



Part No: CEP-1152

Description: piezo audio transducer

Date: 9/18/2006

Unit: mm

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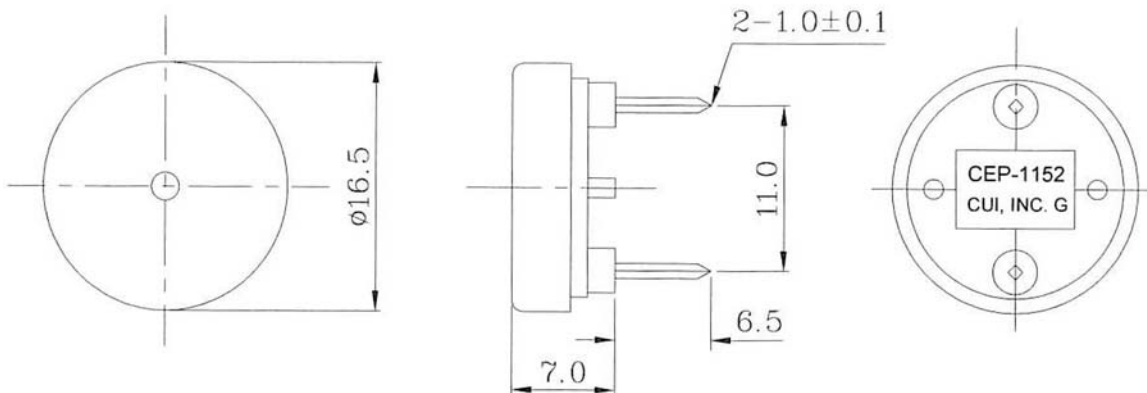


Specifications

| | | |
|------------------------|----------------------------|--|
| Operating voltage | 30 Vp-p max. | |
| Current consumption | 9 mA max. | at 10 Vp-p, square wave, 5.0 KHz |
| Sound pressure level | 84 db min. | at 10 cm / 10 Vp-p, square wave, 5.0 KHz |
| Electrostatic capacity | 11,000 pF \pm 30% | at 1KHz / 1 V |
| Operating temperature | -30 ~ +85° C | |
| Storage temperature | -40 ~ +95° C | |
| Dimensions | ϕ 16.5 x H7.0 mm | |
| Weight | 1.0 g max. | |
| Material | ABS UL-94 1/16" HB (Black) | |
| Terminal | Pin type (Sn Plating) | |
| RoHS | yes | |

Appearance Drawing

Tolerance: \pm 0.5





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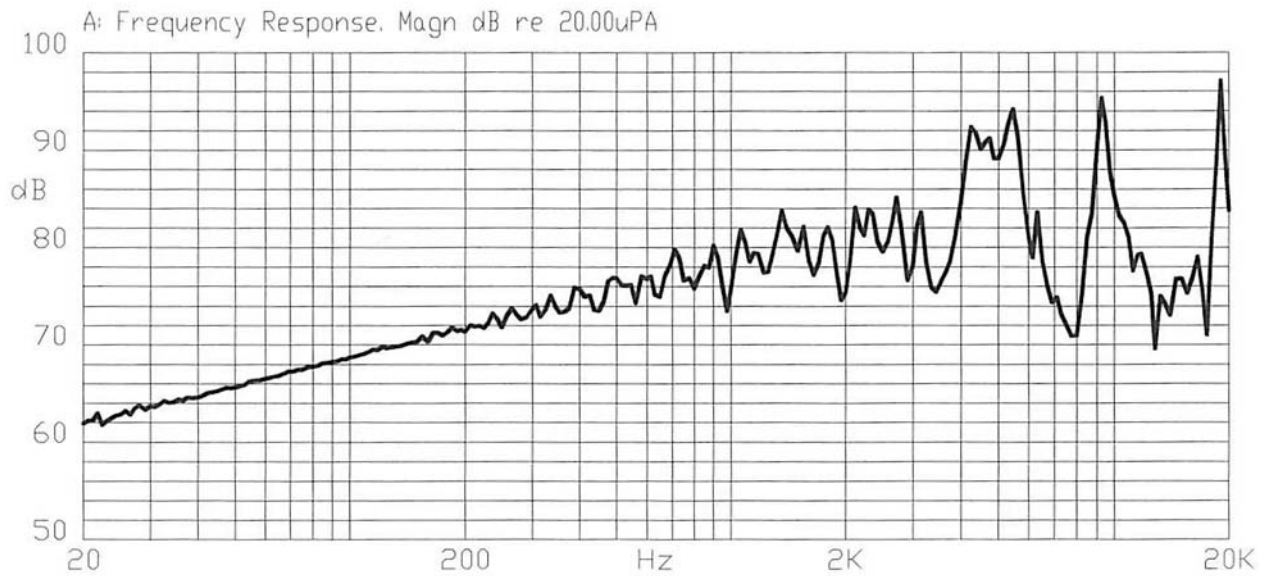
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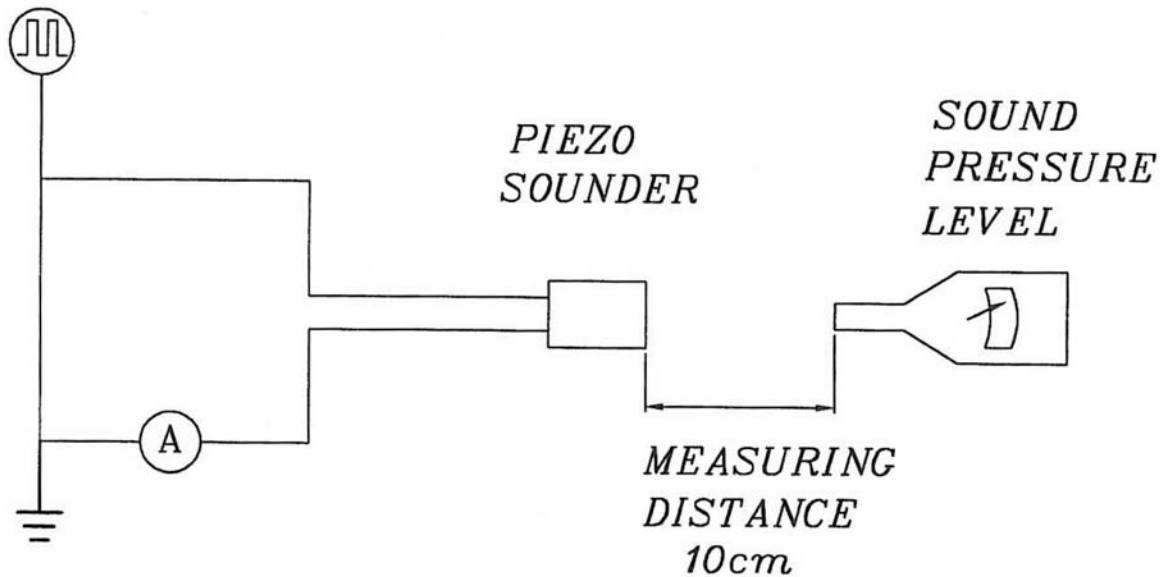
Typical Frequency Response Curve



Measurement Method

S.P.L. Measuring Circuit

Input Signal: 10Vp-p, 5.0kHz, Square Wave



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

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



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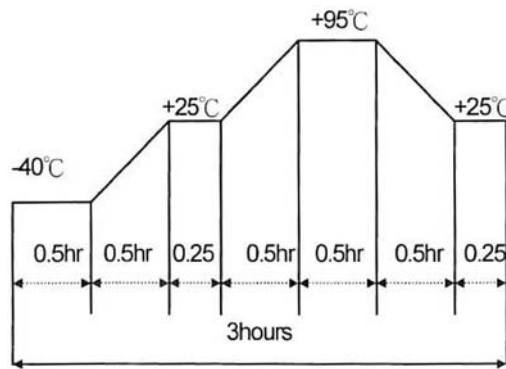
Mechanical Characteristics

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

Notes: 1. Not recommended for wave soldering

Environment Test

| Item | Test Condition | Evaluation Standard |
|------------------|---|---|
| High temp. test | After being placed in a chamber at +95°C for 240 hours. | The buzzer will be measured after being placed at +25°C for 4 hours. The value of the oscillation frequency/current consumption should be ±10% compared to the initial measurements. The SPL should be within ±10dB compared to the initial measurements. |
| Low temp. test | After being placed in a chamber at -40°C for 240 hours. | |
| 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 part will be subjected to 48 hours of continuous operation at +70°C with rated voltage applied. 2. Intermittent life test: A duty cycle of 1 minute on, 1 minutes off, a minimum of 5,000 times at room temp (+25 ±2°C) with rated voltage applied. | The buzzer will be measured after being placed at +25°C for 4 hours. The value of the oscillation frequency/current consumption should be ±10% compared to the initial measurements. The SPL should be within ±10dB compared to the initial measurements. |

Test Conditions

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



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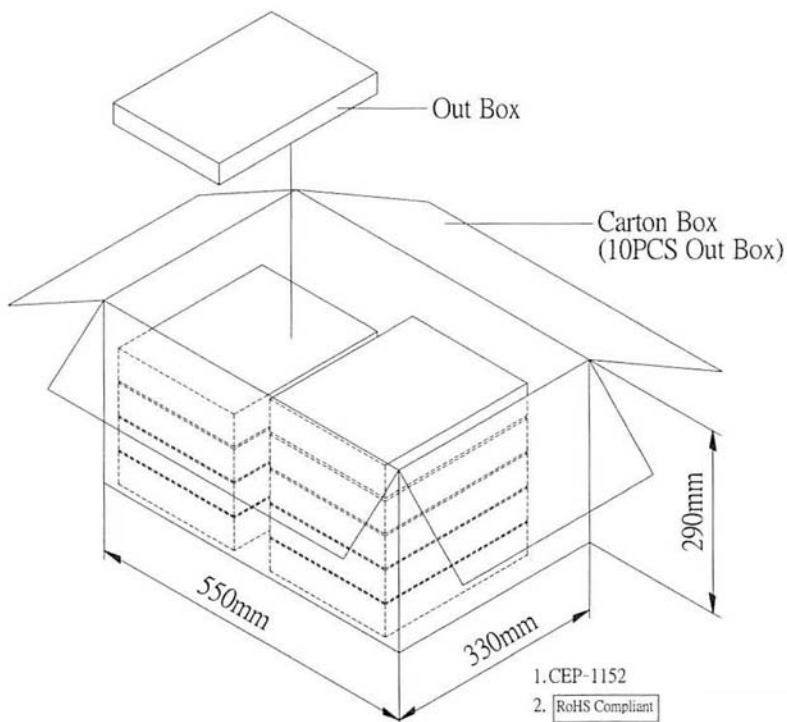
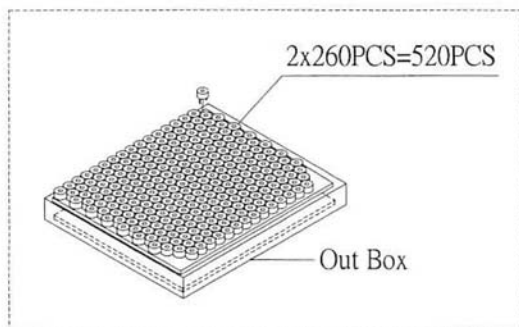
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Packaging



| | | |
|------------|-------------------|--------------------|
| Out Box | 310mmx248mmx49mm | 2x260PCS=520PCS |
| Carton Box | 550mmx330mmx290mm | 520PCSx10=5,200PCS |