Notice (Soldering and Mounting)

1.1. Soldering Condition
(1) Reflow
Please mount components on a circuit board by the re-flow soldering.
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

<table>
<thead>
<tr>
<th>Condition</th>
<th>Temperature (°C)</th>
<th>Time (sec.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-heating</td>
<td>150 to 180°C</td>
<td>60 to 120 sec.</td>
</tr>
<tr>
<td>Heating</td>
<td>220°C min.</td>
<td>30 to 60 sec.</td>
</tr>
<tr>
<td>Peak Temperature</td>
<td>245°C min. 260°C max.</td>
<td>5 sec. max.</td>
</tr>
</tbody>
</table>

(2) Soldering Iron
If compelled to mount the component by using soldering iron, please do not directly touch the component with the soldering iron. The component terminals or electrical characteristics may be damaged if excessive thermal stress is applied.

<table>
<thead>
<tr>
<th>Condition</th>
<th>Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-heating</td>
<td>150°C 60 sec.</td>
</tr>
<tr>
<td>Heating of the Soldering Iron</td>
<td>350°C max.</td>
</tr>
<tr>
<td>Watt</td>
<td>30W max.</td>
</tr>
<tr>
<td>Shape of the Soldering Iron</td>
<td>ø3mm max.</td>
</tr>
<tr>
<td>Soldering Time</td>
<td>5 sec. max.</td>
</tr>
<tr>
<td>Solder</td>
<td>Sn-3.0Ag-0.5Cu</td>
</tr>
</tbody>
</table>

1.2. Optimum Solder Amount for Soldering
Please make the solder volume below the height of the substrate. When exceeding the substrate, the damage of sealing part between the metal cap and the substrate may occur.

2. Wash
The component cannot withstand washing.

3. Notice for Mounting
The component is recommended with placement machines employing optical placement capabilities. The component might be damaged by mechanical force depending on placement machine and condition.
Make sure that you have evaluated by using placement machines before going into mass production.
Do not use placement machines employing mechanical positioning.
Please contact Murata for details beforehand.

Continued on the following page
Notice (Storage and Operating Condition)

1. Product Storage Condition
   Please store the products in 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. Expire Date on Storage
   Expire date (Shelf life) of the products is six months after delivery under the conditions of a sealed and an 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 the 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, Sulphides 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 places and/or dusty places.
   (3) Please do not store the products in the places such as: in a damp heated place, in a place where direct sunlight comes in, in 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 condition.
   (5) Please do not drop the products to avoid cracking of crystal element.

4. Others
   Conformal coating or washing of the component is not acceptable.
   Please be sure to consult with our sales representative or engineer whenever and prior to using the products.

Notice (Rating)

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

Notice (Handling)

1. Be sure to provide an appropriate fail-safe function on your product to prevent a second damage that may be caused by the abnormal function or the failure of our product.

2. Please do not use this products in following applications in transportation equipment (vehicles, trains, ships, etc.).
   - (example: engine control, brake control, steering control, body control.)