

HANDLING NOTES

DIP SWITCHES

1. Caution for storage

When storage of the products, it must consider terminal soldering-ability, packaging function with temperature and humidity may effect the product. Especially, be caution on the below items.

- 1) Under High temperature and High humidity, the package will accelerate aging variation. It is recommended to store the product under room temperature 25°C with relative humidity 75%.
- 2) To avoid store under sulfidizing gas/corrosive gas environment.
- 3) Handle with care to avoid the terminal change of shape.
- 4) To avoid direct daylight and dust.
- 5) Only open the standard package at the last minute before use.
- 6) When storing the switches, please take precautions such as putting them in vinyl bags to avoid terminal discoloration. And do not store the switches at high temperature, high humidity, or where harmful gas exists.

For products manufactured 3 to 6 months before, depending on their storage location, reinspection is recommended before use.

- 7) When terminal discoloration is found, clean the discolored areas before use.

2. Using Environment

Be caution, it is not suitable for the below conditions.

- Sulfidizing gas, corrosive gas, reducing gas of atmosphere
- Rapid cooling of solvents
- Long time dipping into solvents (specially at high temperature)
- High humid environment

3. Soldering condition

Generally, it is possible to use soldering construction method.

However,if use flow soldering,it does require to consider carefully condition of wave soldering.

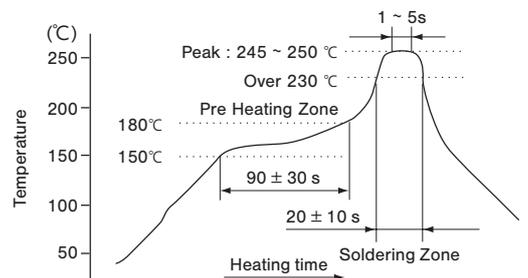
(The amount of flux applied to the switches has to be minimized. After apply flux,it must carry out pre-heat process.)

It may not suitable for condition of high package density or equipment.

● Infrared reflow soldering < SMD type in common >

For lead free soldering, it is recommended as indicate on the below temperature profile drawing. However, concerning infrared heater style, It depends on physical object's color and material. The infrared absorb fraction varied, heating degree will be changed. If the temperature of product is more than 260°C , it will change the shape of product. Be caution, do not excess temperature 260°C on the surface of the product.

● Infrared reflow soldering



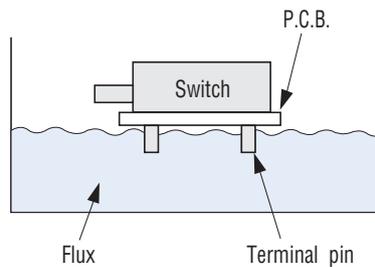
Reflow : two times maximum
Recommended profile for Lead-free soldering

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● **Flow soldering**
 < Through hole type in common >

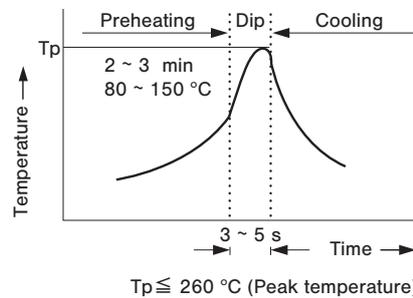
Use Rosin series flux with non-corrosive
 When apply flux, make sure do not overflow on PCB



After apply flux, it must carry out pre-heat.
 Make sure the product does not touch soldering.
 If the product touch soldering, the product shape will be changed. It causes production function degradation.
 The temperature of soldering bath should be at 245 ~ 260°C .
 The dipping time is 3 ~ 5 second per operation. The total dipping time must not exceed 10 seconds.

For flow soldering, it is recommended as indicate on the below temperature profile drawing.

● **Flow soldering**



Recommended profile for Lead-free soldering

< **S-7000, SH-7000, DRS/DRR, S-1000A/2000A, SC-1000/2000, SA-5000, S-8000, RD, Rotary switches SS-10/S-2050, RS/RG in common** >
 (C type of S-7000, SH-7000, SC-1000/2000)

The amount of flux applied to the switches has to be minimized.
 The contact section will be sealed by O ring. Although the flux does not get inside the switch. If the flux remain between up rotor and cover, The torque may be heavy. Due to this, it must minimally apply flux. After the soldering, please wash off after soldering.

< **SA-7000, SD-1000/2000 (C type) in common** >

Due to non seal structure, please apply flux on terminal section only. After soldering, do not wash off.

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<CVS-01C and CFS, CFP, CYP, CES, Slide switches CL-SB, CRFS, CMS (C type) in common>

Due to open structure, please apply flux on terminal section only. After soldering, do not wash off.

(CFS, CYP are washable type, it can be washed.)

● Manual soldering (Through hole type)

For soldering by soldering gun, it is recommended to use a small soldering gun under 380°C within 3 seconds. The soldering gun tip must not touch to the housing resin, but only to the terminal.

● Soldering iron

3 s maximum at 350°C

4. Cleaning

< CHS(All of these items, washable type only with seal tape), S-7000, S-1000A/2000A, SA-5000, S-8000, Slide switches CJS, CAS, Rotary switches CS-32, CS-4, SS-10/S-2050 in common >

It can be cleaned in general. Be caution on the following points.

- After the soldering, make sure the product temperature well cool off below room temperature 30°C, then proceed for clearing. If we dip the product with hot temperature into cleaning liquid, the inner section of the product will be shrinking. The absorption phenomenon will be incurred. The cleaning liquid will go into inner section. Moreover, the products can not apply for special cleaning such as vacuum (decompression) cleaning. Do not use special clearing.
- The washable of wash liquid stated as below, it depends on the wash liquid. It may affect the product material and outlook. Be caution.

CLEANTHROUGH 750HS [Kao Corporation]

PINE ALPHA ST-100S [ARAKAWA CHEMICAL INDUSTRIES LTD.]

AK225AES [ASAHI GLASS COMPANY]

Water cleaning

Alcohol

※ It is not suitable for hydrocarbon series clear liquid.

※ Flon and trichloroethane are ozone-depleting substance.

From protect earth environment point view, please do not use them.

< S-4000, SA-7000, SD-1000/2000 in common >

- Due to non sealed structure, it can not be washed. Be caution.

< CVS, CHP, CFP, CES, Slide switches CL-SA, CL-SB, CRFS, CMS, CUS, CSS, Detect switches CL-DA, CL-DB in common >

- Due to open structure, it can not be washed. Be caution.

< CFS, CYP(Washable type), CS-7, SH-7000, DRS/DRR, SMR/SMRR, SC-1000/2000, Rotary switches CS-7 in common >

- Water cleaning

- Alcohol

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< RD, Rotary switches RS/RG in common >

- Regarding bolt of clean liquid, it must control of the flux density under(volume) 5%. If the flux blot density above 5%, the torque will be big. It will destroy click structure in the worse case.

5. Clean method

The method of apply cleaning stated as below.
Please minimized cleaning time.

○ : Possible × : Not possible

Method	Applicability	Time	Note
Dipping	○	Approx. 2 min	_____
Ultrasonic	○		_____
Vapor	○		_____
Showering	○		_____
Brushing	×	—	Marking ink will be removed

※ Series of CYP(washable type), CS-7, SH-7000 and SC-1000/2000 are applicable only dipping.

- After the cleaning, make sure it well dry. If it is not well dry, the varied of torque may incur electrical damage.
- For CHS, CFS, CYP and Slide switches CJS, CAS, it is washable type.
when cleaning, do not peeling off the seal tape on the surface.
- For vacuum (decompression) cleaning, be caution do not mix 2 different liquids.
- After cleaning, when peel off washable sealing tape, it might have some glue left over.

6. Combination of cleaning methods

The cleaning combination examples stated as below.
In this case, the cleaning time should be approximately
1 minute respectively.

- 1) Dipping (1 min) + Vapor (1 min)
- 2) Ultrasonic (1 min) + Dipping (1 min)
- 3) Showering (1 min) + Vapor (1 min)

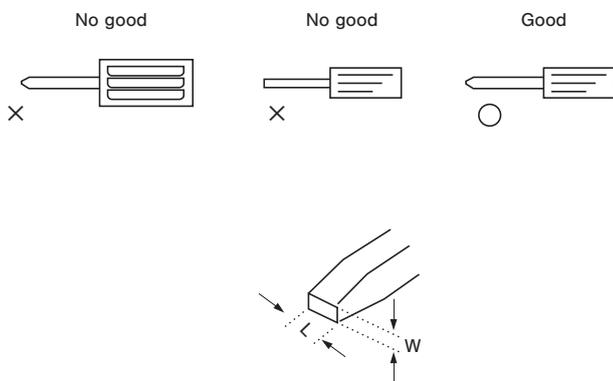
※ Be caution of the condition can be changed. Please check before actual cleaning.

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7. Screwdriver to use

Be sure to use a small screwdriver with the correct size bit. If the handle is too large or the bit is too small, the switch end stops or setting slot may be damaged.



The driver bit size for a setup (reference value)

Sereis	Tip thickness	Tip width
CS-32(Rotary switches)	0.2 ~ 0.4	1.5 ~ 1.7
CS-4(Rotary switches)	0.4 ~ 0.5	1.8 ~ 2.0
S-4000		
SA-7000	0.5 ~ 0.6	2.0 ~ 2.4
S-7000		
SH-7000	0.5 ~ 0.6	2.0 ~ 2.2
CS-7(Rotary switches)		
SS-10/S-2050(Rotary switches)	0.5 ~ 0.6	2.0 ~ 2.5
S-1000A/2000A		
SC-1000/2000		
SD-1000/2000		
SA-5000		
S-8000		
RS/RG(Rotary switches), RD	0.5 ~ 0.6	2.4 ~ 3.0

< CVS, CHS, CHP, CFS, CFP, CYP , Slide switches CJS,CAS in common >

Be sure to use an edge of tweezers with tip width of about 0.8mm to set up the switch.

8. Be caution of setting

< S-1000A/2000A, SC-1000/2000, SD-1000/2000, SA-5000, S-8000 , Rotary switches SS-10/SA-2050 in common >

When set up the switch, rotate the shaft, it does feel clicking.

The switch does not have a stop structure in mid flow.

To avoid over click and stop in mid flow.

Moreover, for code switch case, code ambiguity may occur during transition from one code position to another. (Except SS-10 series)

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< Pushbutton (Detect) switches CL-DA, CL-DB in common >

- When operate the switch, do not apply force over than rated load sufficiently.
- Be caution to use On (begin) position with sufficient allowance from travel distance.
- For NC : ON → (OFF) type, make sure knob must return to the free position of operation setting.
- The switch-restoring force cannot be used as the mechanism driving force of any set.
- The switch body and the knob of termination cannot be used as the operating body termination.
- Make sure the operating body move in a direction where the knob moves, and the operating body is applied a force to the knob vertically.
(See drawing below)

9. Strength of terminals

Do not bend or twist the terminals, as this will weaken or break the terminals.

10. Automatic mounting (SMD type in common)

The switches are compatible with automatic mounting machines. However, confirm the type of mounting machine before use, since some machines are not applicable.

11. Coating (potting)

< S-7000, S-1000A/2000A, SA-5000, S-8000, RD, Rotary switches CS-32, CS-4, SS-10/SA-2050, RS/RG in common >

If the switch is coated or potted, the movable parts may lock, making readjustment difficult.
Further more, if coating or potting is made, make sure that the hardening temperature does not exceed 70°C.

Do not use coating and potting material containing the following substance.

- Methylene chloride
- Thinner
- Acetone
- Xylene

<S-4000, SA-7000, SH-7000, SD-1000/2000, Slide Switchs CAS, CVS, CHS, CHP, CFS, CFP, CYP, CJS, CL-SA, CL-SB, CRFS, CMS, CUS, CSS, Detect switchs CL-DA, CL-DB, Rotary switchs SC-1000/2000, CS-7 in common >

Due to open structure, be caution do not coating or potting.