

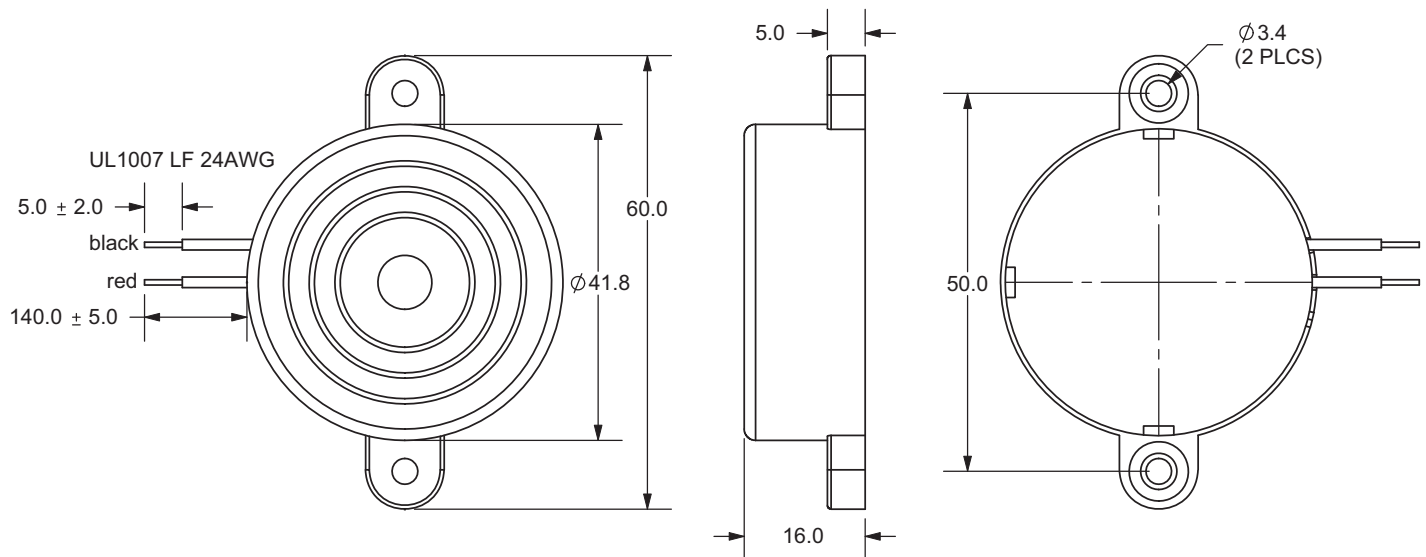
PART NUMBER: CPE-351

DESCRIPTION: piezo audio indicators

SPECIFICATONS

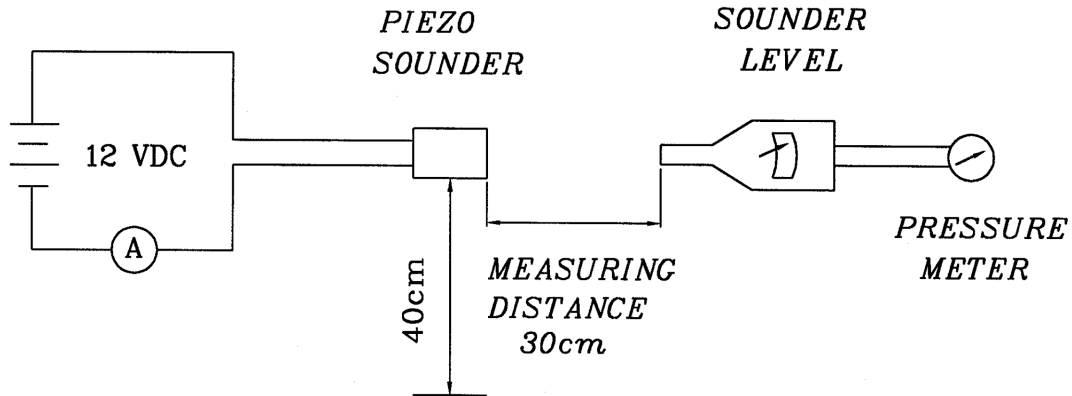
| | |
|-------------------------|-----------------------------------|
| operating frequency | 2.8 ± 0.5 KHz |
| operating voltage range | 3 ~ 28 V DC |
| current consumption | 6 mA max. at 12 V DC |
| sound pressure level | 81 db min. at 30 cm/12 V DC |
| rated voltage | 12 V DC |
| tone | fast pulse (3.5Hz±20%) |
| operating temperature | -30 ~ +85° C |
| storage temperature | -40 ~ +95° C |
| dimensions | Ø41.8 x H16.0 mm |
| weight | 14.6 g max. |
| material | ABS UL-94 1/16" high heat (black) |
| terminal | wire type |
| RoHS | yes |

APPEARANCE DRAWING

 tolerance: ±0.5
 units: mm


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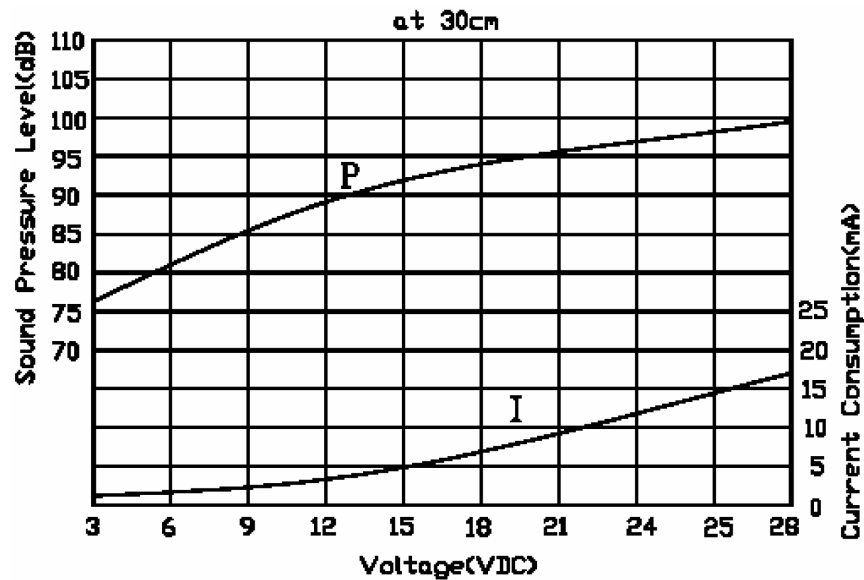
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MEASUREMENT METHOD


S.P.L. Measuring Circuit

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

S.G.: Hewlett Packard 33120A function generator or equivalent

CURRENT CONSUMPTION/SOUND PRESSURE LEVEL


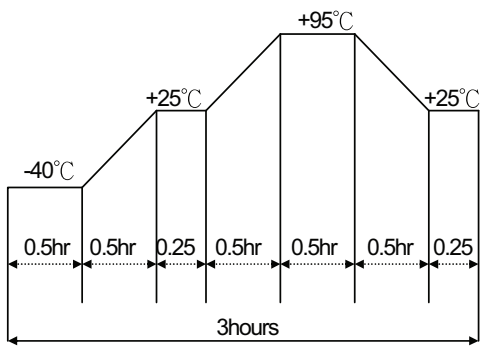
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MECHANICAL CHARACTERISTICS

| item | test condition | evaluation standard |
|-------------------------|---|--|
| solderability | Stripped wires are immersed in rosin for 5 seconds and then immersed in solder bath of $270 \pm 5^\circ\text{C}$ for 3 ± 1 seconds. | 90% min. of the lead terminals will be wet with solder (except the edge of the terminal). |
| lead wire pull strength | The pull force shall be applied to lead wire: Horizontal 3.0N for 30 seconds 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 $\pm 10\%$ 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 $+95^\circ\text{C}$ 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°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:  | |

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RELIABILITY TEST

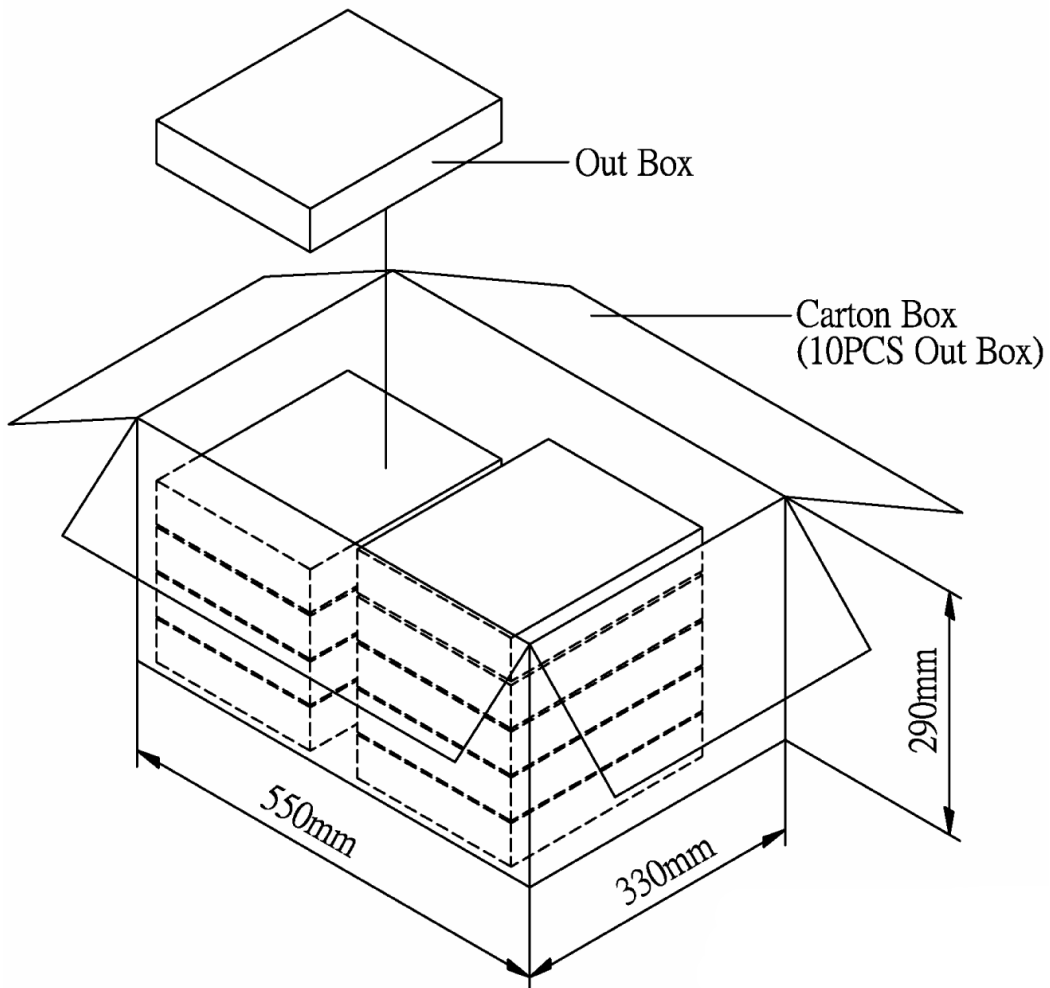
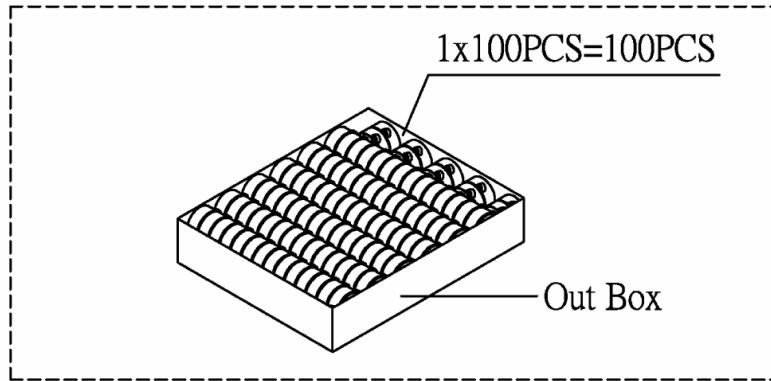
| item | test condition | evaluation standard |
|-----------------------|---|---|
| operating (life test) | 1. Continuous life test: The part will be subjected to 48 hours of continuous operation at +70°C with rated voltage applied. 2. Intermittent life test: A duty cycle of 1 minute on, 1 minutes off, 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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PACKAGING


| | | |
|------------|-------------------|--------------------|
| Out Box | 310mmx248mmx49mm | 1x100PCS=100PCS |
| Carton Box | 550mmx330mmx290mm | 100PCSx10=1,000PCS |