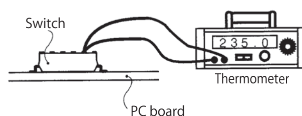
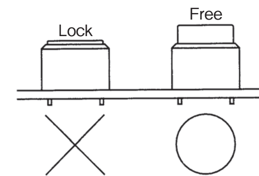
Soldering Precautions

1. Manual soldering
   The temperature and the time of soldering are shown. For details of the temperature and the time, refer to the specifications of each Series product.
2. Auto soldering
   Execute the auto soldering by using the jet wave type or dip type apparatus and control the dip temperature and the time.
   For details of soldering, refer to the specifications of each Series product.
   - For the fluxer process of automatic dip, be sure to adjust the forming amount so that the flux (including form) will not splash on the switch.
3. Reflow soldering
   Execute the reflow soldering by suing the inline type or the batch type apparatus. The reflow curves show the temperature profiles measured under the conditions of:
   Device: Infrared type
   Measuring point: Switch surface
   For details of soldering, refer to the specifications of each Series product.
   Since the temperature profiles will change delicately according to the size, thickness, and material of PC board, the packaging density of parts mounted on the board, vapor phase or hot air, other conditions of devices, be sure to set up the conditions after checking them in advance.



4. Mounting of accessory parts
   Mount the accessory parts including button, mounting frame and cap when the switch body is cooled down to room temperature after the solder dip (auto and reflow). In addition, solder dipping is conducted with the accessory parts mounted on the switch, the spring function of the snap-in button or the mounting frame will be deteriorated. Do not conduct dip soldering with the accessory parts mounted.
5. Removal of accessory parts
   When the button or the cap is removed from the lock type switches (**TPL**, **LP**, **DPL4** Series), the removal should be done under the free state with the lock released. When the part is removed under the locked state, the locking mechanism of the switch may be damaged.
6. Precautions for dipping the pushbutton switch
   When the lock-type switch of the switching function type (**TP**L, **LP**, **DPL4** Series) is subjected to dip soldering, do it under the free state with the lock released. Do not conduct dip soldering under the locked state since the resin or the pin may be deformed due to the soldering heat, resulting in occurrence of locking failure.



7. Printed circuit board
   The PC Hole Layout stated on the catalog shows the hole diameter with the single-side through hole glass-epoxy board having the thickness of 1.6 mm set as the standard. The mounting condition may differ according to the finishing degree of board. Be sure to check the condition in advance.
8. Switch operation
   Avoid any switch operation right after the soldering work.

Cleaning Precautions

1. Cleaning solution
   For the solvent, use the alcohol-based solvent. Cleaning with organic solvents is prohibited. Cleaning with other cleaning solutions (water, Kao Cleanthru, Pine Alpha, etc.) shall not be guaranteed.
2. Non-washable switches
   For non-washable switches, clean the solder surface with a brush to prevent the switch body from being exposed to the cleaning solution.
3. Immersion washing
   - When the switch is cleaned after soldering, cleaning should be done when the terminal temperature is cooled down to 90℃ or below.
   - For immersion washing or shower washing, the temperature of the cleaning solvent should be 43 ℃ or below. Regarding the cleaning time, be sure to set up the conditions after prior check, since the cleaning solution may enter into the switch depending on the cleaning conditions.
4. Do not use the ultrasonic cleaning system.
   Do not use the ultrasonic cleaning system since the ultrasonic waves will adversely affect the airtightness or contact mechanism of the switch.
5. Switch operation
   Avoid any switch operation right after washing.