

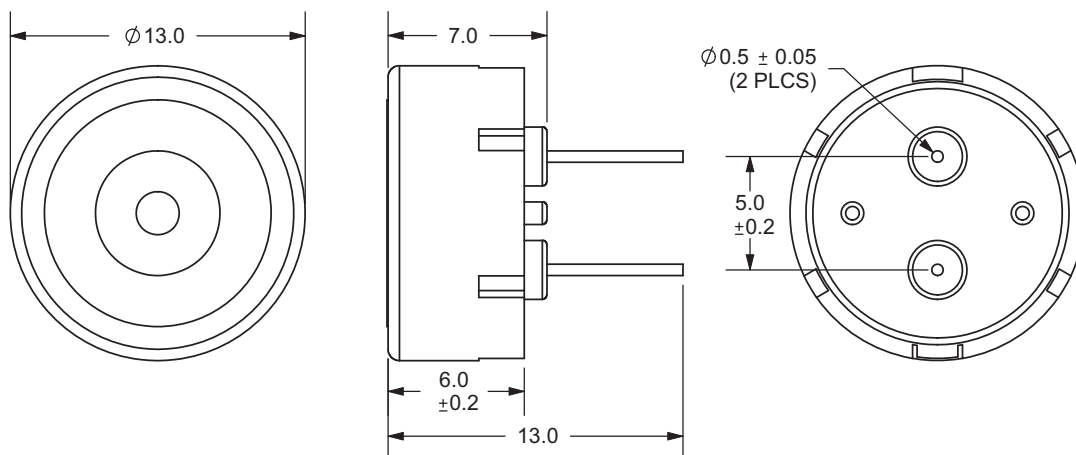
**PART NUMBER:** CPE-168

**DESCRIPTION:** piezo audio transducer

**SPECIFICATONS**

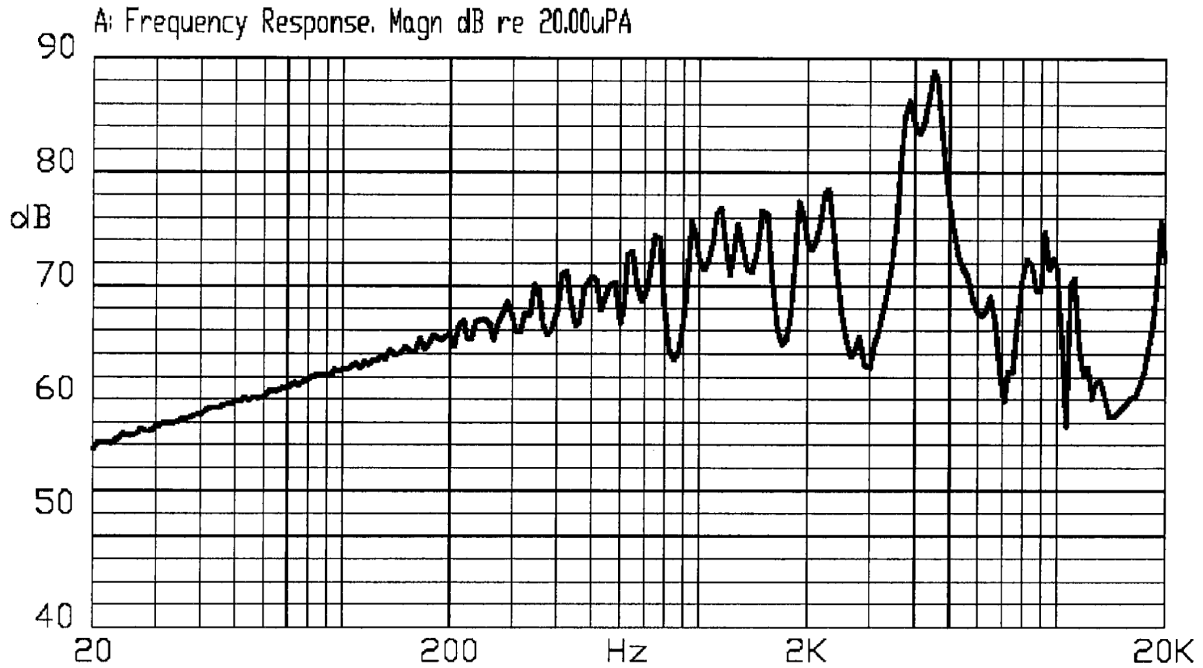
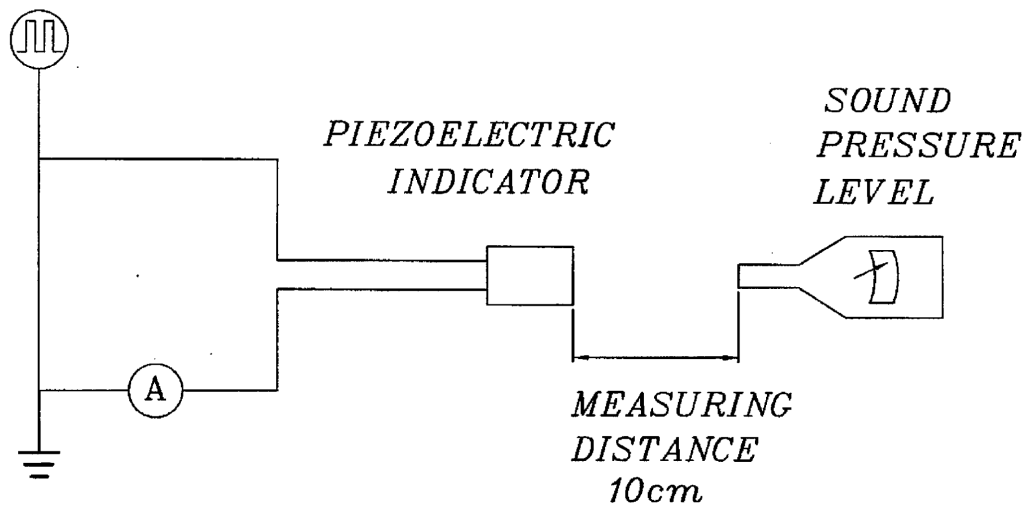
|                        |                       |                                       |
|------------------------|-----------------------|---------------------------------------|
| operating voltage      | 30 Vp-p max.          |                                       |
| current consumption    | 9 mA max.             | at 10 Vp-p, sqare wave, 4.0 KHz       |
| sound pressure level   | 84 db min.            | at 10 cm/10 Vp-p, sqare wave, 4.0 KHz |
| electrostatic capacity | 12,000 ± 30%          | at 120 KHz/1 V                        |
| operating temperature  | -20 ~ +70° C          |                                       |
| storage temprature     | -30 ~ +80° C          |                                       |
| dimensions             | Ø13.0 x H6.0 mm       |                                       |
| weight                 | 0.8 g max.            |                                       |
| material               | PBT (black)           |                                       |
| terminal               | pin type (Sn plating) |                                       |
| RoHS                   | yes                   |                                       |

**APPEARANCE DRAWING**

 tolerance: ±0.5  
 units: mm


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**FREQUENCY RESPONSE CURVE**

**MEASUREMENT METHOD**


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

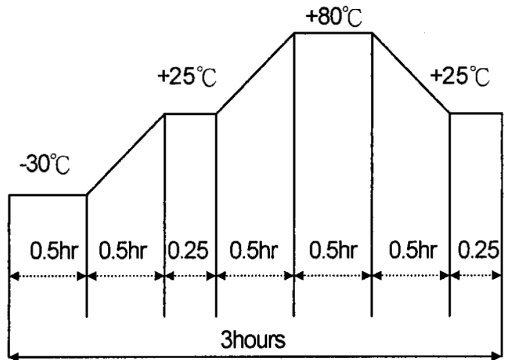
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**MECHANICAL CHARACTERISTICS**

| item                         | test condition  | evaluation standard  |
|------------------------------|---|--|
| solderability                | Lead terminals are immersed in rosin for 5 seconds and then immersed in solder bath of $270 \pm 5^\circ\text{C}$ for $3 \pm 1$ 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 $300 \pm 5^\circ\text{C}$ for $3 \pm 0.5$ seconds or $260 \pm 5^\circ\text{C}$ for $10 \pm 1$ 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 $\pm 10\%$ of the initial measurements. The SPL should be within $\pm 10\text{dB}$ 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 $+80^\circ\text{C}$ for 240 hours.   | The buzzer will be measured after being placed at $+25^\circ\text{C}$ for 4 hours. The value of the oscillation frequency/current consumption should be $\pm 10\%$ compared to the initial measurements. The SPL should be within $\pm 10\text{dB}$ compared to the initial measurements. |
| low temp. test   | After being placed in a chamber at $-30^\circ\text{C}$ for 240 hours.   |   |
| humidity test    | After being placed in a chamber at $+40^\circ\text{C}$ and $90 \pm 5\%$ relative humidity for 240 hours.  |   |
| temp. cycle test | The part shall be subjected to 5 cycles. One cycle will consist of:<br> |   |

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**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 +55°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. |

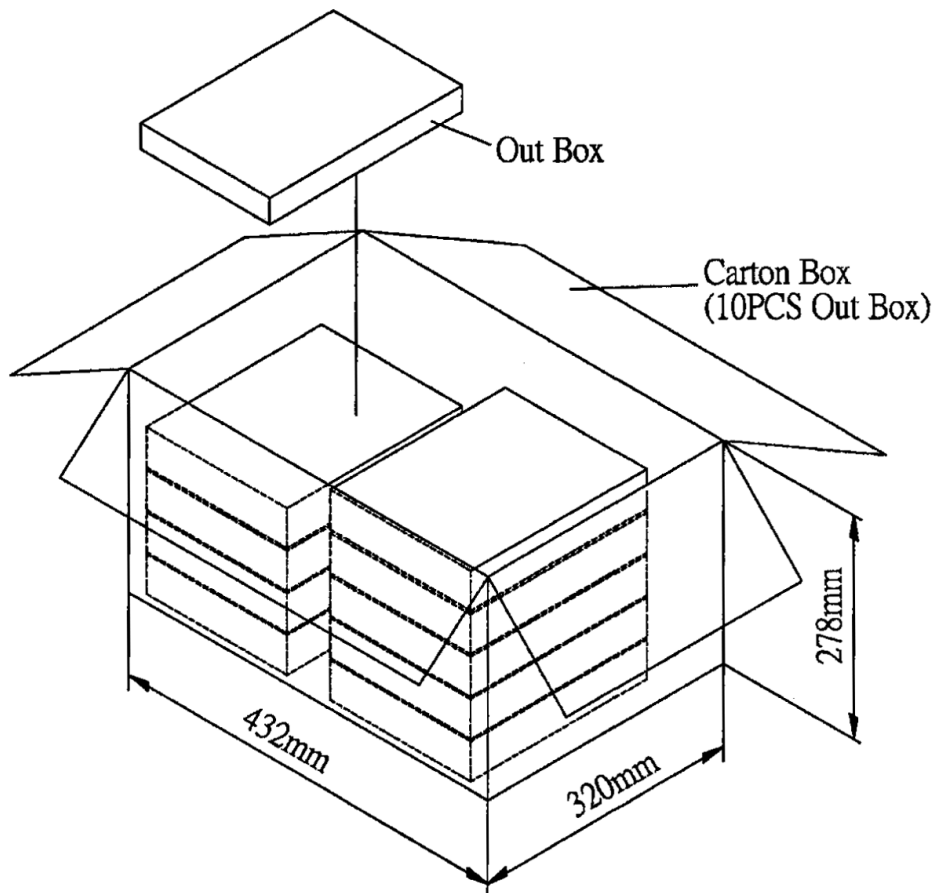
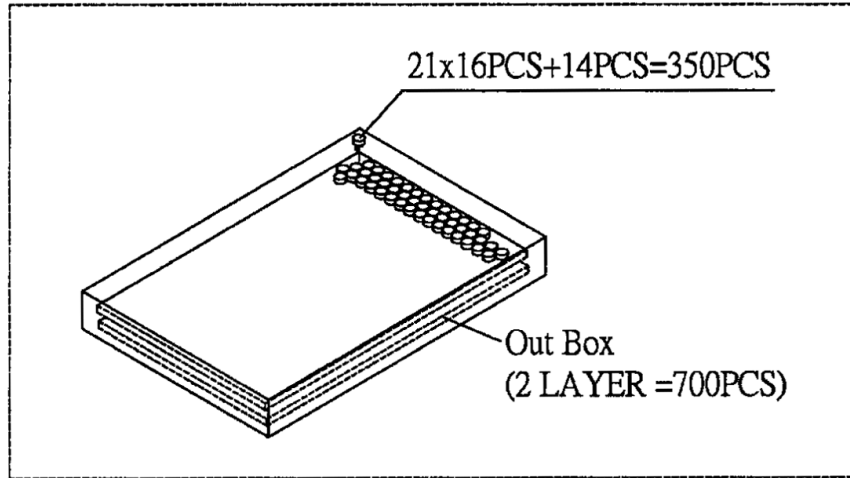
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**TEST CONDITIONS**

|                          |                            |                       |                            |
|--------------------------|----------------------------|-----------------------|----------------------------|
| 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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**PACKAGING**


|            |                  |                    |
|------------|------------------|--------------------|
| Out Box    | 315mmx210mmx50mm | 2x350PCS=700PCS    |
| Carton Box | 432mmx320mmx78mm | 700PCSx10=7,000PCS |