



**PART NUMBER:** CPE-163

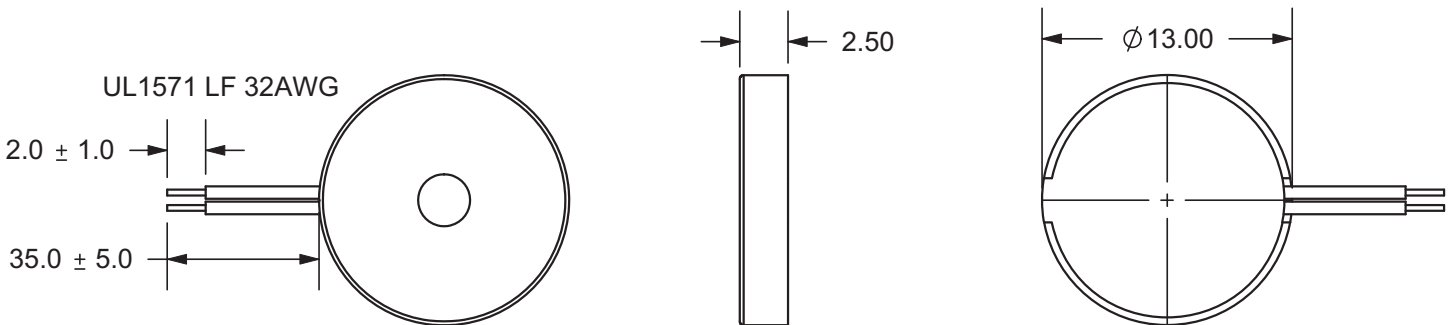
**DESCRIPTION:** piezo audio transducer

**SPECIFICATONS**

|                        |                                      |                                       |
|------------------------|--------------------------------------|---------------------------------------|
| operating voltage      | 30 Vp-p max.                         |                                       |
| current consumption    | 10 mA max.                           | at 10 Vp-p, sqare wave, 4.8 KHz       |
| sound pressure level   | 80 db min.                           | at 10 cm/10 Vp-p, sqare wave, 4.8 KHz |
| electrostatic capacity | 14,000 ± 30%                         | at 1 KHz/1 V                          |
| operating temperature  | -30 ~ +85° C                         |                                       |
| storage temperature    | -40 ~ +95° C                         |                                       |
| dimensions             | Ø13.0 x H2.5 mm                      |                                       |
| weight                 | .35 g max.                           |                                       |
| material               | ABS UL-94 1/16" HB high heat (black) |                                       |
| terminal               | wire type                            |                                       |
| RoHS                   | yes                                  |                                       |

**APPEARANCE DRAWING**

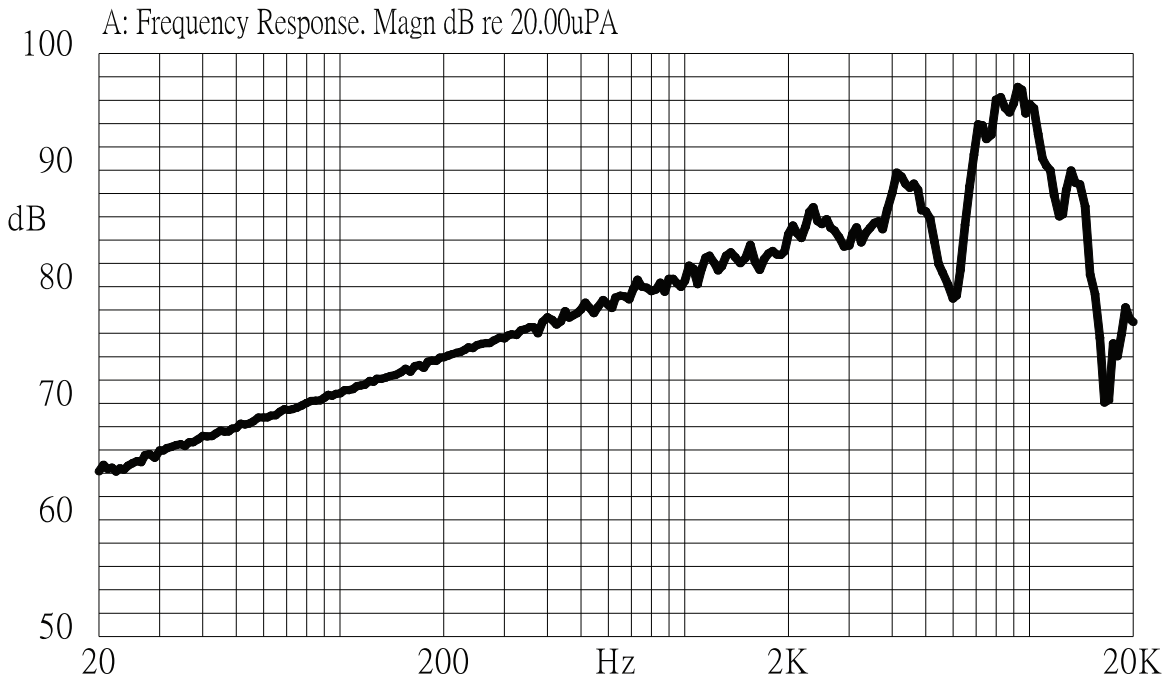
tolerance: ±0.5  
units: mm



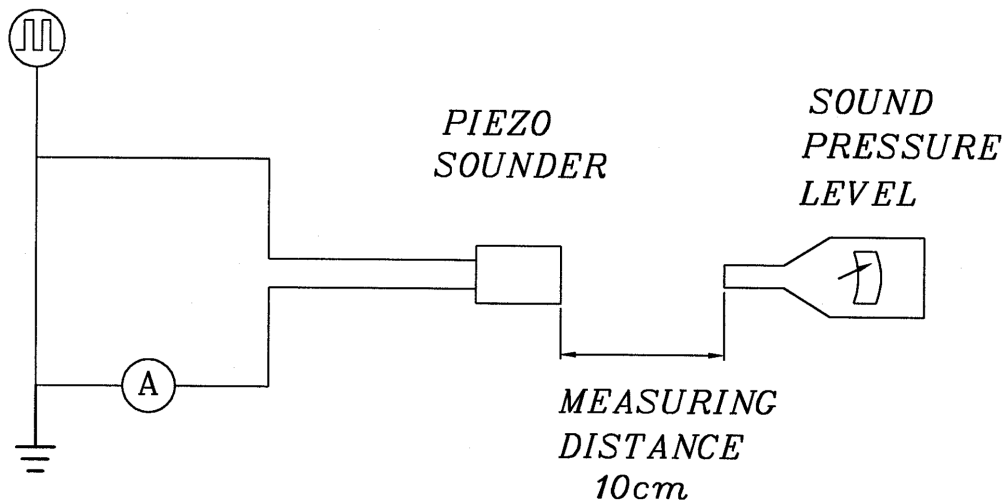
**PART NUMBER:** CPE-163

**DESCRIPTION:** piezo audio transducer

### FREQUENCY RESPONSE CURVE



### MEASUREMENT METHOD



S.P.L. Measuring Circuit  
Input Signal: 10 Vp-p, 4.8 KHz, square wave  
Mic: RION S.P.L. meter UC30 or equivalent  
S.G.: Hewlett Packard 33120A function generator or equivalent



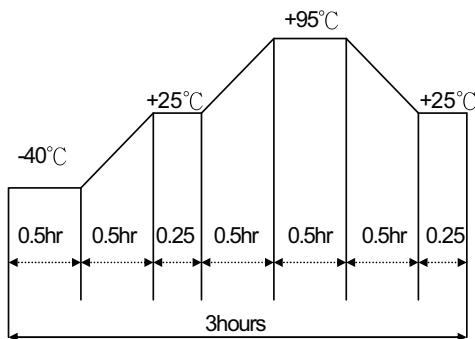
**PART NUMBER:** CPE-163

**DESCRIPTION:** piezo audio transducer

**MECHANICAL CHARACTERISTICS**

| item                      | test condition  | evaluation standard  |
|---------------------------|---|--|
| solderability             | Stripped wires are immersed in rosin for 5 seconds and then immersed in solder bath of 230 ±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 | Stripped wires are immersed up to 1.5mm from buzzer's body in solder bath of 300 ±5°C for 3 ±0.5 seconds or 260 ±5°C for 10 ±1 seconds.   | No interference in operation.  |
| lead wire pull strength   | The pull force shall be applied to lead wire:<br>Horizontal 3.0N for 30 seconds<br>Vertical 2.0N for 30 seconds   | 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.   |  |

**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:<br><br> |   |

**PART NUMBER:** CPE-163**DESCRIPTION:** piezo audio transducer**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 48 hours of continuous operation at +70°C with rated voltage applied.<br><br>2. Intermittent life test:<br>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. |

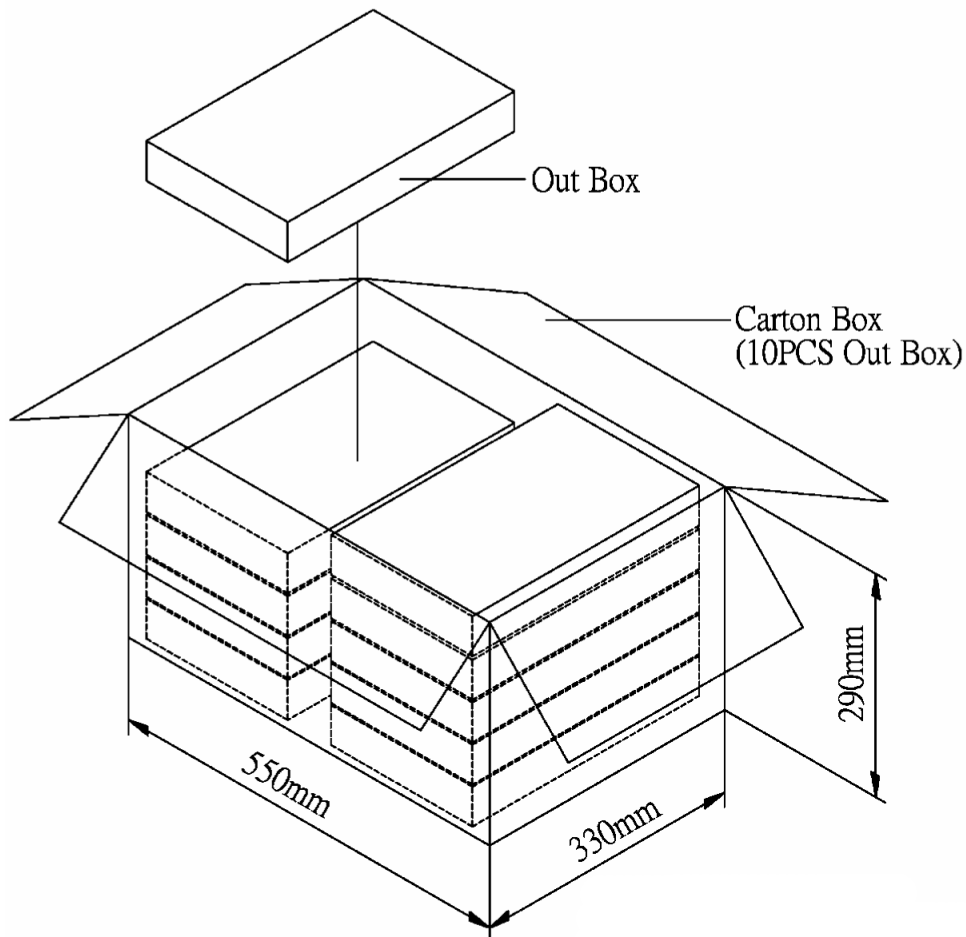
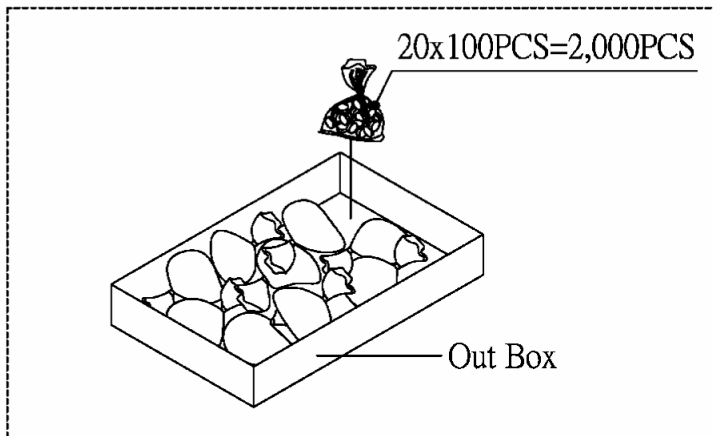
**TEST CONDITIONS**

|                          |                            |                       |                            |
|--------------------------|----------------------------|-----------------------|----------------------------|
| 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 |

**PART NUMBER:** CPE-163

**DESCRIPTION:** piezo audio transducer

**PACKAGING**



|            |                   |                       |
|------------|-------------------|-----------------------|
| Out Box    | 310mmx248mmx49mm  | 20x100PCS=2,000PCS    |
| Carton Box | 550mmx330mmx290mm | 2,000PCSx10=20,000PCS |