

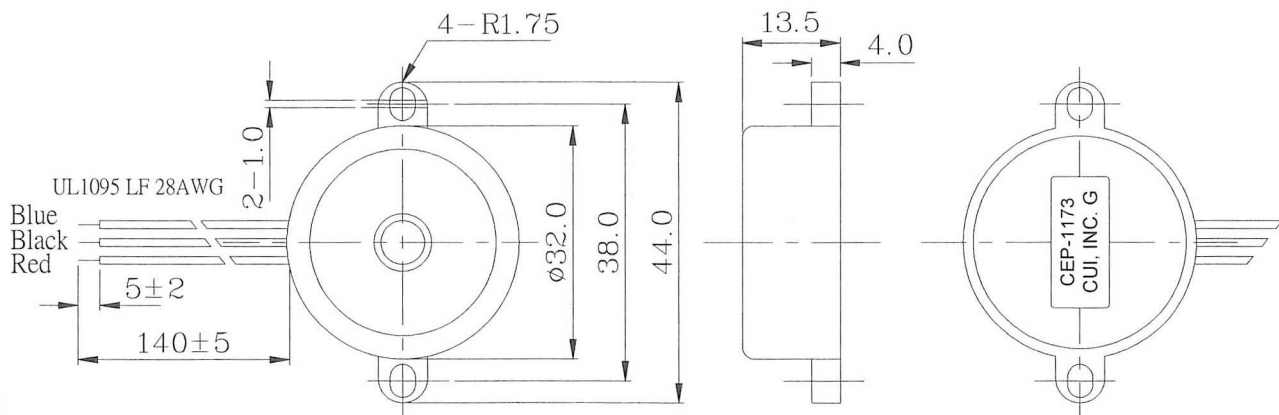


## Specifications

Resonant frequency	3.3 KHz $\pm$ 0.5
Operating voltage	3 ~ 28 V dc
Current consumption	7 mA max. at 12 V dc
Sound pressure level	82 db min. at 30 cm / 12 V dc
Rated voltage	12 V dc
Tone	Continuous
Operating temperature	-30 ~ +80° C
Storage temperature	-40 ~ +95° C
Dimensions	$\phi$ 32.0 x H13.5 mm
Weight	7.4 g max.
Material	ABS UL-94 1/16" HB (Black)
Terminal	Wire type
RoHS	yes

## Appearance Drawing

Tolerance:  $\pm$ 0.5

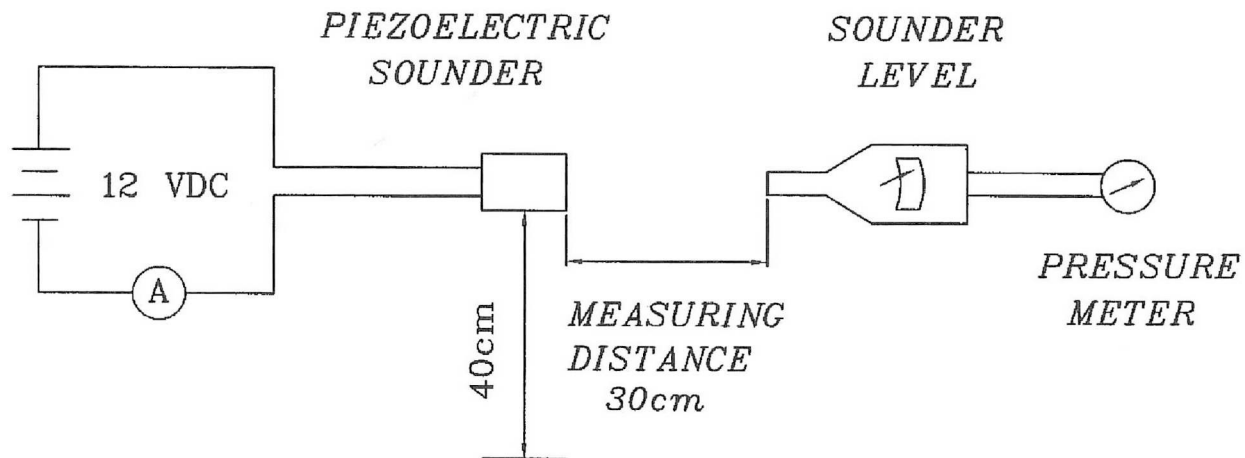


red wire ---M  
blue wire ---F  
black wire ---G



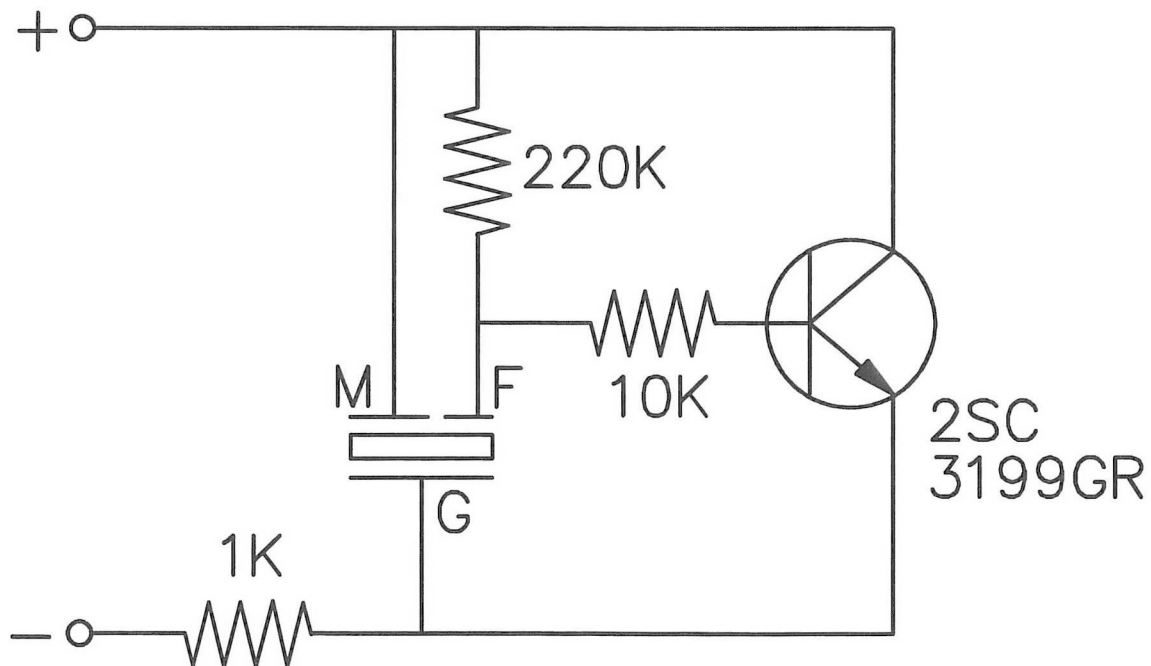
## Measurement Method

### 1. S.P.L. Measuring Circuit



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

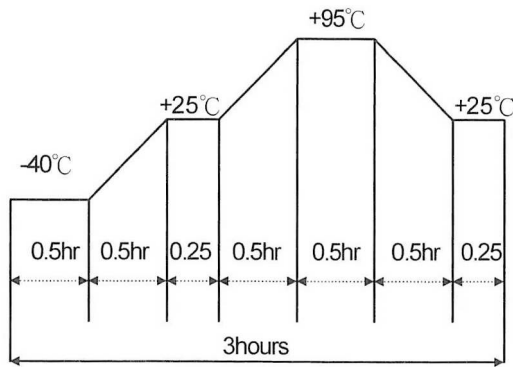
2. The current consumption and the sound pressure level are measured by using the recommend driving circuit shown as below



**Mechanical Characteristics**

Item	Test Condition	Evaluation Standard
Solderability (Connector excepted)	Stripped wires of lead wires are immersed in rosin for 5 seconds and then immersed in a solder bath of $+270 \pm 5^{\circ}\text{C}$ for $3 \pm 0.5$ seconds.	90% min. of the stripped wires will be wet with solder. (Except the edge of the terminal)
Terminal Mechanical Strength	The pull force should be applied to the 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 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 $-40^{\circ}\text{C}$ 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: 	

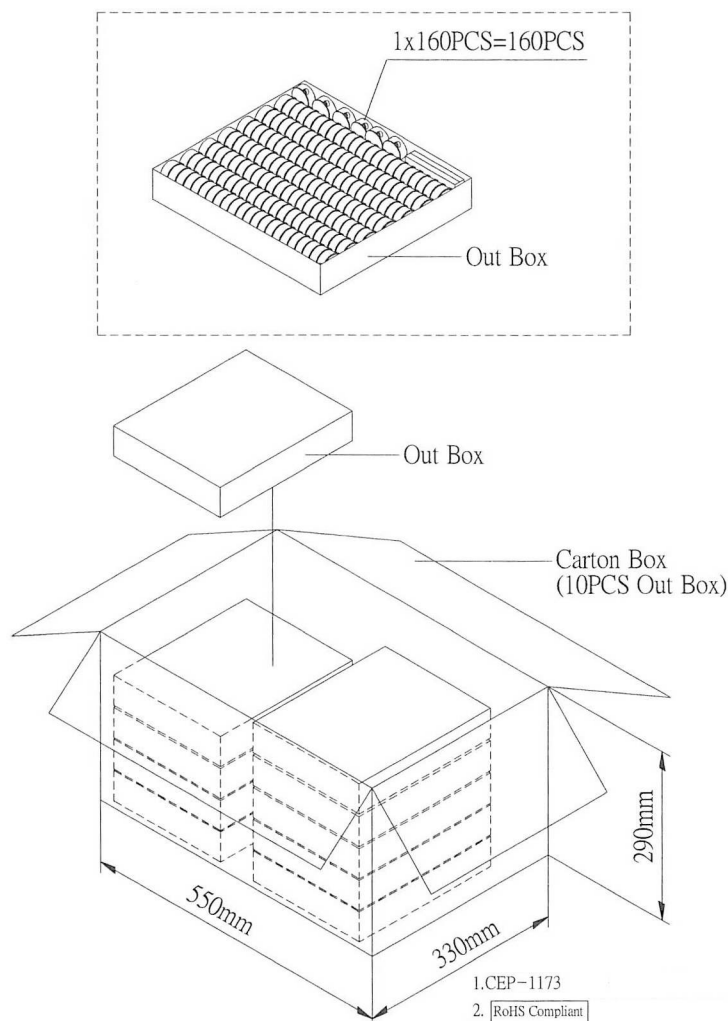
## Reliability Test

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 +65°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 ±2°C) with rated voltage applied.</p>	<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.</p>

## 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=1,600PCS