

Rating

Do not use the product beyond the rated temperature range and the rated voltage range. If using it beyond this range, characteristics might degrade.

Storage and Operating Condition

1. Product Storage Condition

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

Temperature: -10 to +40°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 condition 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 due to storage under poor conditions.

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, may be degraded in solderability due to storage in a chemical atmosphere.

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

(3) Please do not store the product in places such as in a damp heated place or any place exposed to direct sunlight or excessive vibration.

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

(5) Please be sure to consult with our sales representative or engineer whenever the products are to be used in conditions not listed above.

4. Operating Environment

This product is designed for application in an ordinary environment (normal room temperature, humidity and atmospheric pressure).

Do not use the products in a chemical atmosphere such as chlorine gas, acid or sulfide gas.

Characteristics might degrade by a chemical reaction with the material used in products.

Handling

1. Piezoelectric ceramic is used in this product. Please use care in handling, because ceramic is broken when excessive force is applied.

2. Please do not apply force to the piezoelectric diaphragm from the sound emission hole. If applying force, cracks occur and the sounds might become unstable.

3. Please do not drop the product or apply shock or temperature change to it. If so, the LSI might be destroyed by the charge (surge voltage) generated.

4. Please pay enough attention not to pull lead wire too much because wire may be broken or soldering point may come off.

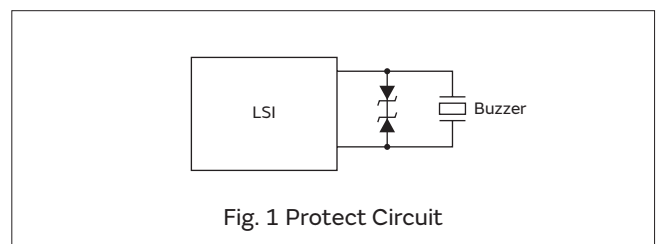


Fig. 1 Protect Circuit

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⚠ Caution · Notice

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Driving

1. When using a piezoelectric buzzer, there is no need to prepare the oscillation circuit; it has an oscillation circuit.
2. Please set the sounding time more than 200 msec., when driving the piezoelectric sounder of self-drive or the piezoelectric buzzer as an intermittent sound.
3. Please don't block the sound emission hole with tape to control the sound volume. The oscillation circuit condition is set so as to obtain a stable sounding (oscillating) state under the condition that the front of sound emission hole is in an open state. If the sound emission hole is blocked with tape, then the oscillation condition changes and the sounds might become unstable.
4. Please don't put a resistor between the oscillation circuit and power supply to control the sound volume of the piezoelectric sounder or the piezoelectric buzzer. Doing so could cause an unstable sounding state like an abnormal oscillation or the oscillation stopping because of the change in oscillation conditions. Please insert a capacitor (about $1\mu\text{F}$) in parallel with the piezoelectric buzzer, if you need to control the sound volume. (Please see Fig. 2)
5. Please keep a distance of more than 15mm between the surface of sound emission hole and the surface of housing, when mounting the piezoelectric sounder of self-drive or the piezoelectric buzzer into your set. A shorter distance could cause an unstable sounding state like an abnormal oscillation or the oscillation stopping; because the oscillation conditions change, the acoustics are influenced by reflection.

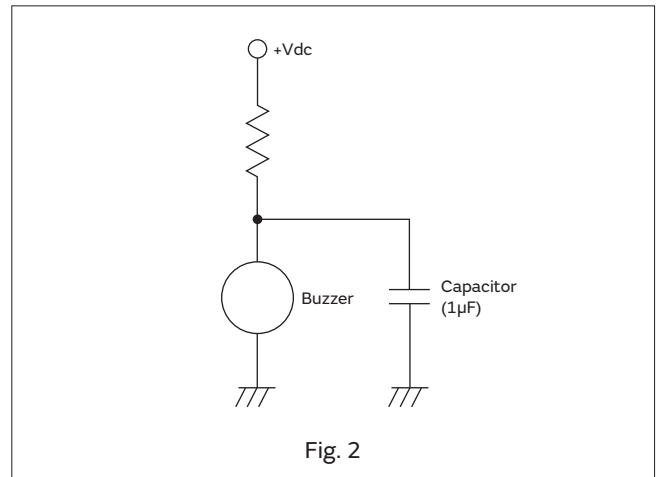


Fig. 2