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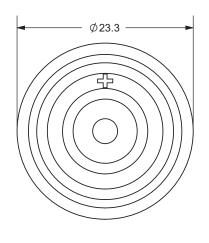
PART NUMBER: CPE-232H DESCRIPTION: piezo audio indicators

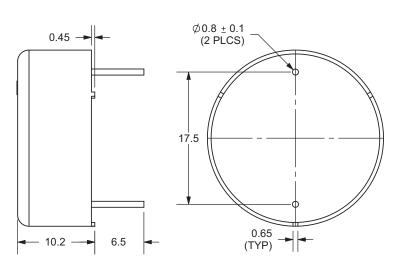
SPECIFICATIONS

resonant frequency	3.2 ± 0.5 KHz		
operating voltage range	8 ~ 18 V DC		
current consumption	10 mA max.	at 12 V DC	
sound pressure level	85 db min.	at 30 cm/12 V DC	
rated voltage	12 V DC		
tone	continuous		
operating tempurature	-30 ~ +85° C		
storage tempurature	-40 ~ +95° C		
dimensions	Ø23.3 x H10.2 mm		
weight	5.0 g max.		
material	ABS UL-94 1/16" high heat (black)		
terminal	pin type (Sn plating)		
RoHS	yes		

APPEARANCE DRAWING

tolerance: ±0.5 units: mm





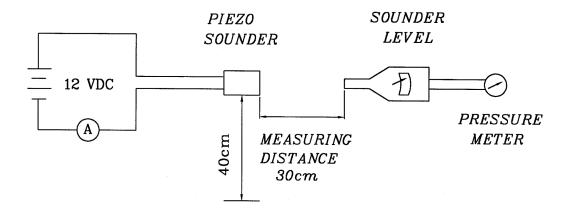


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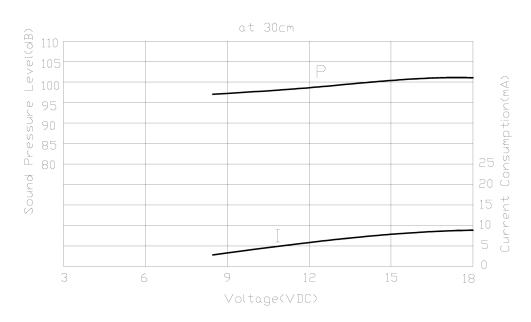
MEASUREMENT METHOD



S.P.L. Measuring Circuit

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

CURRENT CONSUMPTION/SOUND PRESSURE LEVEL





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MECHANICAL CHARACTERISTICS

item	test condition	evaluation standard
solderability	Lead terminals are immersed in rosin for	90% min. of the lead terminals
	5 seconds and then immersed in solder bath	will be wet with solder
	of 270 ±5°C for 3 ±1 seconds.	(except the edge of the terminal).
soldering heat resistance	Lead terminals are immersed up to 1.5mm from	
•	buzzer's body in solder bath of 300 ±5°C for	No interference in operation.
	3 ±0.5 seconds or 260 ±5°C for 10 ±1 seconds.	
terminal mechanical strength	For 10 seconds, the force of 9.8N (1.0kg) is	No damage or cutting off.
	applied to each terminal in axial direction.	
vibration	The buzzer shall be measured after applying	The value of oscillation
	a vibration amplitude of 1.5 mm with 10 to	frequency/current consumption
	55 Hz band of vibration frequency to each of	should be ±10% of the initial
	the 3 perpendicular directions for 2 hours.	measurements. The SPL should
drop test	The part will be dropped from a height of	be within ±10dB compared with
	75 cm onto a 40 mm thick wooden board 3 the initial measurement.	
	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°C for 240 hours.	
low temp. test	After being placed in a chamber at -40°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 ±10% compared to the initial measurements. The SPL should be within ±10dB compared to the initial measurements.
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: +95°C +25°C -40°C 0.5hr 0.5hr 0.25 0.5hr 0.5hr 0.5hr 0.25 3hours	



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RELIABILITY TEST

item	test condition	evaluation standard	
operating (life test)	Continuous life test:	The buzzer will be measured after	
	The part will be subjected to 48 hours of	being placed at +25°C for 4	
	continuous operation at +70°C with rated	hours. The value of the	
	voltage applied.	oscillation frequency/current	
	•	consumption should be ±10%	
	2. Intermittent life test:	compared to the initial	
	A duty cycle of 1 minute on, 1 minutes off, a	measurements. The SPL should	
	minimum of 5,000 times at room temp	be within ±10dB compared to	
	(+25 ±2°C) with rated voltage applied.	the initial measurements.	

TEST CONDITIONS

standard test condition	a) tempurature: +5 ~ +35°C	b) humidity: 45 - 85%	c) pressure: 860-1060 mbar
judgement test condition	a) tempurature: +25 ±2°C	b) humidity: 60 - 70%	c) pressure: 860-1060 mbar



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PACKAGING

