

■ Notice (Soldering and Mounting)

1. Soldering

(1) Re-flow soldering

Please mount component on a circuit board by re-flow soldering. Flow soldering is not acceptable.

Recommendable Flux and Solder

Flux	Please use rosin based flux, but do not use water soluble flux.
Solder	Please use solder (Sn-3.0Ag-0.5Cu) under the following condition. Standard thickness of soldering paste: 0.10 to 0.15mm

Recommendable Soldering Profile

Pre-heating	150 to 180°C	60 to 120 sec.
Heating	220°C min.	30 to 60 sec.
Peak Temperature	upper limit: 260°C lower limit: 245°C	1 sec. max. 5 sec. max.

Temperature shall be measured on the surface of component.

(2) Soldering with Iron

Be compelled to mount component by using soldering iron, please do not directly touch the component with soldering iron. The terminals of component or electrical characteristics may be damaged if excess thermal stress is applied.

Recommendable Soldering with Iron

Heating of the soldering iron	350°C max.
Watt	30W max.
Shape of the soldering iron	ø3mm max.
Soldering Time	5 sec. max. at one terminal
Solder	Sn-3.0Ag-0.5Cu

(3) Solder Volume

Please make the solder volume less than the height of the substrate. When exceeding the substrate, the damage of adhesive for sealing between the metal cap and the substrate may occur.

(4) etc.

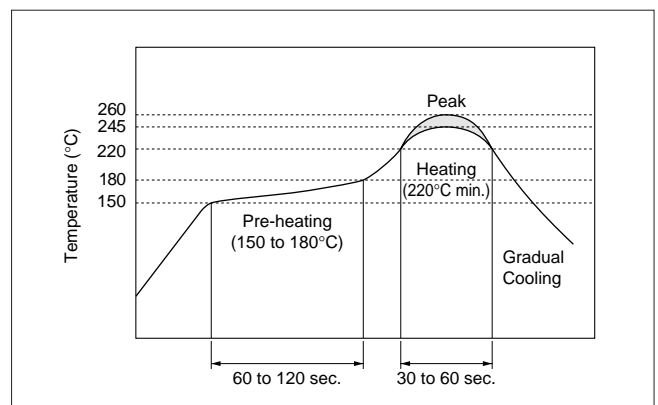
Do not reuse removed component from a circuit board after soldering.

(5) Condition for Placement Machines

The component is recommended with placement machines with employ optical placement capabilities. The component might be resulted in damage by excessive mechanical force. Please make sure that you have evaluated by using placement machines before going into mass production. Do not use placement machines which utilize mechanical positioning. Please contact Murata for details beforehand.


2. Wash

Some series do not withstand washing.
Please check the list at right before use.



Series	Wash
CSTCC (2.00 - 3.49MHz)	Not Available
CSTCC (3.50 - 3.99MHz)	Available

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(1) Cleaning Solvents

HCFC, Isopropanol, Tap water, Demineralized water,
Cleanthrough750H, Pine alpha 100S, Techno care FRW

(2) Temperature Difference : dT *1

$dT \leq 60^{\circ}\text{C}$ (dT=Component-solvent)

*1 ex. In case the component at $+90^{\circ}\text{C}$ immerses into
cleaning solvent at $+60^{\circ}\text{C}$, then $dT=30^{\circ}\text{C}$.

(3) Conditions

(a) Ultrasonic Wash

1 minute max. in above solvent at $+60^{\circ}\text{C}$ max.
(Frequency: 28kHz, Output: 20W/l)

(b) Immersion Wash

5 minutes max. in above solvent at $+60^{\circ}\text{C}$ max.

(c) Shower or Rinse Wash

5 minutes max. in above solvent at $+60^{\circ}\text{C}$ max.

(4) Drying

5 minutes max. by air blowing at $+80^{\circ}\text{C}$ max.

(5) Others

(a) Total washing time should be within 10 minutes.

(b) The component may be damaged if it is washed with
chlorine, petroleum, or alkali cleaning solvent.

3. Coating

Conformal coating of the component is acceptable.

However, the resin material, curing temperature, and
other process conditions should be evaluated to confirm
stable electrical characteristics are maintained.

■ Notice (Storage and Operating Condition)

1. Product Storage Condition

Please store the products in a room where the
temperature/humidity is stable, and avoid
such places where there are large temperature
changes. Please store the products under the
following conditions:

Temperature: -10 to $+40$ degrees C

Humidity: 15 to 85% R.H.

2. Expiration Date on Storage

Expiration date (Shelf life) of the products is six
months after delivery under the conditions of a
sealed and unopened package. Please use the
products within six months after delivery. If you
store the products for a long time (more than six
months), use carefully because the products may
be degraded in solderability and/or rusty.

Please confirm solderability and characteristics
for the products regularly.

3. Notice on Product Storage

(1) Please do not store the products in a chemical
atmosphere (Acids, Alkali, Bases, Organic gas,
Sulfides and so on), because the characteristics
may be reduced in quality, and/or be degraded in
the solderability due to the storage in a
chemical atmosphere.

(2) Please do not put the products directly on the
floor without anything under them to avoid damp
and/or dusty places.

(3) Please do not store the products in places
such as: in a damp heated place, in a place where
direct sunlight comes in, in a place applying
vibrations.

(4) Please use the products immediately after the
package is opened, because the characteristics
may be reduced in quality, and/or be degraded in
the solderability due to storage under the poor
conditions.

(5) Please do not drop the products to avoid cracking
of ceramic elements.

4. Others

Conformal coating or washing of the component is not
acceptable because it is not hermetically sealed.
Please be sure to consult with our sales representatives
or engineers whenever and prior to using the products.

■ Notice (Rating)

The component may be damaged if excessive
mechanical stress is applied.

■ Notice (Handling)

The component may stop oscillating or oscillate
irregularly under improper circuit conditions.