Technical Data Sheet

Acrich

SEOUL SEMICONDUCTOR

RoHS

# Specification

## SSC-STW8Q2PA

SSC-STW8Q2PA

September 2012

www.seoulsemicon.com

서식번호 : SSC-QP-7-07-12 (Rev.01)

Technical Data Sheet

Acrich

SEOUL SEMICONDUCTOR

# STW8Q2PA

STW8Q2PA

## Description

This surface-mount LED comes in standard package dimension.
It has a substrate made up of a molded plastic reflector sitting on top of a lead frame.
The die is attached within the reflector cavity and the cavity is encapsulated by silicone.

The package design coupled with careful selection of component materials allow these products to perform with high reliability.

## Features

- Lead Frame type LED PKG size: 5.6*3.0 thickness 0.9mm
- White colored SMT package
- Pb-free Reflow Soldering Application
- RoHS compliant

## Applications

- Interior lighting
- General lighting
- Indoor and out door displays
- Architectural / Decorative lighting

SSC-STW8Q2PA
September 2012
www.seoulsemicon.com

서식번호 : SSC-QP-7-07-12 (Rev.01)

Technical Data Sheet

Acrich

SEOUL SEMICONDUCTOR

# [ Contents ]


1. Outline dimensions of STW8Q2PA
2. Characteristics of STW8Q2PA
3. Characteristic diagrams
4. Color & Binning
5. Bin Code Description
6. Labeling
7. Packing
8. Recommended solder pad
9. Soldering
10. Precaution for use
11. Handling of Silicone Resin LEDs



SSC-STW8Q2PA

September 2012

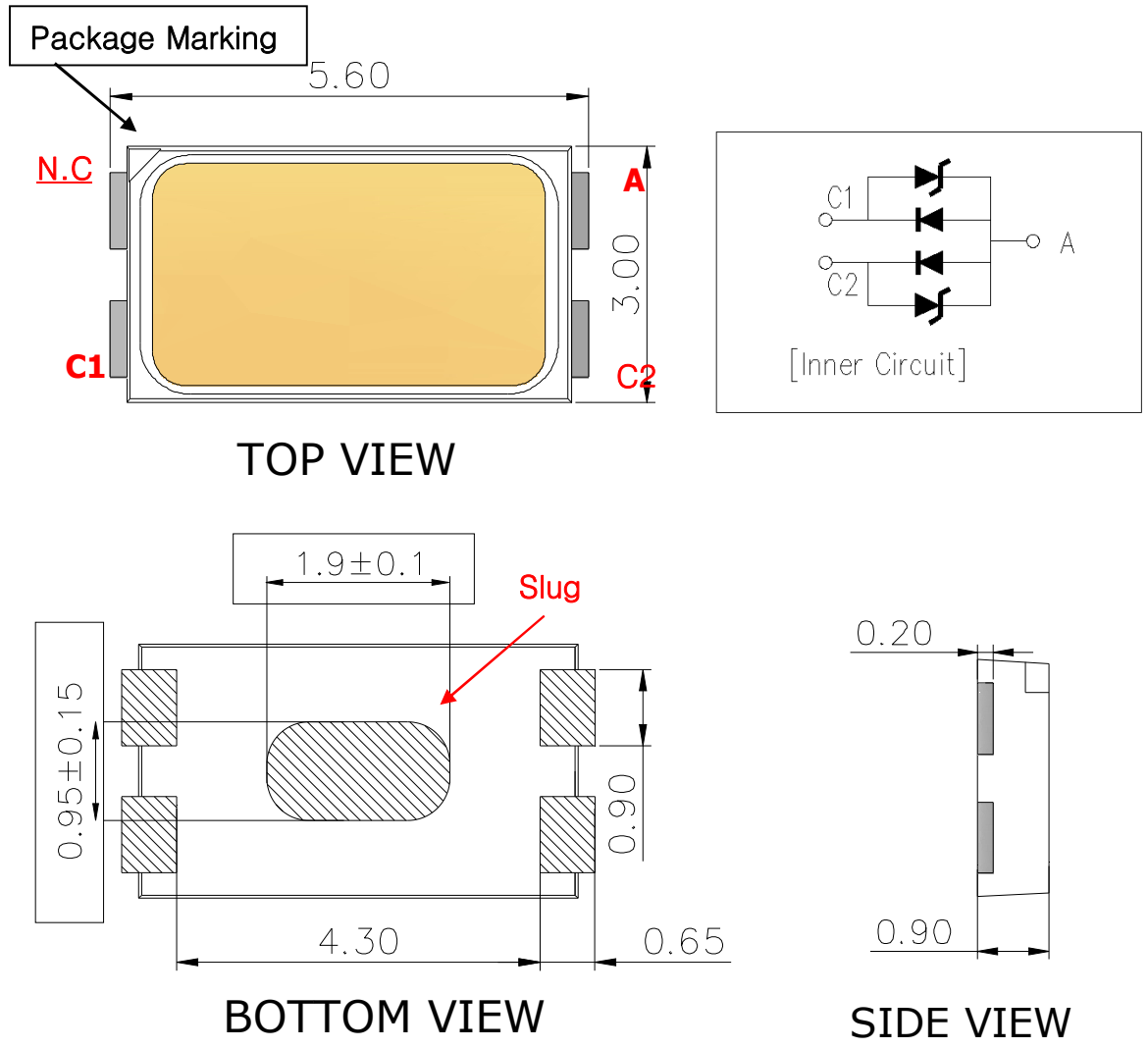
www.seoulsemicon.com

서식번호 : SSC-QP-7-07-12 (Rev.01)

Acrich

SEOUL SEMICONDUCTOR

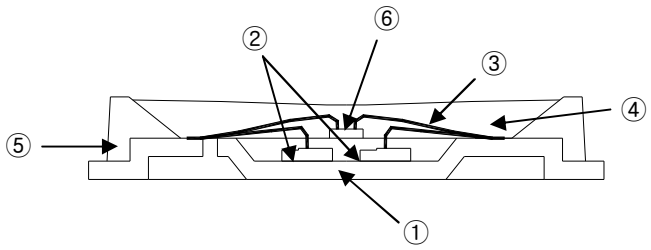
# 1. Outline dimensions of STW8Q2PA




Notes :

[1] All dimensions are in millimeters.
[2] Scale : none
[3] Undefined tolerance is ±0.1mm
[4] Forward current is 50mA per die for parallel inner circuit.
Package Total Forward Current is 100mA

## Material Structure




| Parts No. | Name | Description | Materials |
|---|---|---|---|
| ① | LEAD FRAME | Metal | Copper Alloy (Silver Plated) |
| ② | Chip Source | Blue LED | GaN on Sapphire |
| ③ | Wire | Metal | Gold Wire |
| ④ | Encapsulation | Silicone | +Phosphor |
| ⑤ | Body | Thermo Plastic | Heat-resistant Polymer |
| ⑥ | Zener Diode | Si | - |

# 2. Characteristics of STW8Q2PA

### 1) Electro-Optical characteristics at 100mA

(Ta=25℃, RH30%)

| Parameter | Symbol | Value | | | Unit |
|---|---|---|---|---|---|
| | | Min | Typ | Max | |
| **Forward Voltage [1]** | $V_F$ | 2.9 | 3.2 | 3.4 | V |
| **Reverse Voltage** | $V_R$ | - | 0.9 | 1.2 | V |
| **Luminous Intensity*[2] (3,700~7,000 K)** | $I_v$ | - | 9.5 (29.0) | - | cd (lm) |
| **Luminous Intensity*[2] (2,600~3,700 K)** | $I_v$ | - | 8.9 (27.9) | - | cd (lm) |
| **Correlated Color Temperature** | CCT | 2,600 | - | 7,000 | K |
| **Viewing Angle [3]** | $2\Theta_{1/2}$ | - | 120 | - | Deg. |
| **Color Rendering Index*** | Ra | 75 | 80 | | - |
| | | 80 | - | 90 | |
| **Thermal resistance [4]** | $R_{th}JS$ | - | 15 | - | ºC/W |

*Notes :
All measurements were made under the standardized environment of SSC.
[1] Forward current is 50mA per die for parallel inner circuit.
Package Total Forward Current is 100mA
[2] The luminous intensity IV was measured at the peak of the spatial pattern which may not be aligned with the mechanical axis of the LED package.
[3] $2\Theta 1/2$ is the off-axis where the luminous intensity is 1/2 of the peak intensity.
[4] Thermal resistance: RthJS (Junction / solder)

* Tolerance : VF :±0.1V, IV :±7%, Ra :±2, x,y :±0.01

### 2) Absolute Maximum Ratings

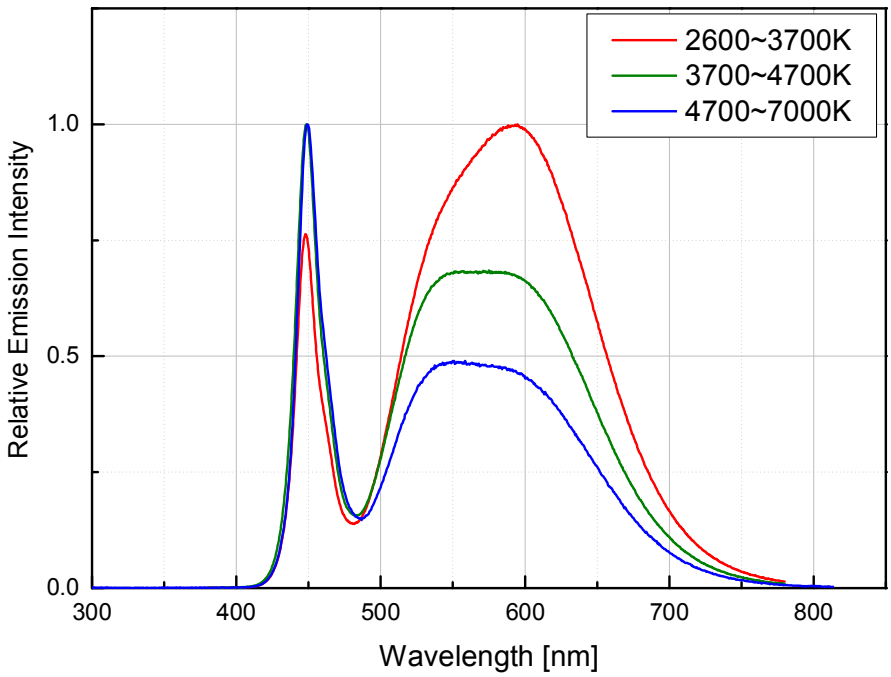
| Parameter | Symbol | Value | Unit |
|---|---|---|---|
| **Forward Current** | $I_F$ | 160 | mA |
| **Power Dissipation*[1]** | $P_d$ | 592 | mW |
| **Peak Forward Current** | $I_{FM}$ [2] | 300 | mA |
| **Junction Temperature** | $T_j$ | 125 | ºC |
| **Operating Temperature** | $T_{opr}$ | -40 ~ +85 | ºC |
| **Storage Temperature** | $T_{stg}$ | -40 ~ +100 | ºC |
| **ESD (HBM)** | | ±5,000V HBM | V |

*Notes :
LED's properties might be different from suggested values like above and below tables if operation condition will be exceeded our parameter range.
[1] Care is to be taken that power dissipation does not exceed the absolute maximum rating of the product.
[2] IFM was measured at Tw≤1 msec of pulse width and D≤1/10 of duty ratio.

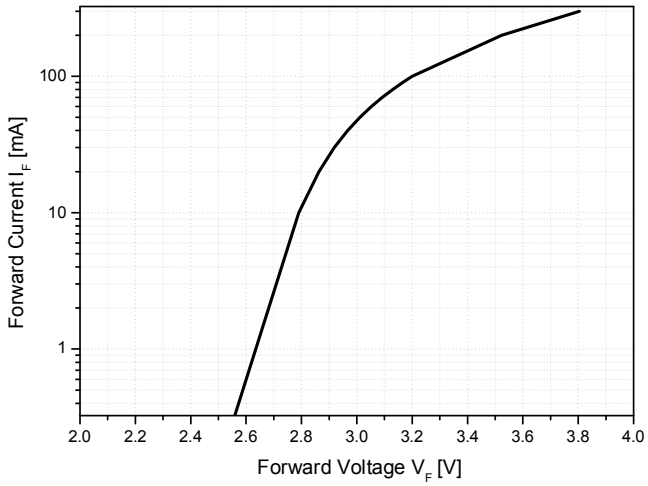
# 3. Characteristic diagrams

**1) Spectrum data**

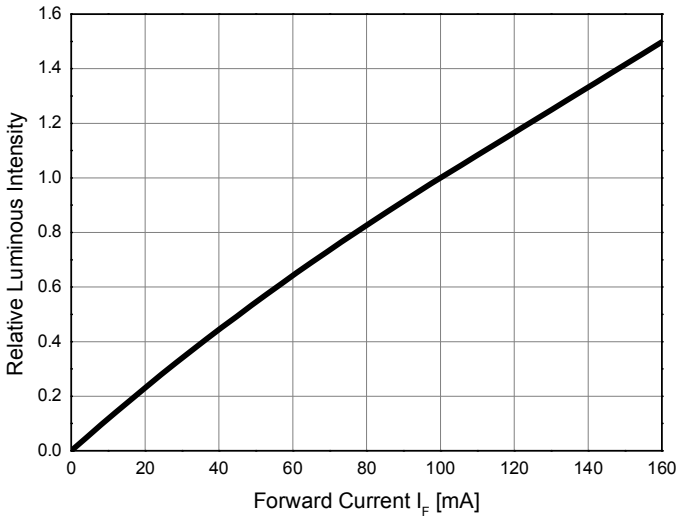
(IF=100mA, Ta=25℃, RH30%)



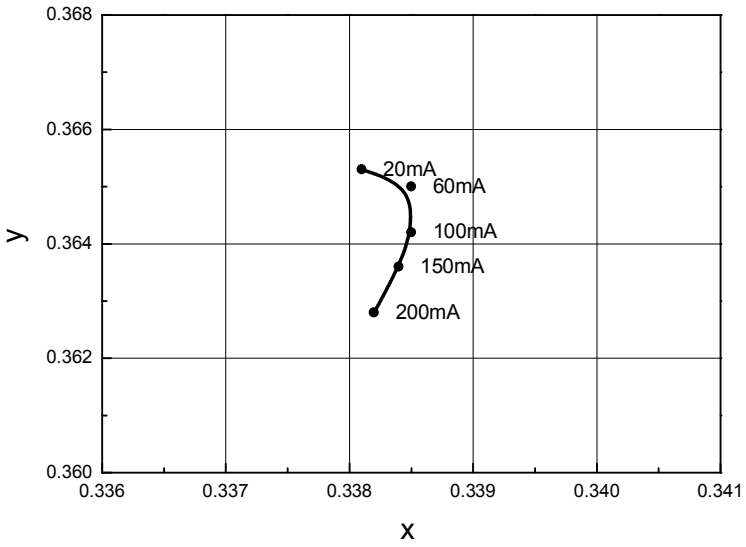
**2) Forward Voltage vs. Forward Current, Ta=25℃**



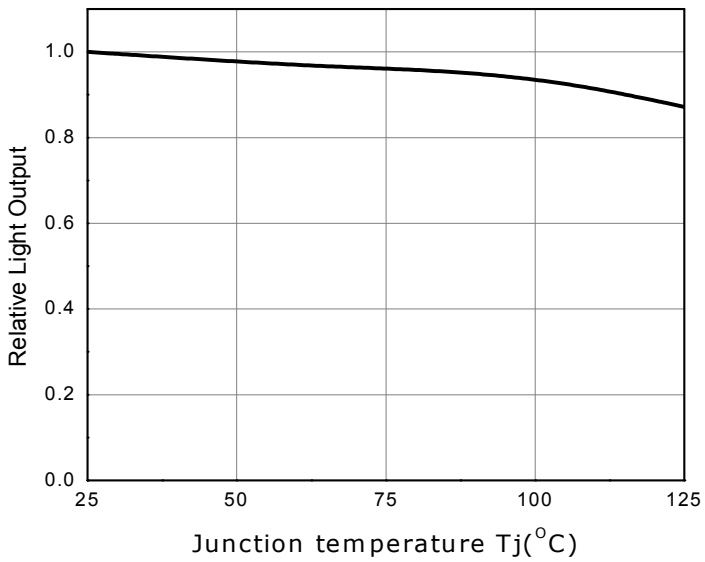

**3) Forward Current vs. Relative Luminous Intensity, Ta=25℃**



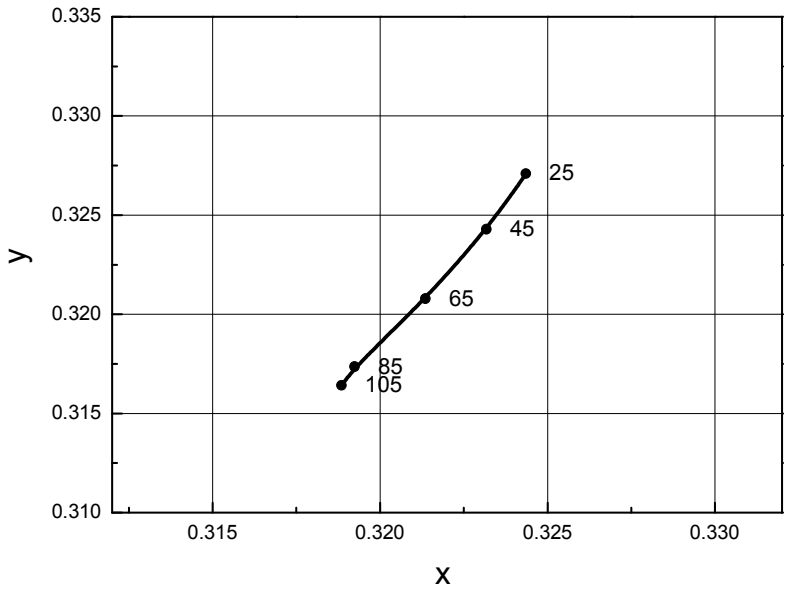
**4) Chromaticity Coordinate vs. Forward Current, Ta=25℃**



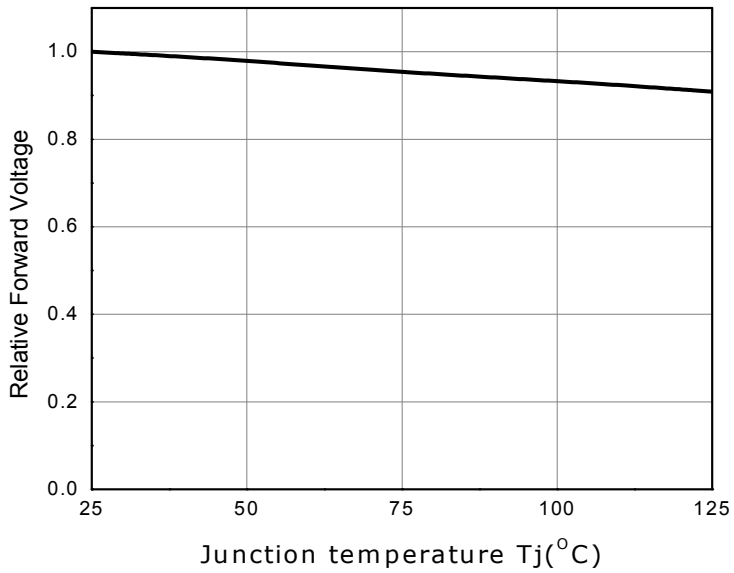
**5) Relative Light Output vs. Junction Temperature, IF=100mA**



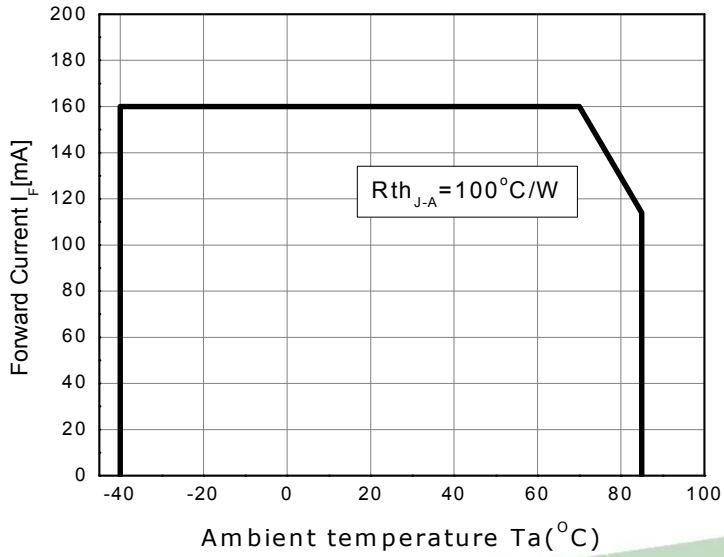
### 6) Chromaticity Coordinate vs. Junction Temperature



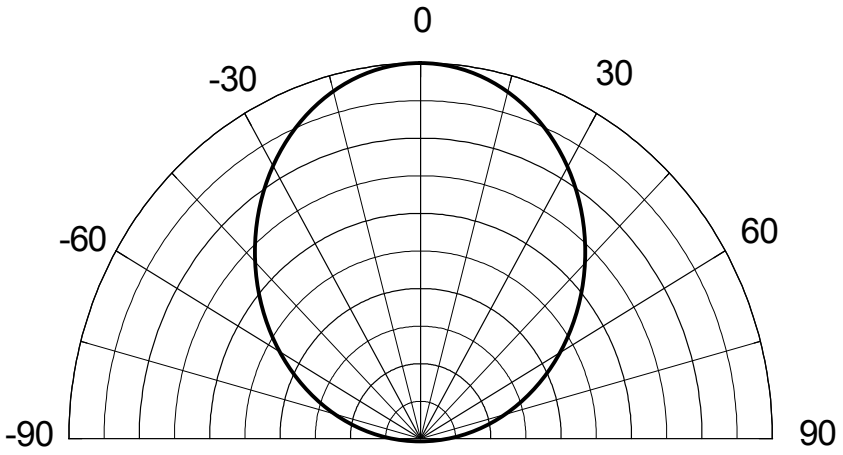
### 7) Forward Voltage Shift vs. Junction Temperature




### 8) Ambient Temperature vs. Maximum Forward Current



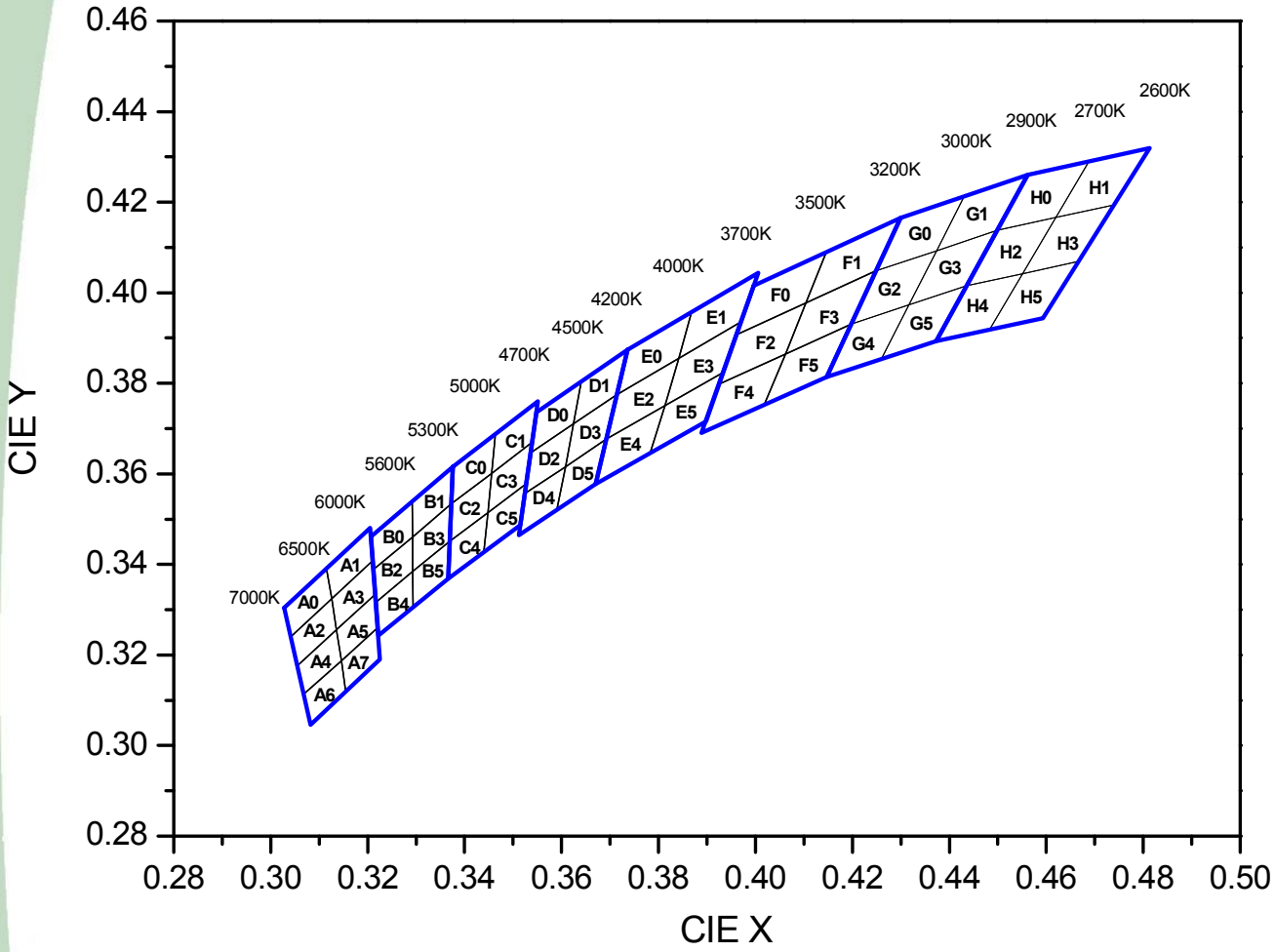
**9) Viewing angle, Ta=25℃**



Acrich

SEOUL SEMICONDUCTOR

## 4. Color & Binning



# 4. Color & Binning

● COLOR RANK

<IF=100mA, Ta=25℃>

| 6500~7000K | | | | | | | |
|---|---|---|---|---|---|---|---|
| A0 | | A2 | | A4 | | A6 | |
| CIE X | CIE Y | CIE X | CIE Y | CIE X | CIE Y | CIE X | CIE Y |
| 0.3028 | 0.3304 | 0.3041 | 0.324 | 0.3055 | 0.3177 | 0.3068 | 0.3113 |
| 0.3041 | 0.324 | 0.3055 | 0.3177 | 0.3068 | 0.3113 | 0.3082 | 0.3046 |
| 0.3126 | 0.3324 | 0.3136 | 0.3256 | 0.3146 | 0.3187 | 0.3155 | 0.312 |
| 0.3115 | 0.3393 | 0.3126 | 0.3324 | 0.3136 | 0.3256 | 0.3146 | 0.3187 |
| **6000~6500K** | | | | | | | |
| A1 | | A3 | | A5 | | A7 | |
| CIE X | CIE Y | CIE X | CIE Y | CIE X | CIE Y | CIE X | CIE Y |
| 0.3115 | 0.3393 | 0.3126 | 0.3324 | 0.3136 | 0.3256 | 0.3146 | 0.3187 |
| 0.3126 | 0.3324 | 0.3136 | 0.3256 | 0.3146 | 0.3187 | 0.3155 | 0.312 |
| 0.321 | 0.3408 | 0.3216 | 0.3334 | 0.3221 | 0.3261 | 0.3225 | 0.319 |
| 0.3205 | 0.3481 | 0.321 | 0.3408 | 0.3216 | 0.3334 | 0.3221 | 0.3261 |
| **5600~6000K** | | | | | | | |
| B0 | | B2 | | B4 | | | |
| CIE X | CIE Y | CIE X | CIE Y | CIE X | CIE Y | | |
| 0.3207 | 0.3462 | 0.3212 | 0.3389 | 0.3217 | 0.3316 | | |
| 0.3212 | 0.3389 | 0.3217 | 0.3316 | 0.3222 | 0.3243 | | |
| 0.3293 | 0.3461 | 0.3293 | 0.3384 | 0.3294 | 0.3306 | | |
| 0.3292 | 0.3539 | 0.3293 | 0.3461 | 0.3293 | 0.3384 | | |
| **5300~5600K** | | | | | | | |
| B1 | | B3 | | B5 | | | |
| CIE X | CIE Y | CIE X | CIE Y | CIE X | CIE Y | | |
| 0.3292 | 0.3539 | 0.3293 | 0.3461 | 0.3293 | 0.3384 | | |
| 0.3293 | 0.3461 | 0.3293 | 0.3384 | 0.3294 | 0.3306 | | |
| 0.3373 | 0.3534 | 0.3369 | 0.3451 | 0.3366 | 0.3369 | | |
| 0.3376 | 0.3616 | 0.3373 | 0.3534 | 0.3369 | 0.3451 | | |

* Measurement Uncertainty of the Color Coordinates : ± 0.01

# 4. Color & Binning

● COLOR RANK

<IF=100mA, Ta=25℃>

| 5000~5300K | | | | | |
|---|---|---|---|---|---|
| C0 | | C2 | | C4 | |
| CIE X | CIE Y | CIE X | CIE Y | CIE X | CIE Y |
| 0.3376 | 0.3616 | 0.3373 | 0.3534 | 0.3369 | 0.3451 |
| 0.3373 | 0.3534 | 0.3369 | 0.3451 | 0.3366 | 0.3369 |
| 0.3456 | 0.3601 | 0.3448 | 0.3514 | 0.344 | 0.3428 |
| 0.3463 | 0.3687 | 0.3456 | 0.3601 | 0.3448 | 0.3514 |
| **4700~5000K** | | | | | |
| C1 | | C3 | | C5 | |
| CIE X | CIE Y | CIE X | CIE Y | CIE X | CIE Y |
| 0.3463 | 0.3687 | 0.3456 | 0.3601 | 0.3448 | 0.3514 |
| 0.3456 | 0.3601 | 0.3448 | 0.3514 | 0.344 | 0.3428 |
| 0.3539 | 0.3669 | 0.3526 | 0.3578 | 0.3514 | 0.3487 |
| 0.3552 | 0.376 | 0.3539 | 0.3669 | 0.3526 | 0.3578 |
| **4500~4700K** | | | | | |
| D0 | | D2 | | D4 | |
| CIE X | CIE Y | CIE X | CIE Y | CIE X | CIE Y |
| 0.3548 | 0.3736 | 0.3536 | 0.3646 | 0.3523 | 0.3555 |
| 0.3536 | 0.3646 | 0.3523 | 0.3555 | 0.3511 | 0.3465 |
| 0.3625 | 0.3711 | 0.3608 | 0.3616 | 0.359 | 0.3521 |
| 0.3641 | 0.3804 | 0.3625 | 0.3711 | 0.3608 | 0.3616 |
| **4200~4500K** | | | | | |
| D1 | | D3 | | D5 | |
| CIE X | CIE Y | CIE X | CIE Y | CIE X | CIE Y |
| 0.3641 | 0.3804 | 0.3625 | 0.3711 | 0.3608 | 0.3616 |
| 0.3625 | 0.3711 | 0.3608 | 0.3616 | 0.359 | 0.3521 |
| 0.3714 | 0.3775 | 0.3692 | 0.3677 | 0.367 | 0.3578 |
| 0.3736 | 0.3874 | 0.3714 | 0.3775 | 0.3692 | 0.3677 |

* Measurement Uncertainty of the Color Coordinates : ± 0.01

# 4. Color & Binning

● COLOR RANK

<IF=100mA, Ta=25℃>

| 4000~4200K | | | | | |
|---|---|---|---|---|---|
| **E0** | | **E2** | | **E4** | |
| CIE X | CIE Y | CIE X | CIE Y | CIE X | CIE Y |
| 0.3736 | 0.3874 | 0.3714 | 0.3775 | 0.3692 | 0.3677 |
| 0.3714 | 0.3775 | 0.3692 | 0.3677 | 0.367 | 0.3578 |
| 0.3842 | 0.3855 | 0.3813 | 0.3751 | 0.3783 | 0.3646 |
| 0.3869 | 0.3958 | 0.3842 | 0.3855 | 0.3813 | 0.3751 |
| **3700~4000K** | | | | | |
| **E1** | | **E3** | | **E5** | |
| CIE X | CIE Y | CIE X | CIE Y | CIE X | CIE Y |
| 0.3869 | 0.3958 | 0.3842 | 0.3855 | 0.3813 | 0.3751 |
| 0.3842 | 0.3855 | 0.3813 | 0.3751 | 0.3783 | 0.3646 |
| 0.397 | 0.3935 | 0.3934 | 0.3825 | 0.3898 | 0.3716 |
| 0.4006 | 0.4044 | 0.397 | 0.3935 | 0.3934 | 0.3825 |
| **3500~3700K** | | | | | |
| **F0** | | **F2** | | **F4** | |
| CIE X | CIE Y | CIE X | CIE Y | CIE X | CIE Y |
| 0.3996 | 0.4015 | 0.396 | 0.3907 | 0.3925 | 0.3798 |
| 0.396 | 0.3907 | 0.3925 | 0.3798 | 0.3889 | 0.369 |
| 0.4104 | 0.3978 | 0.4062 | 0.3865 | 0.4017 | 0.3751 |
| 0.4146 | 0.4089 | 0.4104 | 0.3978 | 0.4062 | 0.3865 |
| **3200~3500K** | | | | | |
| **F1** | | **F3** | | **F5** | |
| CIE X | CIE Y | CIE X | CIE Y | CIE X | CIE Y |
| 0.4146 | 0.4089 | 0.4104 | 0.3978 | 0.4062 | 0.3865 |
| 0.4104 | 0.3978 | 0.4062 | 0.3865 | 0.4017 | 0.3751 |
| 0.4248 | 0.4048 | 0.4198 | 0.3931 | 0.4147 | 0.3814 |
| 0.4299 | 0.4165 | 0.4248 | 0.4048 | 0.4198 | 0.3931 |

* Measurement Uncertainty of the Color Coordinates : ± 0.01

# 4. Color & Binning

● COLOR RANK

<IF=100mA, 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 |
| **2900~3000K** | | | | | |
| G1 | | G3 | | G5 | |
| CIE X | CIE Y | CIE X | CIE Y | CIE X | CIE Y |
| 0.443 | 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 | 0.426 | 0.4499 | 0.4138 | 0.4436 | 0.4015 |
| **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 |
| 0.462 | 0.4166 | 0.4551 | 0.4042 | 0.4483 | 0.3919 |
| 0.4687 | 0.4289 | 0.462 | 0.4166 | 0.4551 | 0.4042 |
| **2600~2700K** | | | | | |
| H1 | | H3 | | H5 | |
| CIE X | CIE Y | CIE X | CIE Y | CIE X | CIE Y |
| 0.4687 | 0.4289 | 0.462 | 0.4166 | 0.4551 | 0.4042 |
| 0.462 | 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 | 0.474 | 0.4194 | 0.4666 | 0.4069 |

* Measurement Uncertainty of the Color Coordinates : ± 0.01

Acrich

SEOUL SEMICONDUCTOR

# 5. Bin Code Description

| Bin Code | | | *Option |
|---|---|---|---|
| Luminous Intensity [mcd] | Color Rank | Forward Voltage [V] | HIGH CRI |
| S5 | G5 | Z1 | H |

**2,600K ~ 7,000K**

| Luminous Intensity [mcd] *[1] @ $I_F$ = 100mA | | | Flux *[2] [lm] |
|---|---|---|---|
| RANK | Min. | Max. | Typ. |
| R0 | 8000 | 8500 | 26.0 |
| R5 | 8500 | 9000 | 27.6 |
| S0 | 9000 | 9500 | 28.9 |
| S5 | 9500 | 10000 | 30.0 |
| T0 | 10000 | 10500 | 31.0 |
| T5 | 10500 | 11000 | 32.5 |
| U0 | 11000 | 11700 | 33.5 |
| U7 | 11700 | 12500 | 35.6 |

| Color Rank @ $I_F$ = 100mA |
|---|
| A ~ H |

| Forward Voltage [V] @ $I_F$ =100mA | | |
|---|---|---|
| RANK | Min. | Max. |
| Y3 | 2.9 | 3.0 |
| Z1 | 3.0 | 3.1 |
| Z2 | 3.1 | 3.2 |
| Z3 | 3.2 | 3.3 |
| A1 | 3.3 | 3.4 |

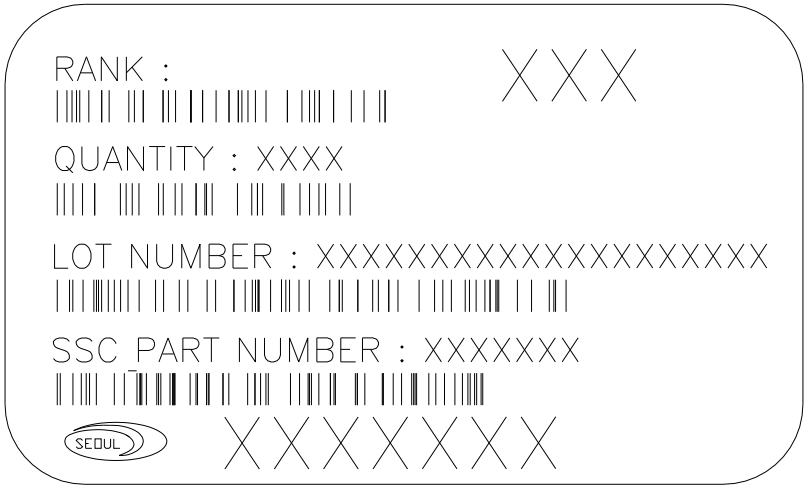
☐ Available ranks
☐ Not yet available ranks

| CCT | CIE | IV Rank | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 6000~7000K | A | R0 | R5 | S0 | S5 | T0 | T5 | U0 | U7 |
| 5300~6000K | B | R0 | R5 | S0 | S5 | T0 | T5 | U0 | U7 |
| 4700~5300K | C | R0 | R5 | S0 | S5 | T0 | T5 | U0 | U7 |
| 4200~4700K | D | R0 | R5 | S0 | S5 | T0 | T5 | U0 | U7 |
| 3700~4200K | E | R0 | R5 | S0 | S5 | T0 | T5 | U0 | U7 |
| 3200~3700K | F | R0 | R5 | S0 | S5 | T0 | T5 | U0 | U7 |
| 2900~3200K | G | R0 | R5 | S0 | S5 | T0 | T5 | U0 | U7 |
| 2600~2900K | H | R0 | R5 | S0 | S5 | T0 | T5 | U0 | U7 |

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

[1] The LEDs are sorted based on luminous intensity measurements.
[2] The typical lumen values are included for reference only.

## 6. Labeling




## Full code form :

$X_1X_2$-$X_3X_4$-$X_5$-$X_6X_7$-$X_8X_9$

- **$X_1$ : Company**
- **$X_2$ : Kind of LED**
- **$X_3X_4$ : CRI Group**
- **$X_5$ : Package series**
- **$X_6X_7$ : Characteristic code**
- **$X_8$ : Version**
- **$X_9$ : Old Version**

## Rank

#1#2#3

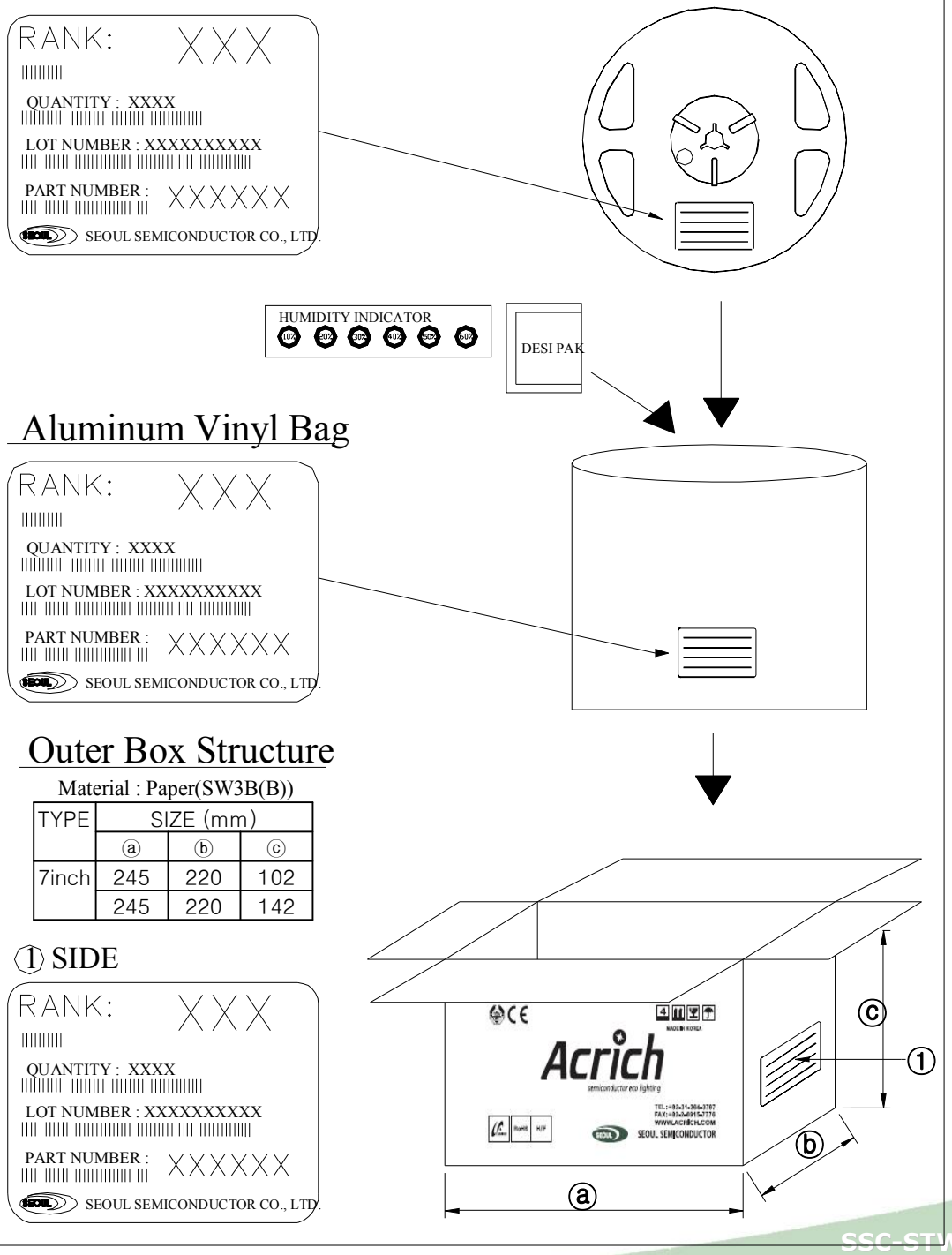
- **#1 : Luminous Intensity : IV [cd]**
- **#2 : Color coordinates : x, y**
- **#3 : Forward Voltage : $V_F$ [V]**

Acrich

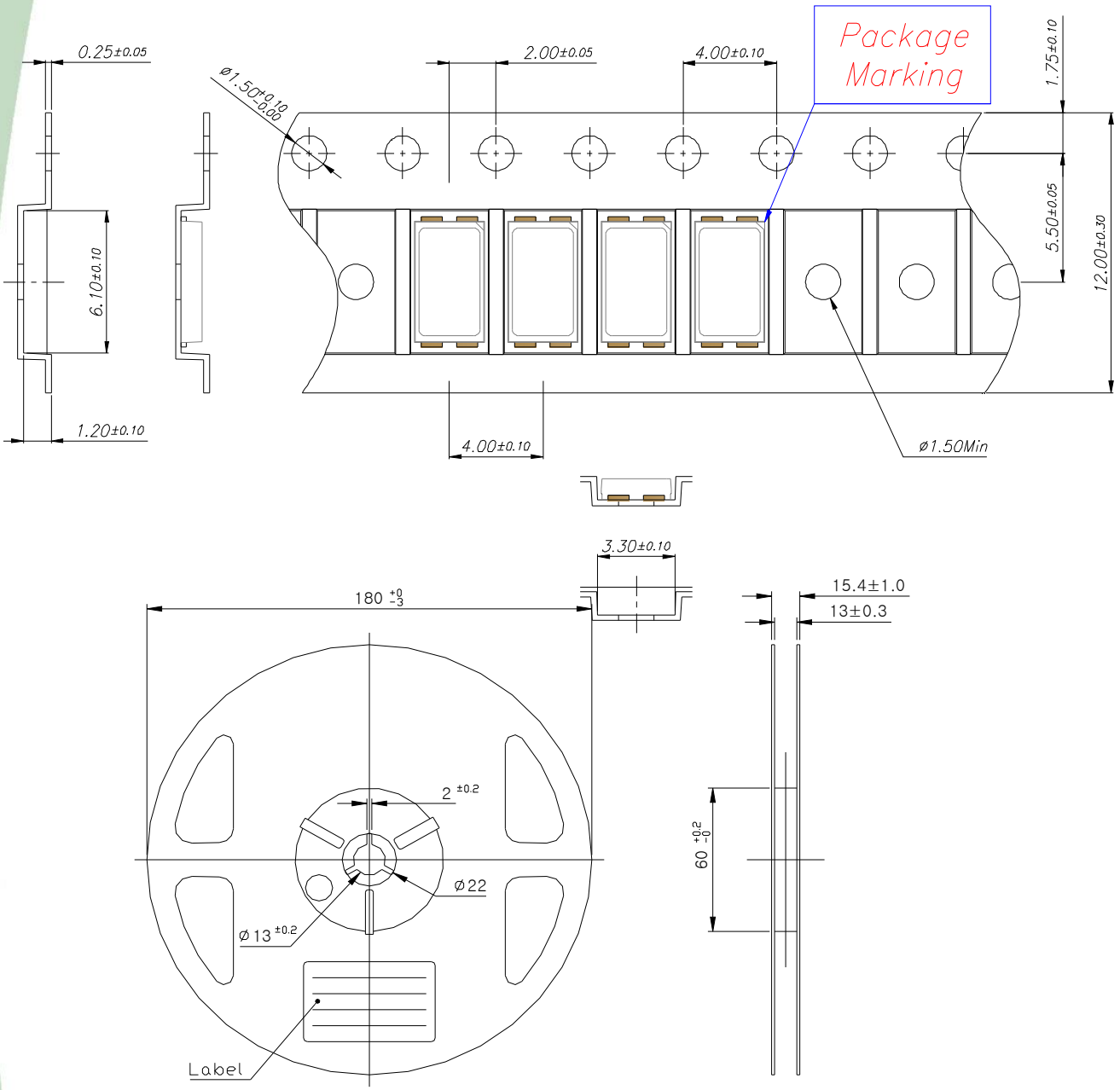
SEOUL SEMICONDUCTOR

## 7. Packing

### Reel



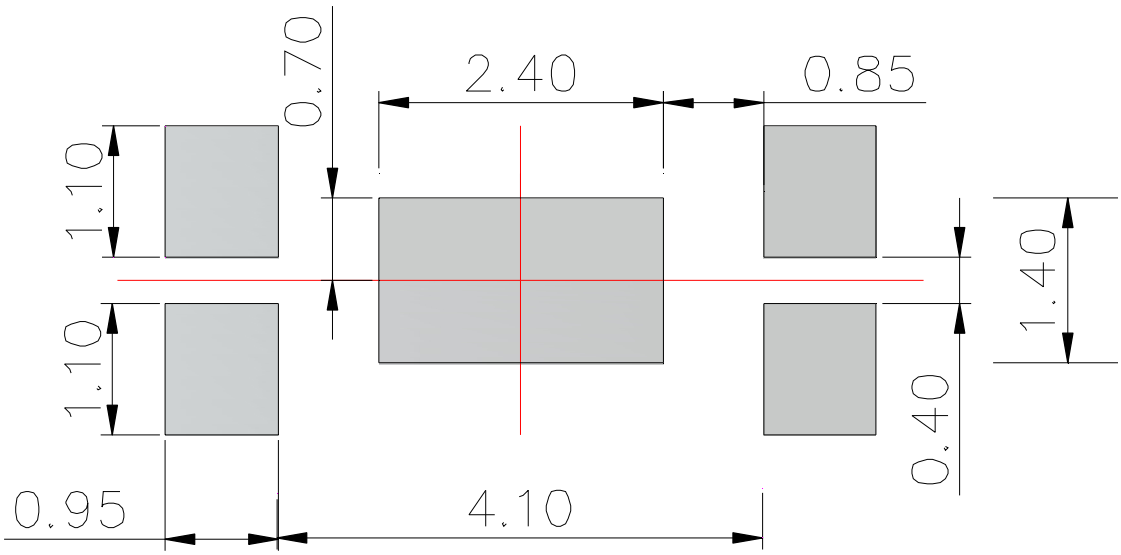
# 7. Packing




( Tolerance: ±0.2, Unit: mm )

1)Quantity : 3500pcs/Reel
2)Cumulative Tolerance : Cumulative Tolerance/10 pitches to be ±0.2mm
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 the angle of 10° to the carrier tape.
4)Package : P/N, Manufacturing data Code No. and quantity to be indicated on a damp proof Package.

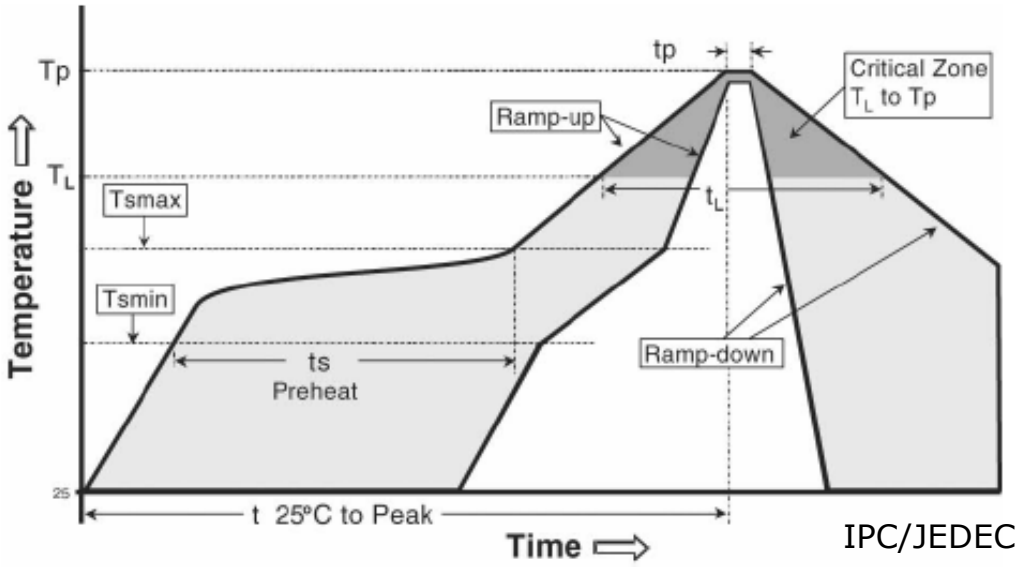
## 8. Recommended solder pad




Notes :

[1] All dimensions are in millimeters.
[2] Scale : none
[3] Undefined tolerance is ±0.1mm
This drawing without tolerances are for reference only.

# 9. Soldering




IPC/JEDEC J-STD-020

| Profile Feature | Sn-Pb Eutectic Assembly | Pb-Free Assembly |
|---|---|---|
| **Average ramp-up rate (Tsmax to Tp)** | 3° C/second max. | 3° C/second max. |
| **Preheat**<br>- Temperature Min (Tsmin)<br>- Temperature Max (Tsmax)<br>- Time (Tsmin to Tsmax) (ts) | <br>100 °C<br>150 °C<br>60-120 seconds | <br>150 °C<br>200 °C<br>60-180 seconds |
| Time maintained above:<br>- Temperature (TL)<br>- Time (tL) | <br>183 °C<br>60-150 seconds | <br>217 °C<br>60-150 seconds |
| Peak Temperature (Tp) | 215℃ | 260℃ |
| Time within 5°C of actual Peak Temperature (tp)2 | 10-30 seconds | 20-40 seconds |
| Ramp-down Rate | 6 °C/second max. | 6 °C/second max. |
| Time 25°C to Peak Temperature | 6 minutes max. | 8 minutes max. |

* Caution
1. Reflow soldering is recommended not to be done more than two times. In the case of more than 24 hours passed soldering after first, LEDs will be damaged.
2. Repairs should not be done after the LEDs have been soldered. When repair is unavoidable, suitable tools must be used.
3. Die slug is to be soldered.
4. When soldering, do not put stress on the LEDs during heating.
5. After soldering, do not warp the circuit board.

# 10. Precaution for use

(1) Storage

To avoid the moisture penetration, we recommend store in a dry box with a desiccant . The recommended storage temperature range is 5C to 30C and a maximum humidity of RH50%.

(2) Use Precaution after Opening the Packaging

Use proper SMD techniques when the LED is to be soldered dipped as separation of the lens may affect the light output efficiency.

Pay attention to the following:

a. Recommend conditions after opening the package

- Sealing
- Temperature : 5 ~ 40℃ Humidity : less than RH30%

b. If the package has been opened more than 4 week(MSL_2a) or the color of the desiccant changes, components should be dried for 10-12hr at 60±5℃

(3) Do not apply mechanical force or excess vibration during the cooling process to normal temperature after soldering.

(4) Do not rapidly cool device after soldering.

(5) Components should not be mounted on warped (non coplanar) portion of PCB.

(6) Radioactive exposure is not considered for the products listed here in.

(7) Gallium arsenide is used in some of the products listed in this publication. These products are dangerous if they are burned or shredded in the process of disposal. It is also dangerous to drink the liquid or inhale the gas generated by such products when chemically disposed of.

(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 (Isopropyl Alcohol) should be used.

(9) When the LEDs are in operation the maximum current should be decided after measuring the package temperature.

(10) 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 a nitrogen atmosphere should be used for storage.

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

(12) Long time exposure of sunlight or occasional UV exposure will cause lens discoloration.

(13) VOCs (Volatile organic compounds) emitted from materials used in the construction of fixtures can penetrate silicone encapsulants of LEDs and discolor when exposed to heat and photonic energy. The result can be a significant loss of light output from the fixture.

Knowledge of the properties of the materials selected to be used in the construction of fixtures can help prevent these issues.

(14)Attaching LEDs, do not use adhesives that outgas organic vapor.

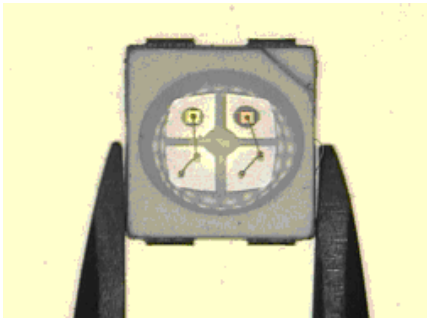
(15)The driving circuit must be designed to allow forward voltage only when it is ON or OFF.

If the reverse voltage is applied to LED, migration can be generated resulting in LED damage.

# 11. Handling of Silicone Resin LEDs

(1) During processing, mechanical stress on the surface should be minimized as much as possible. Sharp objects of all types should not be used to pierce the sealing compound.

(2) In general, LEDs should only be handled from the side. By the way, this also applies to LEDs without a silicone sealant, since the surface can also become scratched.



(3) When populating boards in SMT production, there are basically no restrictions regarding the form of the pick and place nozzle, except that mechanical pressure on the surface of the resin must be prevented. This is assured by choosing a pick and place nozzle which is larger than the LED's reflector area.

(4) Silicone differs from materials conventionally used for the manufacturing of LEDs. These conditions must be considered during the handling of such devices. Compared to standard encapsulants, silicone is generally softer, and the surface is more likely to attract dust.

As mentioned previously, the increased sensitivity to dust requires special care during processing. In cases where a minimal level of dirt and dust particles cannot be guaranteed, a suitable cleaning solution must be applied to the surface after the soldering of components.

(5) SSC suggests using isopropyl alcohol for cleaning. In case other solvents are used, it must be assured that these solvents do not dissolve the package or resin.
Ultrasonic cleaning is not recommended. Ultrasonic cleaning may cause damage to the LED.

(6) Please do not mold this product into another resin (epoxy, urethane, etc) and do not handle this product with acid or sulfur material in sealed space.

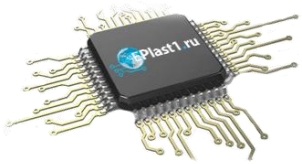
Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits,General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.




**Как с нами связаться**

**Телефон:** 8 (812) 309 58 32 (многоканальный)
**Факс:** 8 (812) 320-02-42
**Электронная почта:** org@eplast1.ru
**Адрес:** 198099, г. Санкт-Петербург, ул. Калинина, дом 2, корпус 4, литера А.