

PART NUMBER: CPE-353A

DESCRIPTION: piezo audio indicators

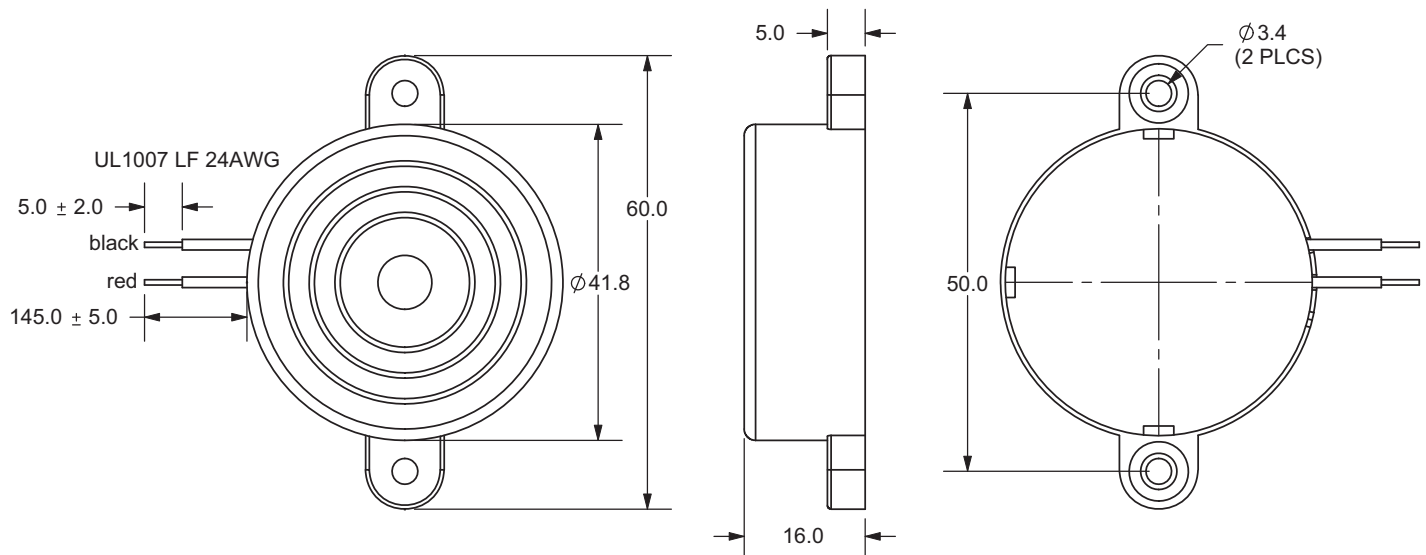
SPECIFICATIONS

operating frequency	2.8 ± 0.5 KHz	
operating voltage range	3 ~ 20 V DC	
current consumption	10 mA max.	at 12 V DC
sound pressure level	88 db min.	at 30 cm/12 V DC
rated voltage	12 V DC	
tone	slow pulse (1.5Hz±20%)	
operating temperature	-30 ~ +85°C	
storage temperature	-40 ~ +95°C	
dimensions	Ø41.8 x H16.0 mm	
weight	14.2 g max.	
material	ABS UL-94 1/16" high heat (black)	
terminal	wire type	
RoHS	yes	

APPEARANCE DRAWING

tolerance: ±0.5

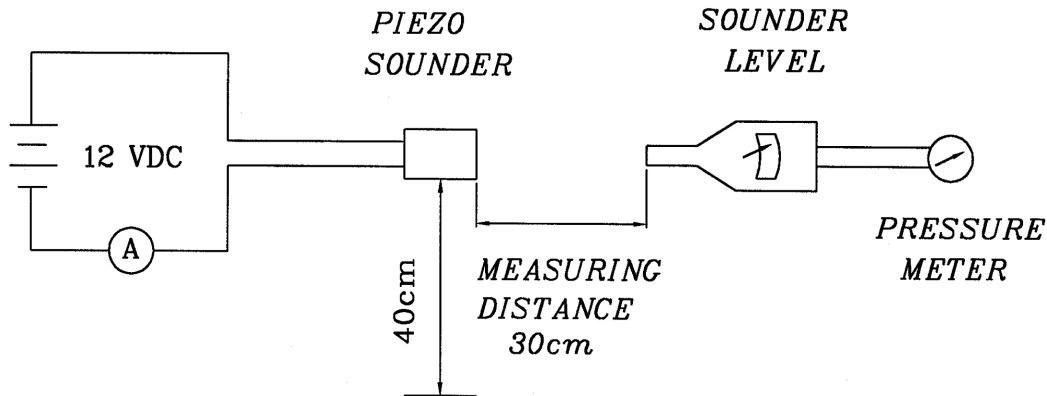
units: mm



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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

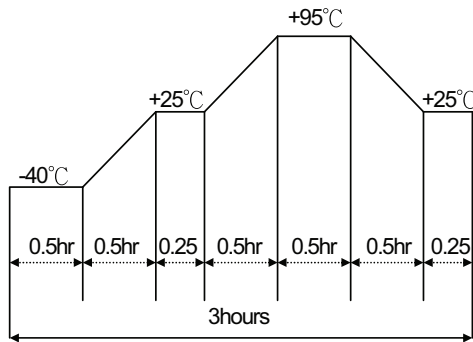
MECHANICAL CHARACTERISTICS

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.	

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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 $\pm 10\%$ 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: <div data-bbox="612 690 1081 1029" data-label="Figure">  <p>The diagram illustrates a temperature cycle test profile. It starts at -40°C, ramps up to +25°C (0.5hr), dwells at +25°C (0.25), ramps up to +95°C (0.5hr), dwells at +95°C (0.5hr), ramps down to +25°C (0.5hr), and dwells at +25°C (0.25). The total cycle time is 3 hours.</p> </div>	

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 $\pm 2^\circ\text{C}$) 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 $\pm 10\%$ compared to the initial measurements. The SPL should be within $\pm 10\text{dB}$ compared to the initial measurements.

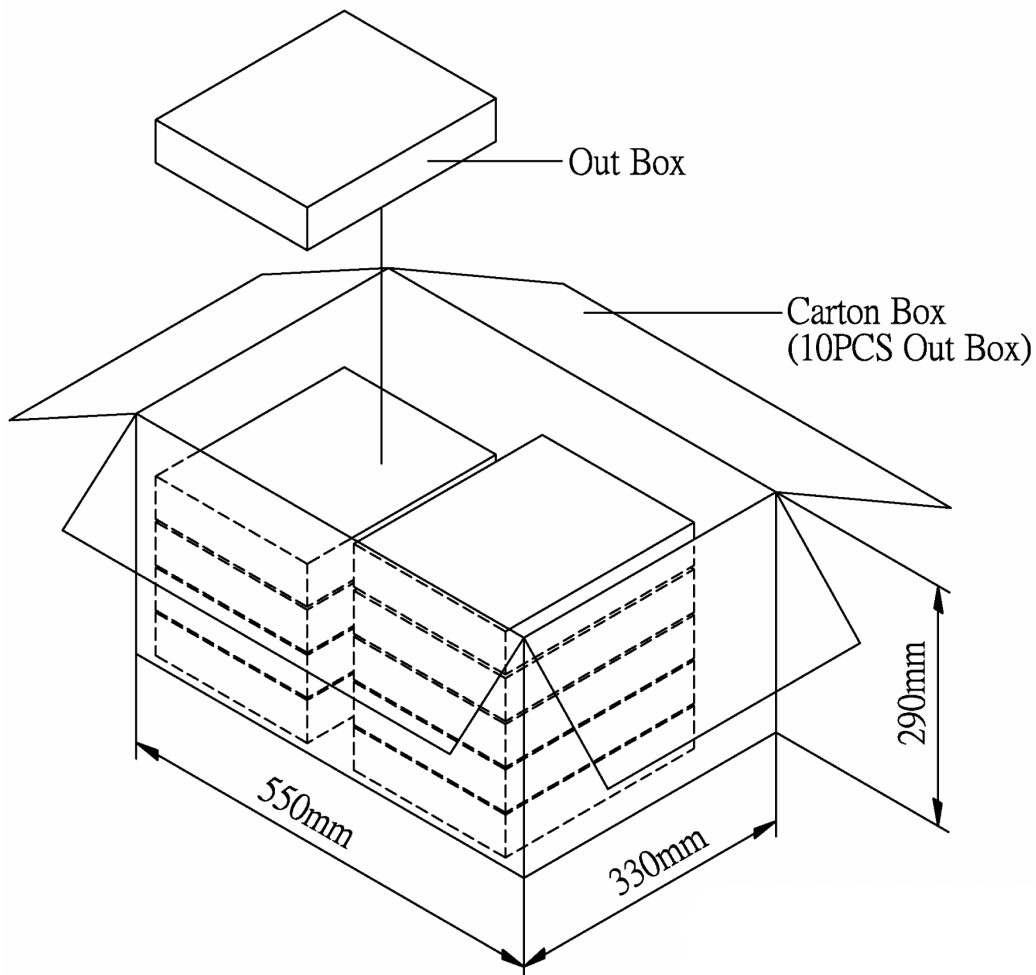
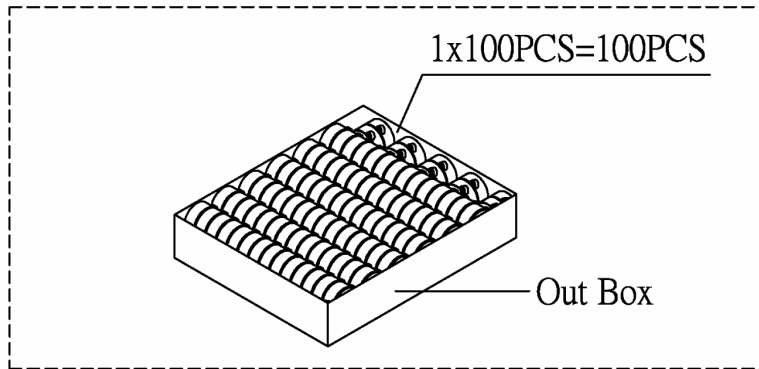
TEST CONDITIONS

standard test condition	a) temperature: +5 ~ +35°C	b) humidity: 45 - 85%	c) pressure: 860-1060 mbar
judgement test condition	a) temperature: +25 $\pm 2^\circ\text{C}$	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