

Description: piezo audio transducer

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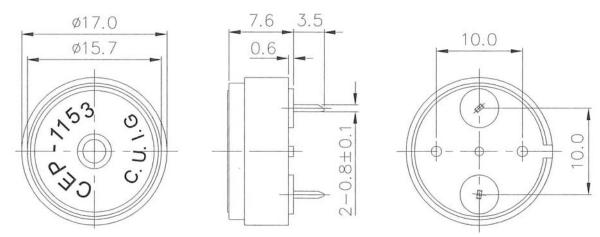


### **Specifications**

| Operating voltage      | 30 Vp-p max.          |                                          |
|------------------------|-----------------------|------------------------------------------|
| Current consumption    | 7 mA max.             | at 10 Vp-p, square wave, 4.0 KHz         |
| Sound pressure level   | 82 db min.            | at 10 cm / 10 Vp-p, square wave, 4.0 KHz |
| Electrostatic capacity | 14,000 pF ±30%        | at 1 KHz / 1 V                           |
| Operating tempurature  | -30 ~ +105° C         |                                          |
| Storage tempurature    | -40 ~ +105° C         |                                          |
| Dimensions             | ø17.0 x H7.6 mm       |                                          |
| Weight                 | 3.4 g max.            |                                          |
| Material               | PBT+15% GF (Black)    |                                          |
| Terminal               | Pin type (Au Plating) |                                          |
| RoHS                   | yes                   |                                          |

## **Appearance Drawing**

Tolerance: ±0.5

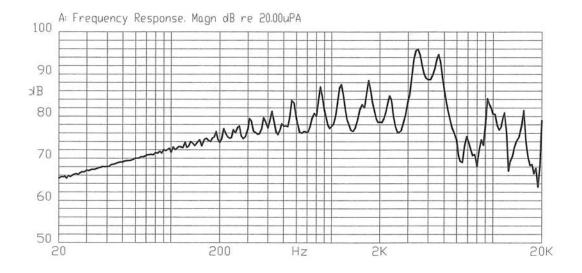




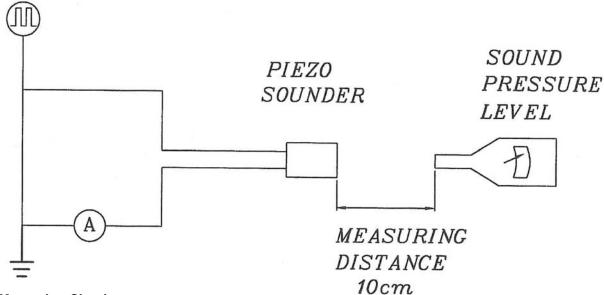
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## **Typical Frequency Response Curve**



## **Measurement Method**



S.P.L. Measuring Circuit Input Signal: 10 Vp-p, 4.0 KHz, Square Wave

Mic: RION S.P.L. meter UC30 or equivalent

S.G.: Hewlett Packard 33120A Function Generator or equivalent



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#### **Mechanical Characteristics**

| ltem                         | Test Condition                                                            | Evaluation Standard               |  |
|------------------------------|---------------------------------------------------------------------------|-----------------------------------|--|
| Solderability                | Lead terminals are immersed in rosin for                                  | 90% min. of the lead terminals    |  |
| -                            | 5 seconds and then immersed in solder bath                                | will be wet with solder.          |  |
|                              | of 270 $\pm$ 5°C for 3 $\pm$ 1 seconds.                                   | (Except the edge of the terminal) |  |
| Soldering Heat Resistance    | Lead terminals are immersed up to 1.5mm from                              |                                   |  |
| -                            | buzzer's body in solder bath of 300 ±5°C for No interference in operation |                                   |  |
|                              | $3 \pm 0.5$ seconds or 260 $\pm 5^{\circ}$ C for 10 $\pm 1$ seconds.      |                                   |  |
| Terminal Mechanical Strength | For 10 seconds, the force of 9.8N (1.0kg) is                              | No damage or cutting off.         |  |
|                              | applied to each terminal in axial direction.                              |                                   |  |
| Vibration                    | The buzzer shall be measured after applying                               | The value of oscillation          |  |
|                              | a vibration amplitude of 1.5 mm with 10 to                                | frequency/current consumption     |  |
|                              | 55 Hz band of vibration frequency to each of                              | should be ±10% of the initial     |  |
|                              | the 3 perpendicular directions for 2 hours.                               | measurements. The SPL should      |  |
| Drop Test                    | The part will be dropped from a height of                                 | be within ±10dB compared with     |  |
|                              | 75 cm onto a 40 mm thick wooden board 3 the initial measurement.          |                                   |  |
|                              | times in 3 axes (X, Y, Z) for a total of 9 drops.                         |                                   |  |

## **Environment Test**

| ltem             | Test Condition                                                                      | Evaluation Standard                                                                                                                                                                                                                                                               |
|------------------|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| High temp. test  | After being placed in a chamber at +105°C for                                       |                                                                                                                                                                                                                                                                                   |
| Low temp. test   | 240 hours.<br>After being placed in a chamber at -40°C for<br>240 hours.            | The buzzer will be measured after<br>being placed at +25°C for 4<br>hours. The value of the<br>oscillation frequency/current<br>consumption should be ±10%<br>compared to the initial<br>measurements. The SPL should<br>be within ±10dB compared to the<br>initial measurements. |
| Humidity test    | After being placed in a chamber at +40°C and 90±5% relative humidity for 240 hours. |                                                                                                                                                                                                                                                                                   |
| Temp. cycle test | The part shall be subjected to 5 cycles. One cycle will consist of:                 |                                                                                                                                                                                                                                                                                   |



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## Reliability Test

| Item                  | Test Condition                                     | Evaluation Standard                                         |
|-----------------------|----------------------------------------------------|-------------------------------------------------------------|
| Operating (Life Test) | 1. Continuous life test:                           | The buzzer will be measured after                           |
|                       | The part will be subjected to 48 hours of          | being placed at +25°C for 4                                 |
|                       | continuous operation at +90°C with rated           | hours. The value of the                                     |
|                       | voltage applied.                                   | oscillation frequency/current<br>consumption should be ±10% |
|                       | 2. Intermittent life test:                         | compared to the initial                                     |
|                       | A duty cycle of 1 minute on, 1 minute off, a       | measurements. The SPL should                                |
|                       | minimum of 5,000 times at room temp                | be within ±10dB compared to                                 |
|                       | $(+25 \pm 2^{\circ}C)$ with rated voltage applied. | the initial measurements.                                   |

#### **Test Conditions**

| Standard Test Condition  | a) Tempurature: +5 ~ +35°C | b) Humidity: 45 - 85% | c) Pressure: 860-1060 mbar |
|--------------------------|----------------------------|-----------------------|----------------------------|
| Judgement Test Condition | a) Tempurature: +25 ±2°C   | b) Humidity: 60 - 70% | c) Pressure: 860-1060 mbar |

# Packaging

