



Part No: CEP-1130

Description: piezo audio transducer

Date: 9/18/2006

Unit: mm

Page No: 1 of 5

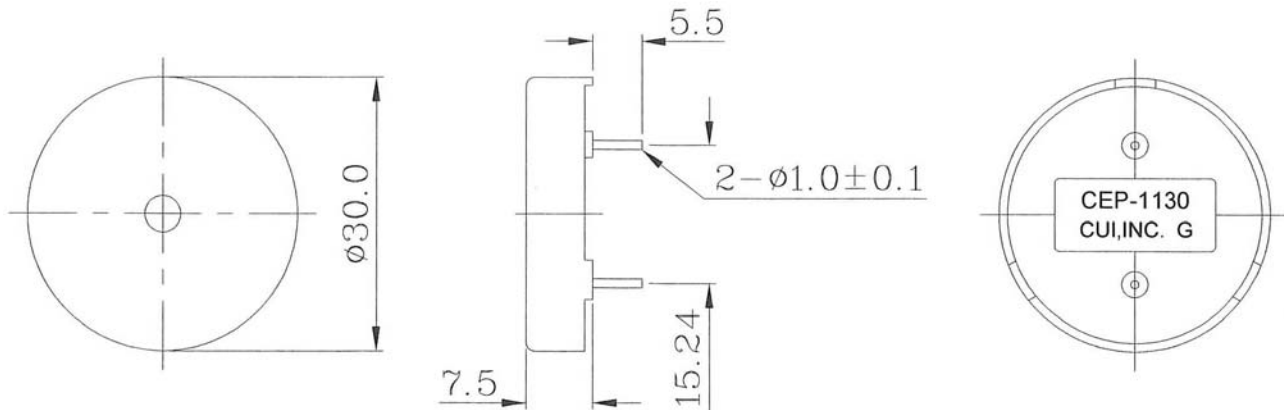


### Specifications

|                           |                                      |  |
|---------------------------|--------------------------------------|--|
| Operating voltage         | 30 Vp-p max.                         |  |
| Current consumption       | 10 mA max.                           | at 10 Vp-p, square wave, 3.0 KHz         |
| Sound pressure level      | 90 db min.                           | at 10 cm / 10 Vp-p, square wave, 3.0 KHz |
| Electrostatic capacitance | 18,000 pF ±30%                       | at 1 KHz / 1 V                           |
| Operating temperature     | -30 ~ +80° C                         |  |
| Storage temperature       | -40 ~ +80° C                         |  |
| Dimensions                | ø30.0 x H7.5 mm                      |  |
| Weight                    | 4.4 g max.                           |  |
| Material                  | ABS UL-94 1/16" HB High Heat (Black) |  |
| Terminal                  | Pin type (Sn Plating)                |  |
| RoHS                      | yes                                  |  |

### Appearance Drawing

Tolerance: ±0.5





Part No: CEP-1130

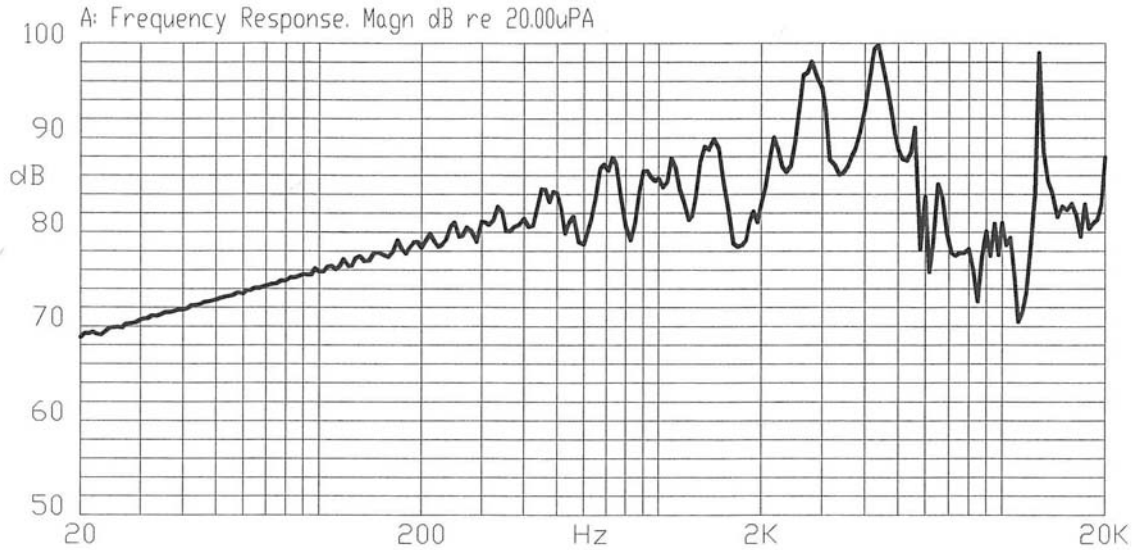
Description: piezo audio transducer

Date: 9/18/2006

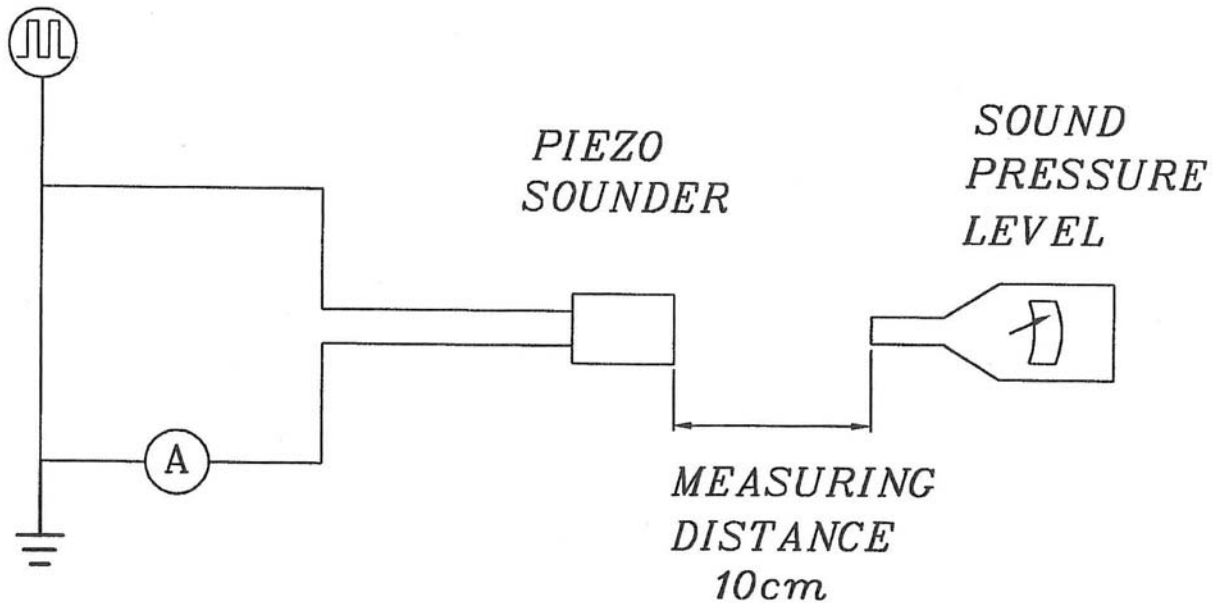
Unit: mm

Page No: 2 of 5

### Typical Frequency Response Curve



### Measurement Method



S.P.L. Measuring Circuit  
Input Signal: 10 V p-p, 3.0 KHz, Square Wave  
Mic: RION UC 30  
S.G.: Hewlett Packard 33120A Function Generator or equivalent



Part No: CEP-1130

Date: 9/18/2006

Unit: mm

Description: piezo audio transducer

Page No: 3 of 5

## Mechanical Characteristics

| Item                         | Test Condition   | Evaluation Standard  |
|------------------------------|--|--|
| Solderability <sup>1</sup>   | 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 for 3 ±0.5 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 should 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 +80°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:                 |   |



**Part No: CEP-1130**

**Description: piezo audio transducer**

**Date: 9/18/2006**

**Unit: mm**

**Page No: 4 of 5**

**Reliability Test**

| <b>Item</b>           | <b>Test Condition</b>   | <b>Evaluation Standard</b>  |
|-----------------------|---|---|
| Operating (Life Test) | 1. Continuous life test:<br>The part will be subjected to 250 hours of continuous operation at +80°C with rated voltage applied.<br><br>2. Intermittent life test:<br>A duty cycle of 1 minute on, 5 minutes off, a minimum of 10,000 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 |



Part No: CEP-1130

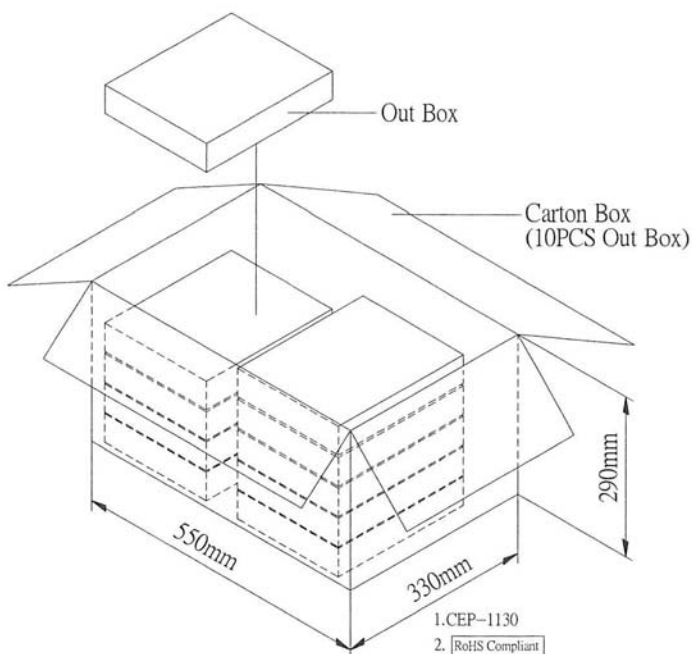
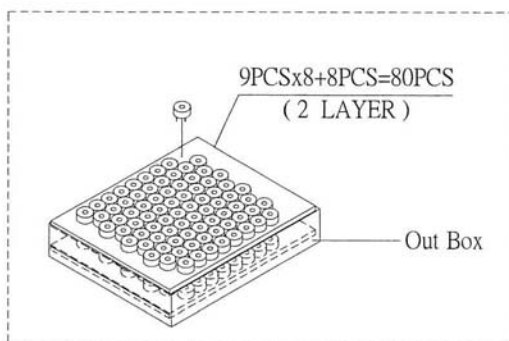
Date: 9/18/2006

Unit: mm

Description: piezo audio transducer

Page No: 5 of 5

**Packaging**



|            |                   |                    |
|------------|-------------------|--------------------|
| Out Box    | 310mmx248mmx49mm  | 2x80PCS=160PCS     |
| Carton Box | 550mmx330mmx290mm | 160PCSx10=1,600PCS |