

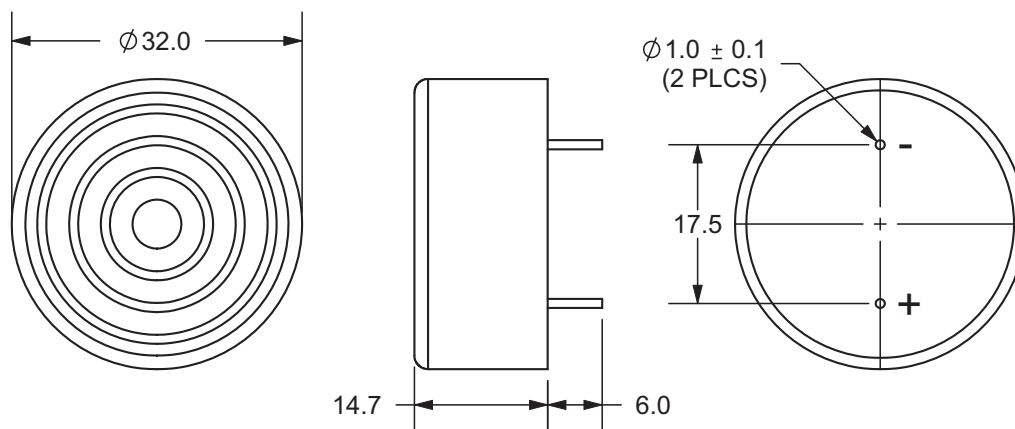
**PART NUMBER:** CPE-276H

**DESCRIPTION:** piezo audio indicators

**SPECIFICATONS**

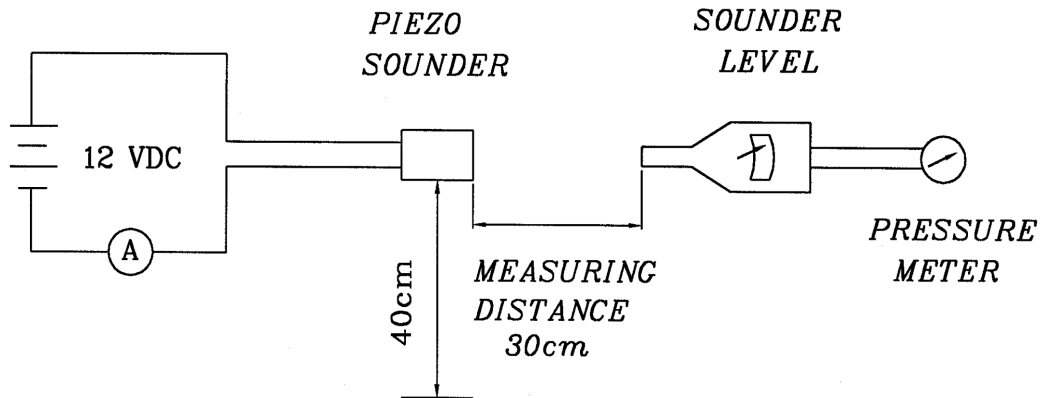
|                         |                                   |                  |
|-------------------------|-----------------------------------|------------------|
| operating frequency     | 3.0 ± 0.5 KHz                     |                  |
| operating voltage range | 8 ~ 18 V DC                       |                  |
| current consumption     | 11 mA max.                        | at 12 V DC       |
| sound pressure level    | 96 db min.                        | at 30 cm/12 V DC |
| rated voltage           | 12 V DC                           |                  |
| tone                    | continuous                        |                  |
| operating temperature   | -30 ~ +80° C                      |                  |
| storage temperature     | -40 ~ +80° C                      |                  |
| dimensions              | Ø32.0 x H14.7 mm                  |                  |
| weight                  | 7.2 g max.                        |                  |
| material                | ABS UL-94 1/16" high heat (black) |                  |
| terminal                | pin type (Sn plating)             |                  |
| RoHS                    | yes                               |                  |

**APPEARANCE DRAWING**

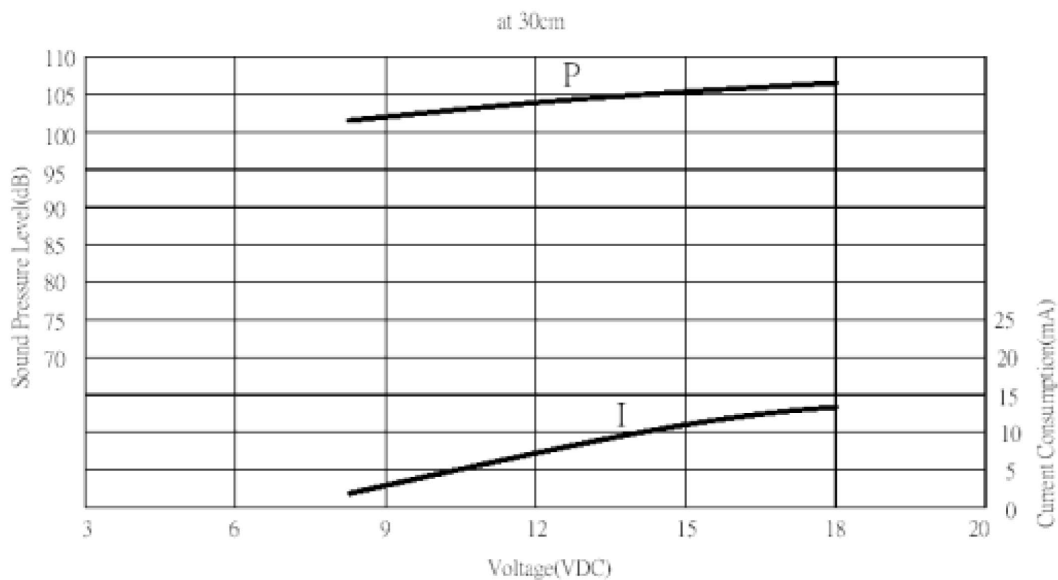
 tolerance: ±0.5  
 units: mm


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**MEASUREMENT METHOD**


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

**CURRENT CONSUMPTION/SOUND PRESSURE LEVEL**


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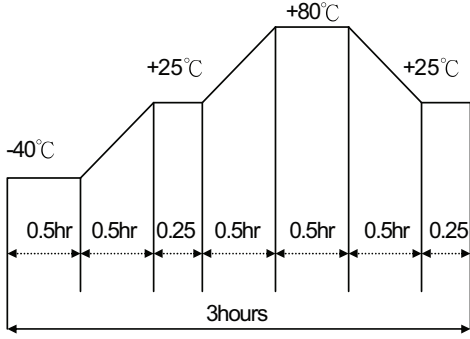
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### MECHANICAL CHARACTERISTICS

| 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 strength pulling | For 10 seconds, the force of 300g 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 $-40^\circ\text{C}$ 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:                                      |   |



The diagram illustrates a temperature cycle over a total duration of 3 hours. The cycle starts at  $-40^\circ\text{C}$  for 0.5 hours. It then ramps up to  $+25^\circ\text{C}$  over 0.5 hours, stays at  $+25^\circ\text{C}$  for 0.25 hours, ramps up to  $+80^\circ\text{C}$  over 0.5 hours, stays at  $+80^\circ\text{C}$  for 0.5 hours, ramps down to  $+25^\circ\text{C}$  over 0.5 hours, and finally stays at  $+25^\circ\text{C}$  for 0.25 hours. The total cycle time is 3 hours.

**PART NUMBER:** CPE-276H**DESCRIPTION:** piezo audio indicators**RELIABILITY TEST**

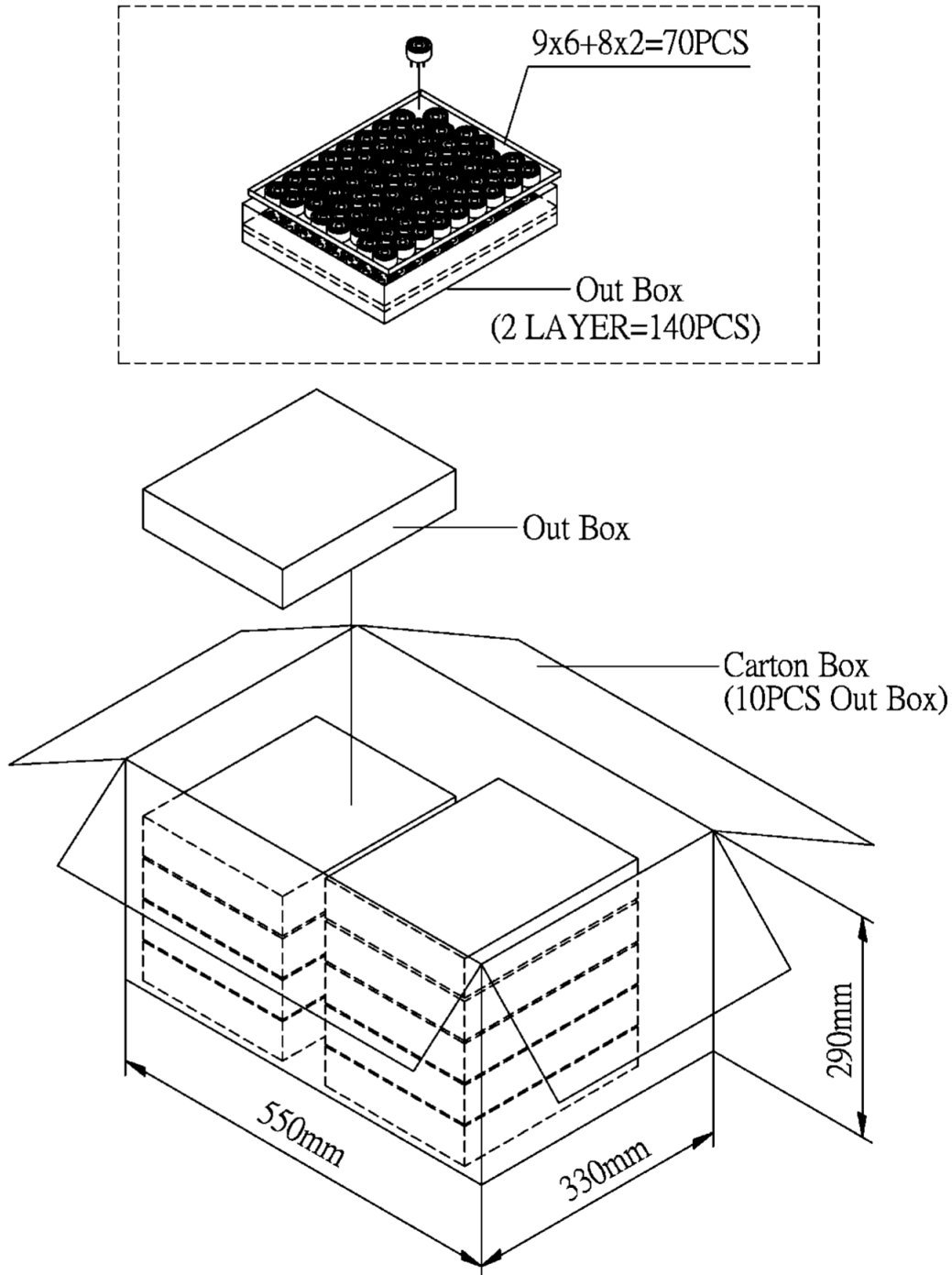
| <b>item</b>           | <b>test condition</b>  | <b>evaluation standard</b>  |
|-----------------------|--|---|
| operating (life test) | <p>1. Continuous life test:<br/>The part will be subjected to 48 hours of continuous operation at +65°C with rated voltage applied.</p> <p>2. Intermittent life test:<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.</p> | 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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**PACKAGING**


|            |                   |                    |
|------------|-------------------|--------------------|
| Out Box    | 310mmx248mmx49mm  | 2x70PCS=140PCS     |
| Carton Box | 550mmx330mmx290mm | 140PCSx10=1,400PCS |