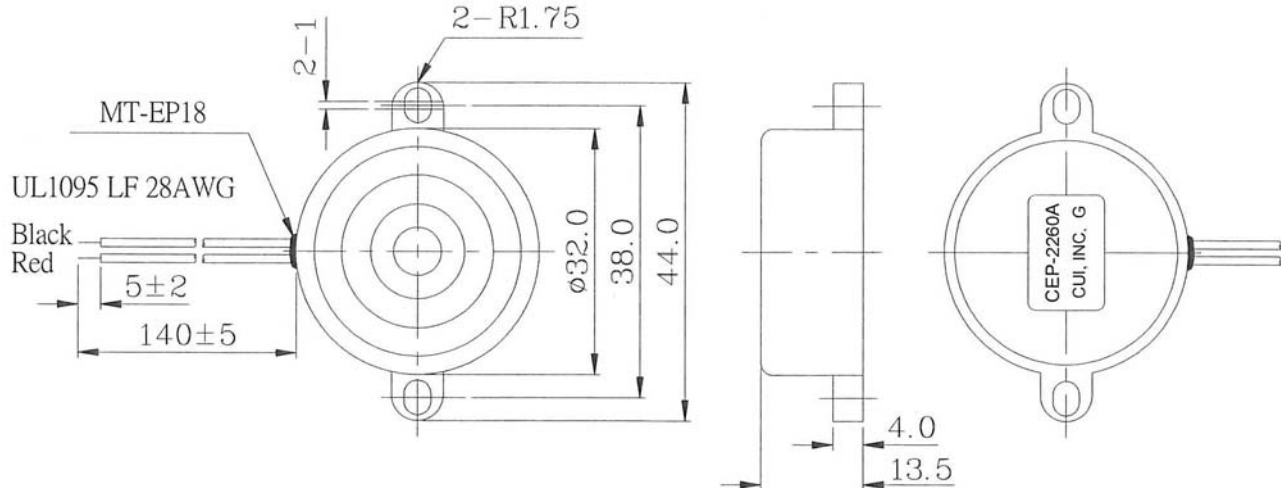


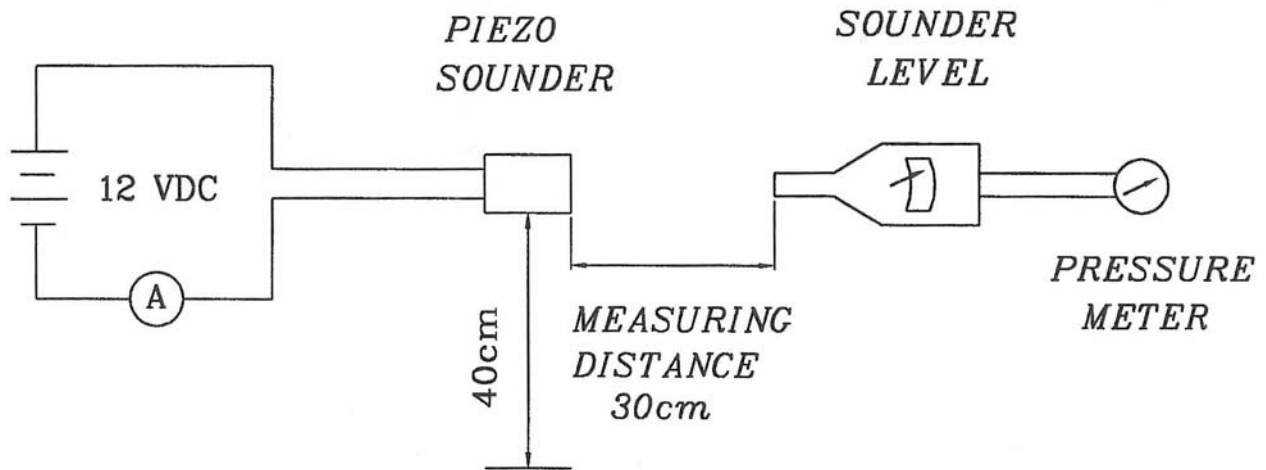

**Specifications**

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



**Measurement Method**


S.P.L. Measuring Circuit

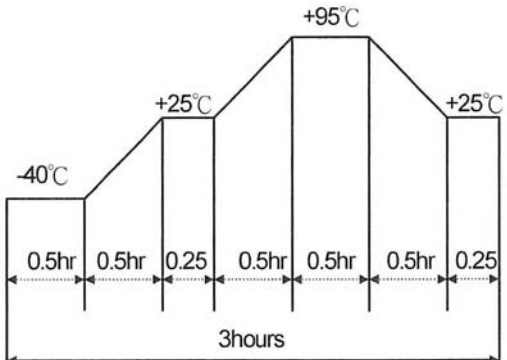
Mic: RION S.P.L. meter UC 30 or equivalent

**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)
Lead Wire Pull Strength	The pull force should be applied to double lead wire: Horizontal 3.0N (0.306kg) for 30 seconds 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 $\pm 10\%$ 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 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 $\pm 10\%$ 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°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 3-hour temperature cycle. It starts at -40°C for 0.5hr, ramps to +25°C in 0.5hr, dwells at +25°C for 0.25hr, ramps to +95°C in 0.5hr, dwells at +95°C for 0.5hr, ramps back to +25°C in 0.5hr, dwells at +25°C for 0.25hr, and finally ramps back to -40°C in 0.5hr. The total cycle duration is 3 hours.

**Reliability Test**

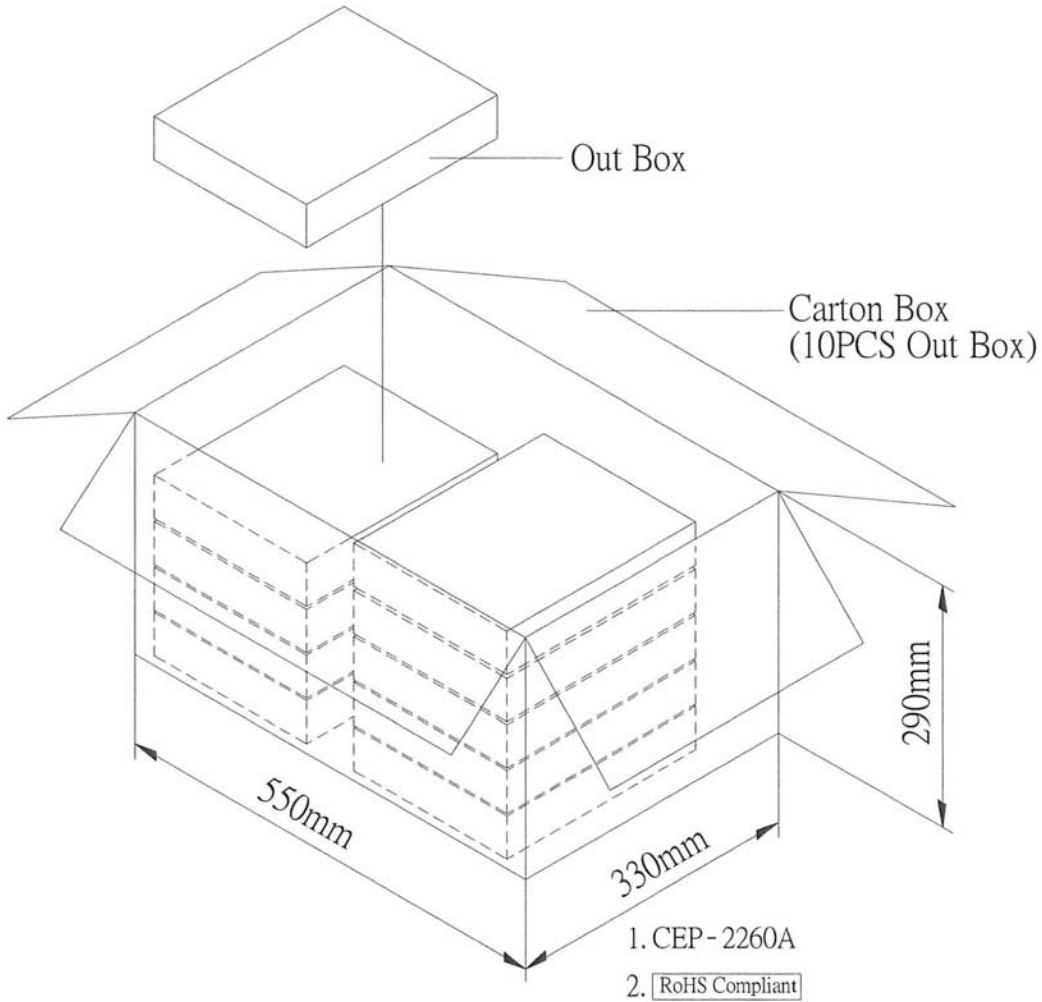
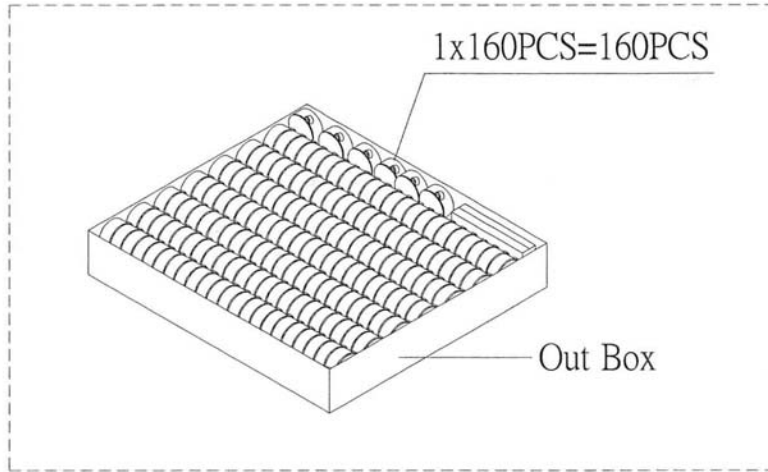
Item	Test Condition	Evaluation Standard
Operating (Life Test)	<p>1. Continuous life test: The part will be subjected to 48 hours of continuous operation at +70°C with rated voltage applied.</p> <p>2. Intermittent life test: A duty cycle of 1 minute on, 1 minute off, a minimum of 5,000 times at room temp (+25<math>\pm</math>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 $\pm 10\%$ compared to the initial measurements. The SPL should be $\pm 10\text{dB}$ 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 $\pm$ 2°C	b) Humidity: 60 - 70%	c) Pressure: 860 - 1060 mbar



**Packaging**



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