	0.4138	0.4436	0.4015	0.4373	0.3893
0.4562	0.4260	0.4499	0.4138	0.4436	0.4015
G7		G9			
CIE X	CIE Y	CIE X	CIE Y		
0.4259	0.3853	0.4487	0.4333		
0.4207	0.3744	0.4430	0.4212		
0.4312	0.3778	0.4562	0.4260		
0.4373	0.3893	0.4619	0.4378		

* Measurement Uncertainty of the Color Coordinates : ± 0.01

Color & Binning

Color Rank at IF=270mA, Ta=25℃

2700~2900K					
H0		H2		H4	
CIE X	CIE Y	CIE X	CIE Y	CIE X	CIE Y
0.4562	0.426	0.4499	0.4138	0.4436	0.4015
0.4499	0.4138	0.4436	0.4015	0.4373	0.3893
0.4620	0.4166	0.4551	0.4042	0.4483	0.3919
0.4687	0.4289	0.4620	0.4166	0.4551	0.4042
H6		H8			
CIE X	CIE Y	CIE X	CIE Y		
0.4373	0.3893	0.4619	0.4378		
0.4312	0.3778	0.4562	0.4260		
0.4422	0.3805	0.4687	0.4289		
0.4483	0.3919	0.4747	0.4410		
2600~2700K					
H1		H3		H5	
CIE X	CIE Y	CIE X	CIE Y	CIE X	CIE Y
0.4687	0.4289	0.4620	0.4166	0.4551	0.4042
0.4620	0.4166	0.4551	0.4042	0.4483	0.3919
0.474	0.4194	0.4666	0.4069	0.4593	0.3944
0.481	0.4319	0.4740	0.4194	0.4666	0.4069
H7		H9			
CIE X	CIE Y	CIE X	CIE Y		
0.4483	0.3919	0.4747	0.4410		
0.4422	0.3805	0.4687	0.4289		
0.4527	0.3830	0.4810	0.4319		
0.4593	0.3944	0.4875	0.4435		

* Measurement Uncertainty of the Color Coordinates : ± 0.01

Part Number of ZC-6 (SBWW1F1A)


Full Part Number Form : X₁X₂X₃X₄X₅X₆X₇X₈ – X₉X₁₀X₁₁X₁₂X₁₃

X₁	Company	S	SSC
X₂	Package series	B	COB
X₃	Color	W	Warm White
X₄		W	
X₅	Series number	1	Sirius series
X₆	Lens Type	F	Flat
X₇	PCB type	1	PCB
X₈	Revision No.	A	Rev0
X₉X₁₀	Luminous flux	-	-
X₁₁X₁₂	Color bin	-	-
X₁₃	Forward Voltage	-	-


Label

Sticker Diagram on Reel & Aluminum Vinyl Bag


Rank : **X₉ X₁₀ X₁₁ X₁₂ X₁₃**




QUANTITY : #####




Lot No : #####



SSC PART NUMBER : **X₁ X₂ X₃ X₄ X₅ X₆ X₇ X₈**





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October 2011

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Rank

X₉X₁₀X₁₁X₁₂X₁₃

- **X₉X₁₀ : Luminous Intensity : Φ_v [lm]**
- **X₁₁X₁₂ : Color coordinates : x, y**
- **X₁₃ : Forward Voltage : V_F [V]**

Rank		
Luminous Intensity	CIE	Forward Voltage
A1	G3	B

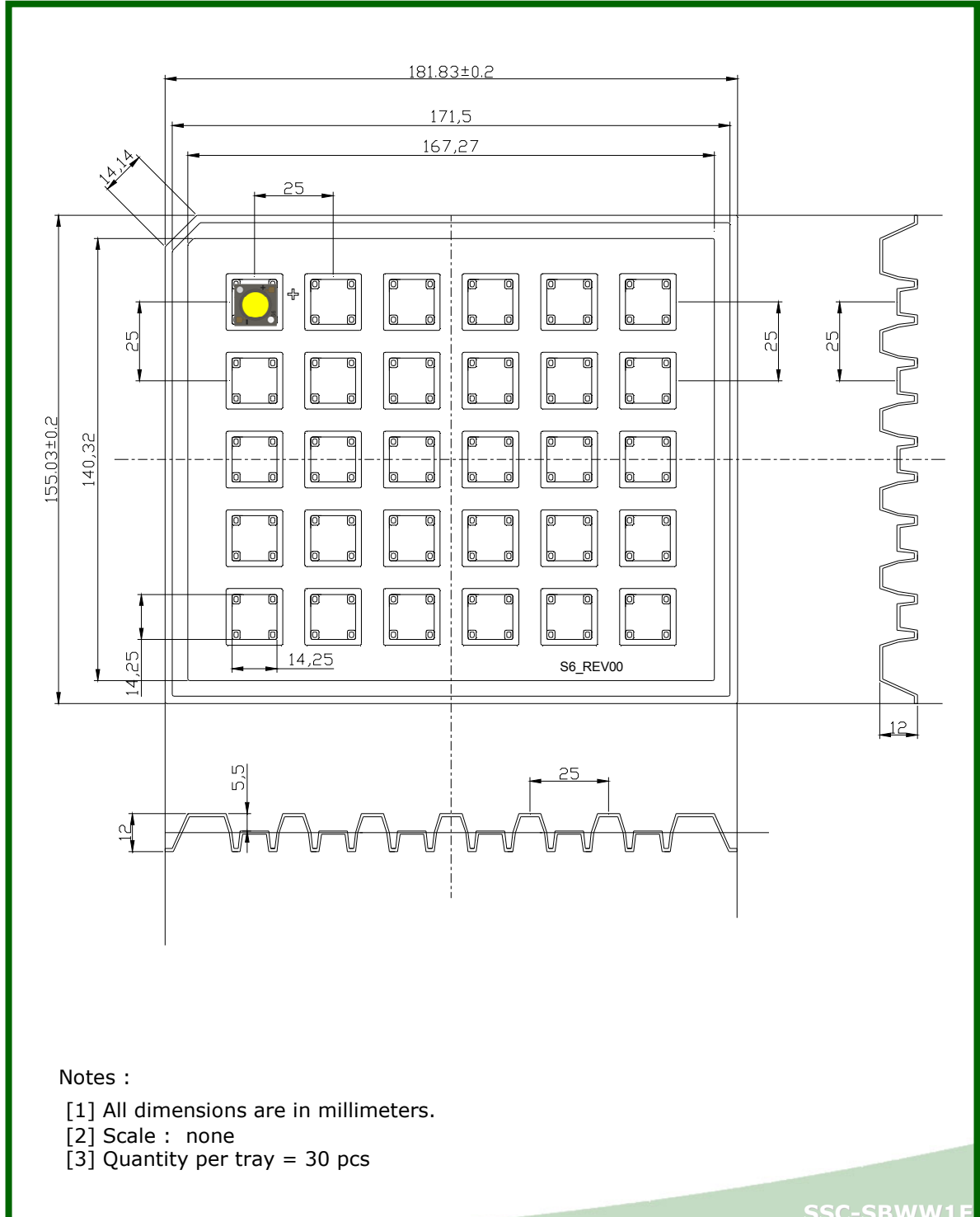
Luminous Intensity [lm] @ I _F = 270mA		
Bin Code	Min.	Max.
A1	440	505
A2	505	570
B1	570	635

Color Rank @ I _F = 270mA
G~H (2600K~3200K)

Forward Voltage [V] @ I _F = 270mA		
Bin Code	Min.	Max.
A	23.0	26.0
B	26.0	29.0

*Notes : Measurements were made under the standardized environment of SSC.
In order to ensure availability, single color rank will not be orderable.

Tray

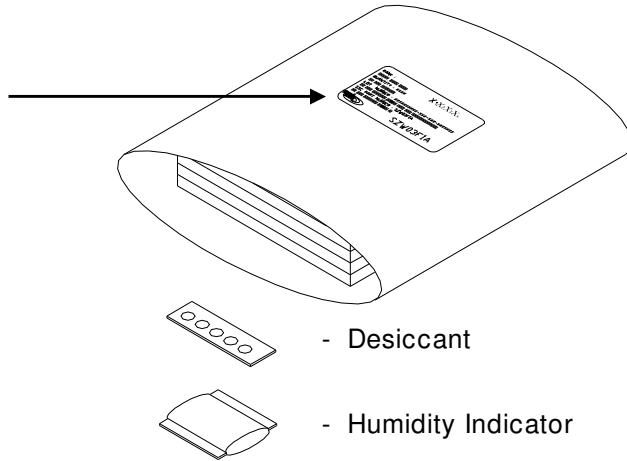
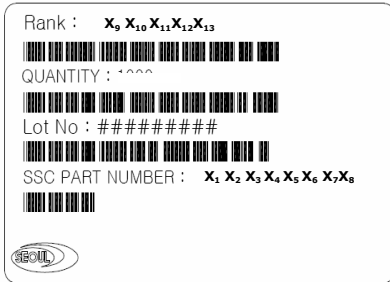


Notes :

- [1] All dimensions are in millimeters.
- [2] Scale : none
- [3] Quantity per tray = 30 pcs

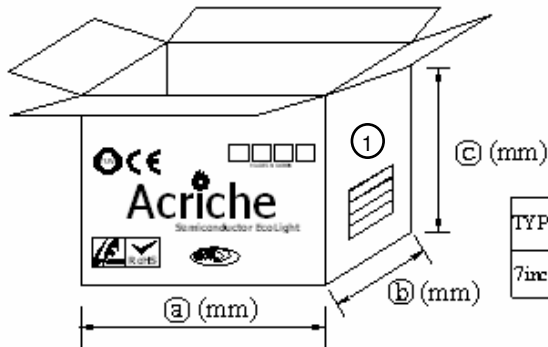
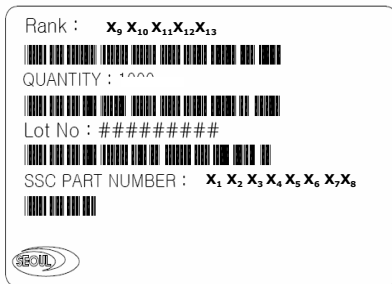
Packaging (Bag and Box)

1. Moisture-proof bag *1,2



2. Outer Box Structure

① SIDE



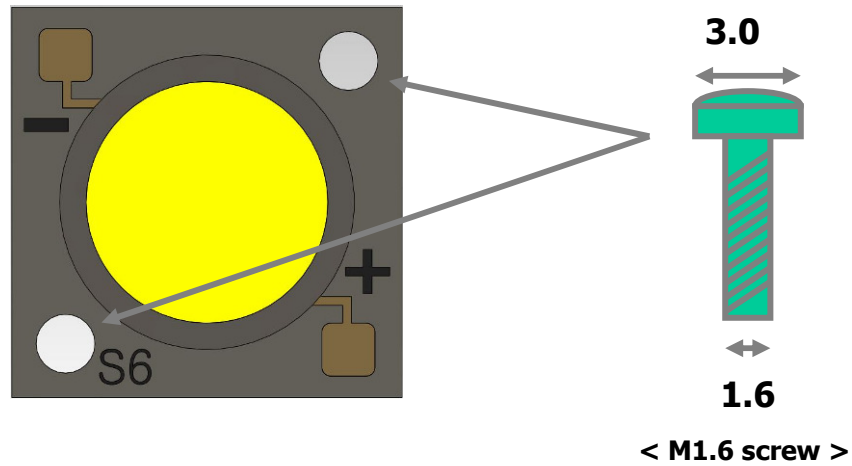
TYPE	SIZE (mm)		
	⌀	⌀	⌀
7inch	245	220	142
	245	220	80

* Notice

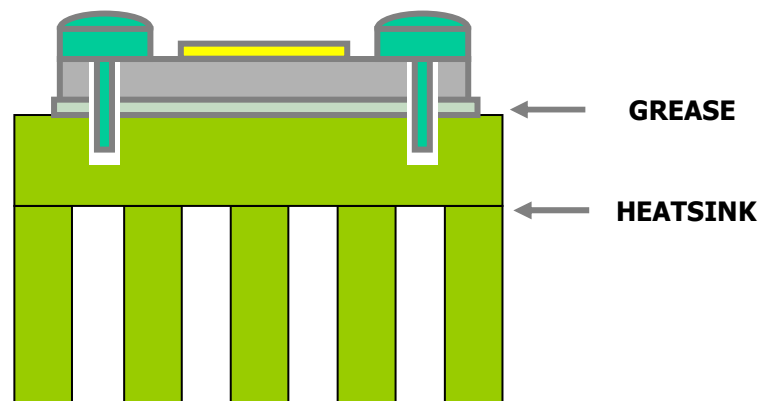
1. Heat Sealed after packing (Use Zipper Bag)
2. Quantity : Max 4 Trays/Bag

Mechanical Connection to Heat sink

< Top View >



< Side View >



• **Notes**

- Please use M1.6 screw necessarily.
- Do not release screw while LED is operating.
- Use two screws.
- Fix LED package on heat sink tightly.

Precaution for use

- Storage
To avoid the moisture penetration, we recommend storing Power LEDs in a dry box with a desiccant . The recommended storage temperature range is 5C to 30C and a maximum humidity of 50%.
- Use Precaution after Opening the Packaging
Pay attention to the following: Required conditions after opening the package
 - Sealing
 - Temperature : 5 ~ 40°C Humidity : less than 30%
- Radioactive exposure is not considered for the products listed here in.
- This device should not be used in any type of fluid such as water, oil, organic solvent and etc.
When washing is required, IPA (Isopropyl Alcohol) should be used.
- When the LEDs are in operation the maximum current should be decided after measuring the package temperature.
- LEDs must be stored properly to maintain the device. If the LEDs are stored for 3 months or more after being shipped from SSC, a sealed container with vacuum atmosphere should be used for storage.
- The appearance and specifications of the product may be modified for improvement without notice.
- Long time exposure of sunlight or occasional UV exposure will cause silicone discoloration.
- Attaching LEDs, do not use adhesives that outgas organic vapor.

Handling of Silicone resin LEDs

Notes for handling:

- Avoid touching silicone resin parts especially with sharp tools such as Pincette (Tweezers)
- Avoid leaving fingerprints on silicone resin parts and wire pads.
- Silicone resin will attract dust so use covered containers for storage.
- It is not recommend to cover the silicone resin of the LEDs with other resin (epoxy, urethane, etc)