

# 2835 PKG Handling Guide



# Handling Guide

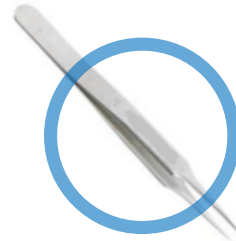
## ■ Handling Guide

- At LES(Light Emitting Surface) for Phosphor side is restricted to unusual direct-touch or strong external force

### ▶ Tools



Vacuum tweezer

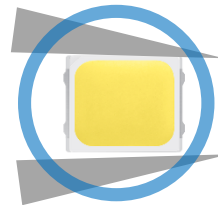


Normal tweezer

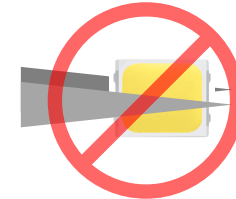
### ▶ Pick-up



Use vacuum tweezer case  
(have to keep clean vacuum pad side)

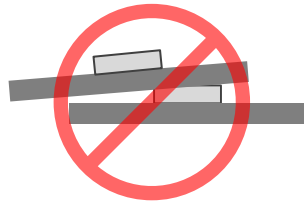


Softly handling when  
use tweezer



DO NOT allow @ LES side

### ▶ Handling



DO NOT allow stacking



DO NOT allow finger touch  
or Sharpen/Hard Object

※ Horizontally and Vertically direct force might cause fatal damage during manufacturing process of luminaire.

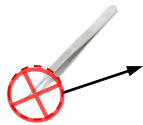
# Precautions in Handling & Use

## ▪ Environment of Working place

The working area for assembly luminaire is recommended to be maintained clean for preventing any contamination and keeping workers' safety. If all working area cannot be maintained clean, at least the space for assembly have to be kept clean and lower humidity in air.

## ▪ Handling PKGs

- ① Users have not to touch the lighting emitting surface(LES) in any cases.
- ② When handling with tweezers user have to grip the thermo plastic(white mold).
- ③ Users have to wear the anti-static gloves or anti-static wrist band.
- ④ When handling CSP, user have to use the anti-static tweezers. Especially, CSP is strongly recommended to use a vacuum pick-up & place utensils. (Especially, a sharpened-tip of the tweezers would have high possibility of giving a physical defect to CSP)



*The sharp tip may physically damage the resin of Phosphor Resin or wall.*

- ⑤ When switching on CSP with an electrical power supplier, an unexpected or abrupt current should bring about EOS failure in CSP. This may also bring about the failure in use or the decrease of life time of products. Please discharge the stored voltage of the power supplier.

## ▪ Prevent ESD

It might be required to use MLCCs, TVS or Zener diodes in order to prevent ESD failures in LED module or luminaire.

Those protection components should be considered and selected depending on the forward voltage of LED module, environment or additional requirements. (ex. Able to use 10uF 50V MLCC for 24V LED module. Regarding PWM dimming, recommend TVS or other diodes rather than MLCC due to acoustic noise.)

# Precautions in Handling & Use

- 1) For over-current protection, users are recommended to apply resistors connected in series with the LEDs to mitigate sudden change of the forward current caused by shift of forward voltage.
- 2) This device should not be used in any type of fluid such as water, oil, organic solvent, etc. When cleaning is required, IPA is recommended as the cleaning agent. Some solvent-based cleaning agent may damage the silicone resins used in the device.
- 3) When the device is in operation, the forward current should be carefully determined considering the maximum ambient temperature and corresponding junction temperature.
- 4) LEDs must be stored in a clean environment. If the LEDs are to be stored for three months or more after being shipped from Samsung, they should be packed with a nitrogen-filled container (shelf life of sealed bags is 12 months at temperature 0~40 °C, 0~90 % RH).
- 5) After storage bag is opened, device subjected to soldering, solder reflow, or other high temperature processes must be:  
Mounted within 672 hours (28 days) at an assembly line with a condition of no more than 30 °C / 60 % RH,  
or Stored at <10 % RH
- 6) Repack unused devices with anti-moisture packing, fold to close any opening and then store in a dry place.
- 7) Devices require baking before mounting, if humidity card reading is >60 % at 23 ± 5 °C.
- 8) Devices must be baked for 1 hour at 60 ± 5 °C, if baking is required.
- 9) The LEDs are sensitive to the static electricity and surge current. It is recommended to use a wrist band or anti-electrostatic glove when handling the LEDs. If voltage exceeding the absolute maximum rating is applied to LEDs, it may cause damage or even destruction to LED devices. Damaged LEDs may show some unusual characteristics such as increase in leakage current, lowered turn-on voltage, or abnormal lighting of LEDs at low current.
- 10) VOCs (Volatile Organic Compounds) can be generated from adhesives, flux, hardener or organic additives used in luminaires (fixtures). Transparent LED silicone encapsulant is permeable to those chemicals and they may lead to a discoloration of encapsulant when they exposed to heat or light. This phenomenon can cause a significant loss of light emitted (output) from the luminaires. In order to prevent these problems, we recommend users to know the physical properties of materials used in luminaires and they must be carefully selected.