

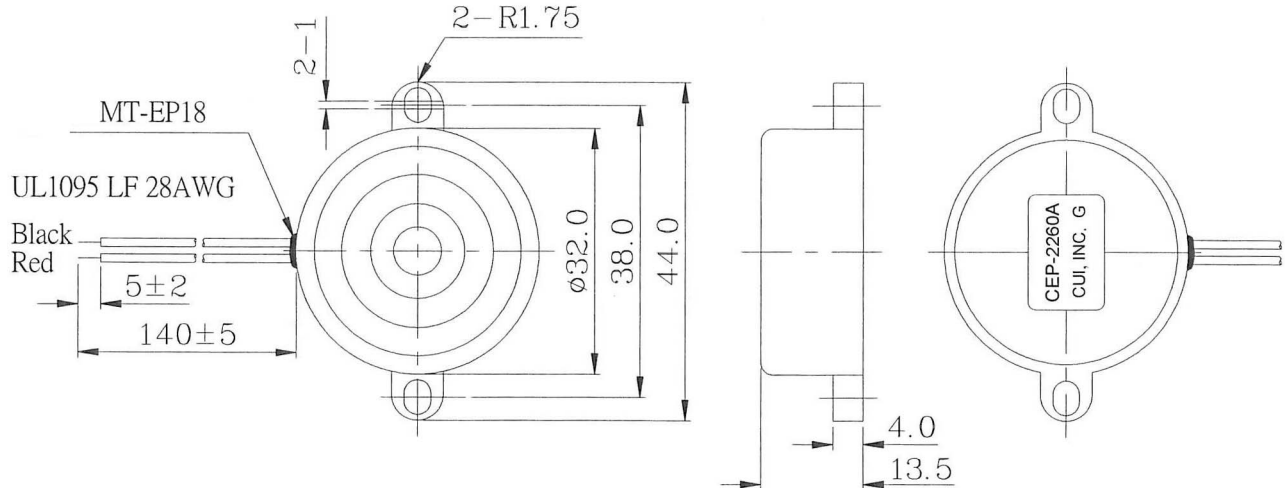


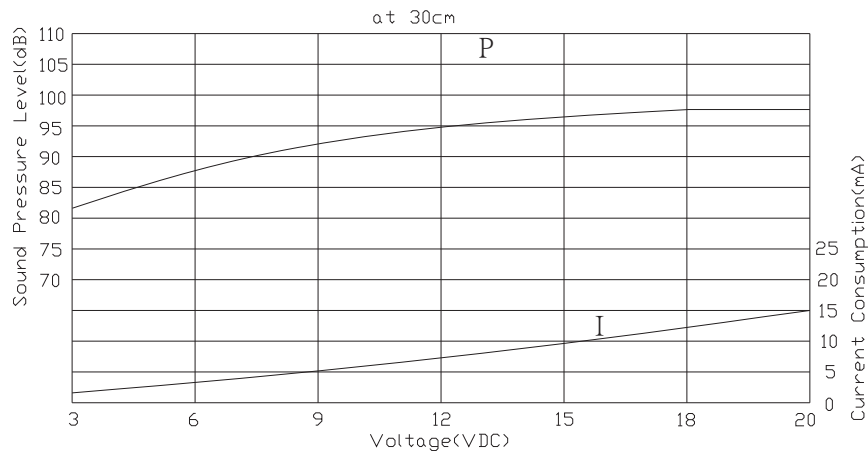
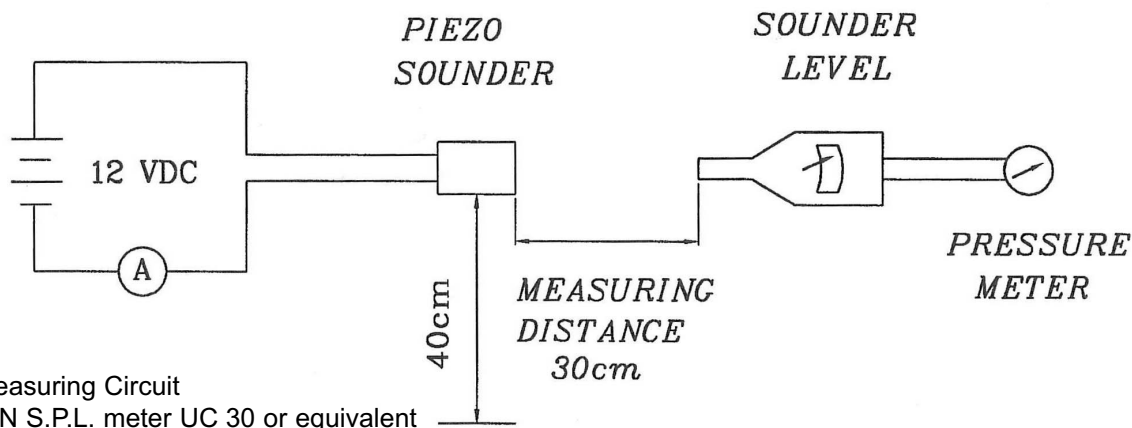
**Specifications**

|                       |                            |                      |
|-----------------------|----------------------------|----------------------|
| Resonant frequency    | 3.5 ± 0.5 KHz              |                      |
| Operating voltage     | 3.0 ~ 20.0 V dc            |                      |
| Current consumption   | 10 mA max.                 | at 12 V dc           |
| Sound pressure level  | 93 db min.                 | at 30 cm / 12 V dc   |
| Rated Voltage         | 12 V dc                    |                      |
| Tone                  | Continuous                 |                      |
| Operating temperature | -30 ~ +85° C               |                      |
| Storage temperature   | -40 ~ +95° C               |                      |
| Dimensions            | ø32.0 x H13.5 mm           | See attached drawing |
| Weight                | 7.7 g max.                 |                      |
| Material              | ABS UL-94 1/16" HB (Black) |                      |
| Terminal              | Wire type                  | See attached drawing |
| RoHS                  | yes                        |                      |

**Appearance Drawing**

Tolerance: ±0.5

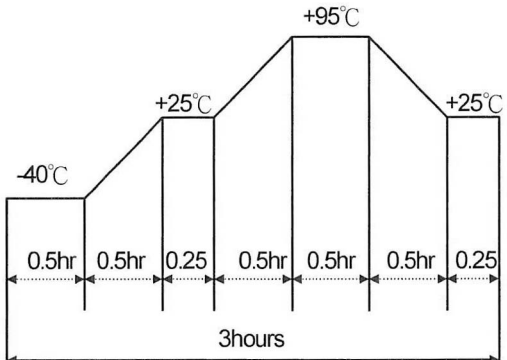


**VOLTAGE: SOUND PRESSURE LEVEL / CURRENT CONSUMPTION**

**Measurement Method**

**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 ±5°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 should be applied to double lead wire:<br>Horizontal 3.0N (0.306kg) for 30 seconds<br>Vertical 2.0N (0.204kg) for 30 seconds                                    | No damage or cutting off.  |
| Vibration               | The buzzer will 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 axis (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 within ±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:                 |  |



**Reliability Test**

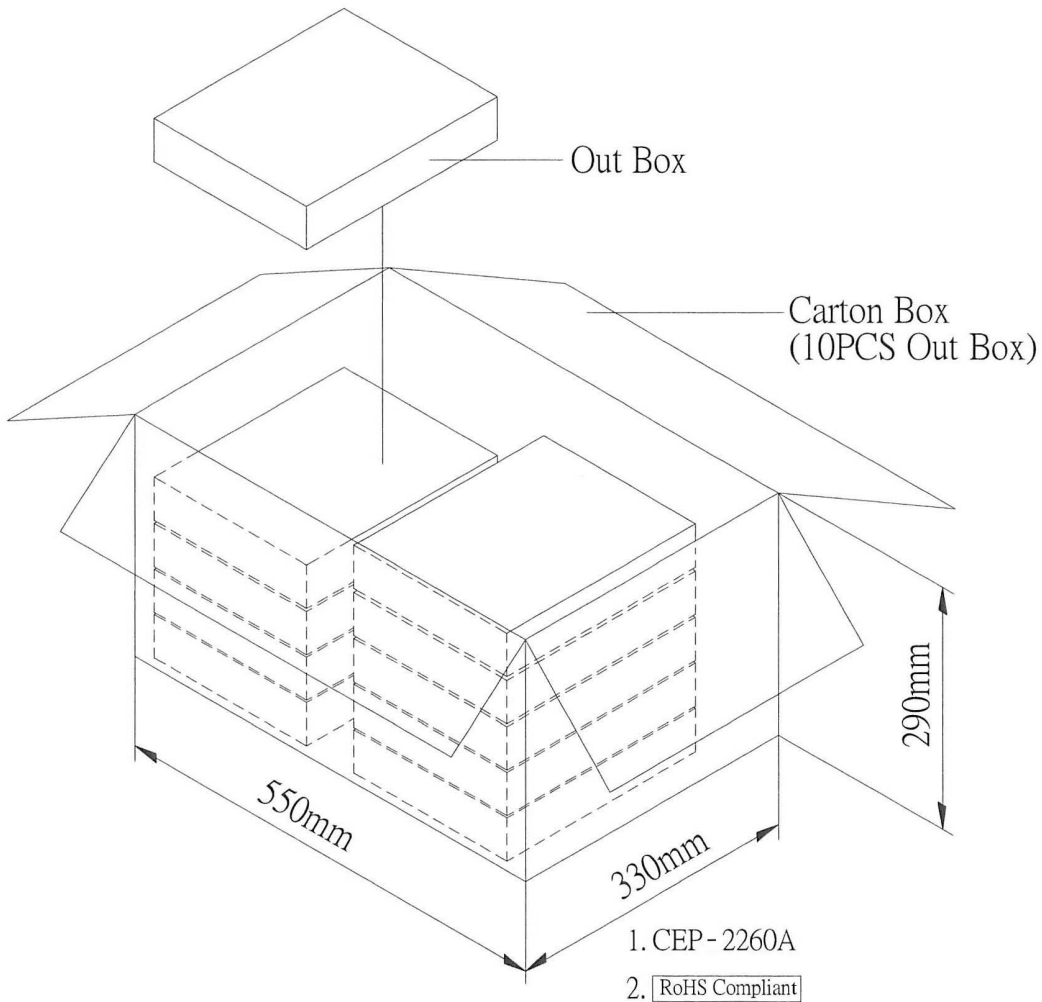
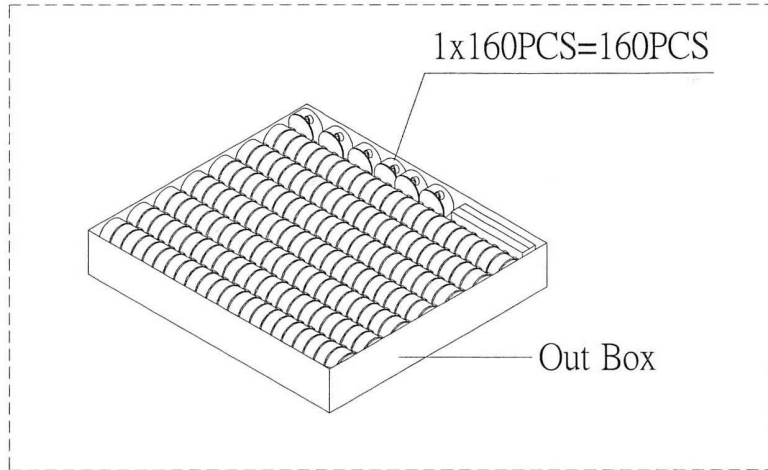
| Item                  | Test Condition   | Evaluation Standard  |
|-----------------------|--|--|
| Operating (Life Test) | <p>1. Continuous life test:<br/>The part will be subjected to 48 hours of continuous operation at +70°C with rated voltage applied.</p> <p>2. Intermittent life test:<br/>A duty cycle of 1 minute on, 1 minute 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 ±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 |



**Packaging**



|            |                   |                   |
|------------|-------------------|-------------------|
| Out Box    | 310mmx248mmx49mm  | 1x160PCS=160PCS   |
| Carton Box | 550mmx330mmx290mm | 160PCSx10=1600PCS |