

SML-W56* Series

Surface Mount Chip LEDs

This product was developed as a surface mount LED especially suitable for reflow soldering. Please take care of following points when using this device.

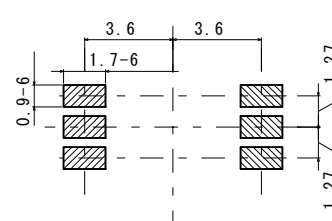
1. DESIGNING OF PCB

As for a recommendable solder pattern, Please refer to Fig-1.

The size and direction of the pad pattern depend on the condition of the PCB, so, please investigate about the adjustment thoroughly before designing.

(n.b) Performance/characteristics of devise shall considerably differ depending on mounting conditions. That is to say, the optimized heat-radiation mounting will make best use of device's performance.

Thus, it is recommended to design the land pattern with use of Cu for a great deal of heat-radiation as well as the use of metal mounting board.)



(Fig-1)

2. SOLDERING

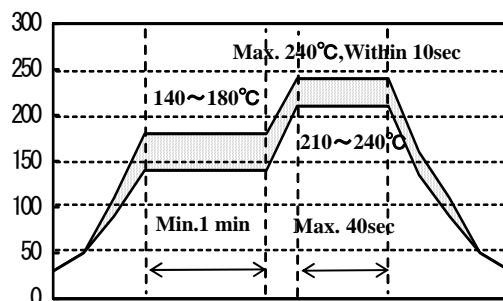
LED products do not contain reinforcement materials such as glass fillers.

Therefore, thermal stress by soldering greatly influences its reliability.

The temperature conditions for reflow soldering should therefore be set up according to the characteristic of this product. (See Fig-2)

Number of reflow process shall be max 2 times and these processes shall be performed in a row.

Cooling process to normal temperature shall be required between the first and the second soldering process.



(Fig-2)

3. USE OF AUTOMATIC MOUNTING MACHINE

As for this product, the silicone resin is used as encapsulate material and the sealing part on top of LED is soft. Therefore, please make sure not to apply the pressure upon it, as it might influence reliability.

Moreover, please use the adsorption nozzle when you use the automatic mounting machine so as not to apply the force directly to this top sealing part.

4. WASHING

Please note the following points when washing is required after soldering.

4-1) WASHING SOLVENT

Isopropyl alcohol or other alcohol solvent is recommendable.

4-2) TEMPERATURE

Below 30°C, immersion time ; within 3 minutes.

4-3) ULTRA SONIC WASHING

Below 15W/1 litter of solvent tub or less.

4-4) COOLING

Below 100°C within 3 minutes.

5. Heat – radiation design

Pluses of luminous intensity under continuous load varies depending on the ambient temperature.

Therefore, it is requested that enough heat – radiation designing be conducted for mounting.

Also, please consider derating features for the setting drive current.

6. Erosion Gas

Utilization in erosion gas atmosphere may degenerate the plating surface which might cause deterioration of solder strength, optical characteristics, or functions.

Please take precautions against occurrence of gas from the surrounding parts on the occasion of custody, and also after mounted on circuit board.



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7. STORAGE

At reflow soldering, the reliability of this product is often influenced by moisture absorption; so that we apply the package with moisture proof for better condition for use. Please also note that,

7-1) Package : Not to be opened before using.

7-2) After unpack aging : LEDs to be kept in our moisture proof package with some desiccant (SILICA GEL).

LEDs to be baked in case the SILICA GEL indicator changed its color from either blue to clear or green to pink.

7-3) Please use LEDs within 72 hours after the package is opened. (Condition at 30°C, max.70%Rh.)

In case they are not used within 72 hours, please put them back into the package.

7-4) BAKING (=Moisture Removal)

Please conduct baking under "reel condition" at 60°C, 40~48 hours (max.20%Rh) after unpackaging.

Please be careful not to give any stress to the reel & the embossed tape while baking, as they are susceptible to be deformed during the baking.