



Caution - Precautions for use of piezoelectric elements

1. Handling

- (1) When a mechanical shock such as dropping is applied to the piezoelectric element, there is a risk of product function deterioration or destruction of piezoelectric element. Please be careful not to apply excessive mechanical shock such as dropping to the piezoelectric element.
- (2) When a mechanical shock is applied to the piezoelectric element, the electrode part of the element may be charged, resulting in electric shock or damage to electronic components in peripheral circuits such as transistors.
- (3) Pay attention to the polarity when applying a voltage to the piezoelectric element indicating the polarity. It may not work properly.
- (4) Do not apply a voltage exceeding the upper limit voltage to the piezoelectric element. Applying a voltage exceeding the upper limit of use may damage the piezoelectric element. Please contact us for the upper limit voltage.
- (5) Do not apply DC voltage to the piezoelectric element for a long time. When DC voltage is applied for a long time, silver migration may occur, resulting in a decrease in insulation resistance and failure to function.
- (6) When soldering to the electrode part of the piezoelectric element, use solder with silver (4%) within 320 ± 10 °C within 2 seconds. If silver solder is not used, characteristics may deteriorate due to silver erosion.
- (7) Use in the locations listed below may cause product deterioration or failure, so please consider protection.
 - ① Places with a lot of dust
 - ② Places where high temperatures or condensation occurs
 - ③ Place exposed to direct sunlight
 - ④ Places where there is a risk of water leakage or inundation
 - ⑤ Humid place
 - ⑥ Where solvent or solvent vapor may enter
 - ⑦ Places where corrosive gas (H₂S, etc.) may be generated
- (8) When using the piezoelectric element outdoors, please consider waterproofing. It may not work properly.

2. Storing

If stored in the following locations, the product may deteriorate or malfunction. Pay attention to the storage environment.

- ① Places with a lot of dust
- ② Places where high temperatures or condensation occurs
- ③ Place exposed to direct sunlight
- ④ Places where there is a risk of water leakage or inundation
- ⑤ Humid place
- ⑥ Where solvent or solvent vapor may enter
- ⑦ Places where corrosive gas (H₂S, etc.) may be generated

3. Others

- (1) Do not modify, disassemble, or repair the product in order to maintain performance and safety.
- (2) Since the product contains lead that is not subject to RoHS (the main component of piezoelectric ceramics and contained in the glass in the silver electrode), please dispose as industrial waste.
- (3) For details by product, check catalogs and technical documents. Please note that the contents of catalogs and technical documents are subject to change without notice.

The electrical characteristics described in the catalog are guaranteed values when the rated voltage is input under the rated measurement conditions, and, are not guaranteed values within the operating voltage range and operating temperature range.

- (4) Handle with care as excessive force is applied to the ceramics, which can easily break.

Please note that any defects that occur due to failure to observe the precautions described in this document are not covered by the warranty.