



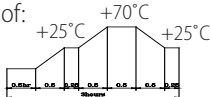
**PART NO:** ST-0402T  
**PRODUCT:** Magnetic Buzzer  
**EDITION:** A/2017

Soberton Inc.

## SPECIFICATIONS

item	unit	specification	condition
oscillation frequency	Hz	4000	Vo-p=1/2 duty, square wave
operating voltage	Vo-p	2 ~ 4	
rated voltage	Vo-p	3	
current consumption	mA	MAX. 90	at Rated Voltage
sound pressure level	dB	MIN. 70	at 10 cm at Rated Voltage
coil resistance	$\Omega$	17 $\pm$ 3	
operating temperature	$^{\circ}\text{C}$	-20 ~ +70	
storage temperature	$^{\circ}\text{C}$	-30 ~ +80	
dimension	mm	4.0 x 4.0 x H2.0	See appearance drawing
weight	gram	0.1	
housing material		LCP( Black )	
leading pin	SMD type	Tin Plated Brass (Sn)	See appearance drawing
environmental protection regulation		RoHS	

## RELIABILITY TEST

item	test condition	requirement
high temperature test (storage)	After being placed in a chamber with $80 \pm 2^{\circ}\text{C}$ for 96 hours and then being placed in normal condition for 2 hours.	Allowable variation of SPL after test: $\pm 10\text{dB}$ .
low temperature test (storage)	After being placed in a chamber with $-30 \pm 2^{\circ}\text{C}$ for 96 hours and then being placed in normal condition for 2 hours.	Allowable variation of SPL after test: $\pm 10\text{dB}$ .
humidity test	After being placed in a chamber with 90 ~ 95% R.H. at $40 \pm 2^{\circ}\text{C}$ for 96 hours and then being placed in normal condition for 2 hours.	Allowable variation of SPL after test: $\pm 10\text{dB}$ .
temperature cycle test	The part will be subjected to 5 cycles. One cycle shall be consist of: 	Allowable variation of SPL after test: $\pm 10\text{dB}$ .
drop test	Drop on a hard wood board of 4cm thick, any directions , 6 times, at the height of 75cm.	Allowable variation of SPL after test: $\pm 10\text{dB}$ .
vibration test	After being applied vibration of amplitude of 1.5mm with 10Hz to 55 Hz band of vibration frequency to each of 3 perpendicular directions for 2 hours.	Allowable variation of SPL after test: $\pm 10\text{dB}$ .
solderability test	Lead terminals are immersed in rosin for 5 seconds and then immersed in solder bath of $+300 \pm 5^{\circ}\text{C}$ for $3 \pm 1$ seconds.	90% min. lead terminals shall be wet with solder (Except the edge of terminals).
terminal strength pulling test	The force of 9.8N(1.0kg) is applied to each terminal in axial direction for 10 seconds.	No visible damage and cutting off.

## TEST CONDITION

Standard Test Condition

a) Temperature :  $+5 \sim +35^{\circ}\text{C}$  b) Humidity : 45-85%

c) Pressure : 860-1060mbar



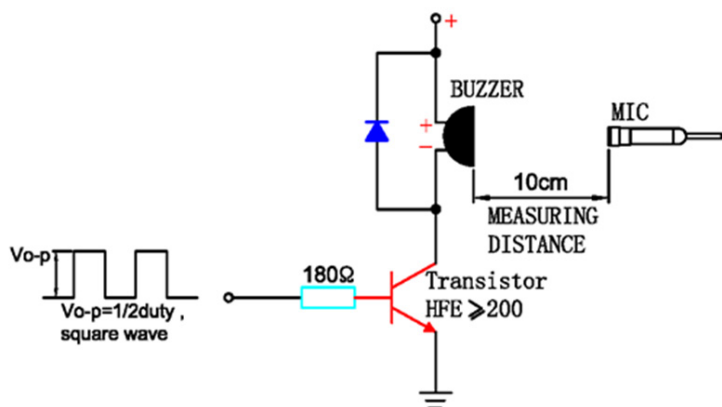
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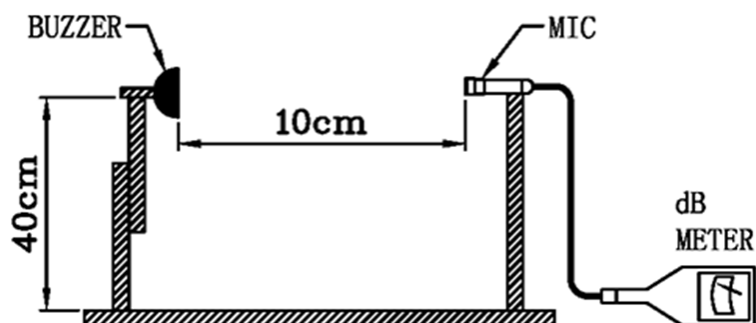
## TESTING METHOD

**STANDARD MEASUREMENT CONDITIONS** Temperature:  $25 \pm 2^\circ\text{C}$  Humidity: 45 ~ 65%

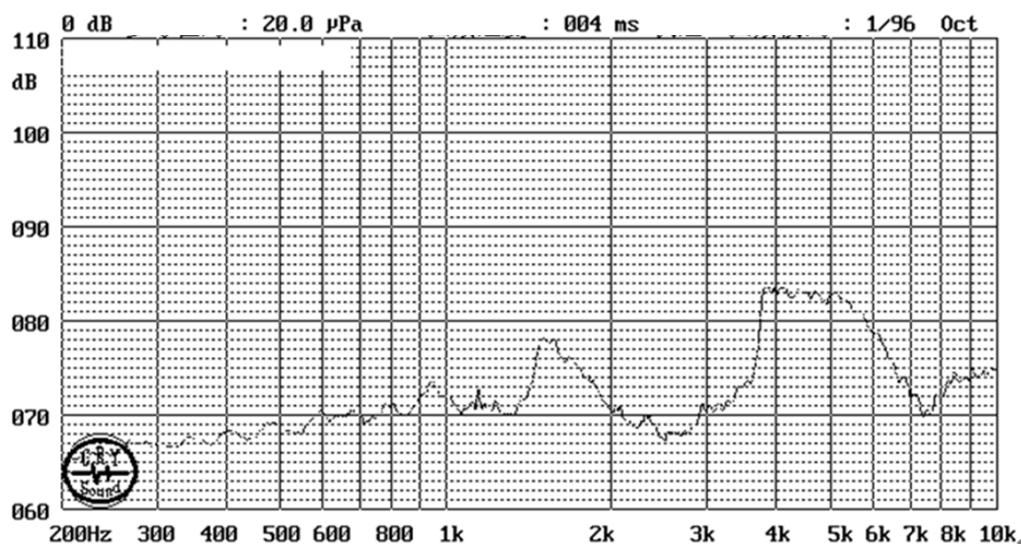
**ACOUSTIC CHARACTERISTICS** The oscillation frequency, current consumption and sound pressure are measured by the measuring instruments shown below



In the measuring test, buzzer is placed as follows:



## TYPICAL FREQUENCY RESPONSE CURVE

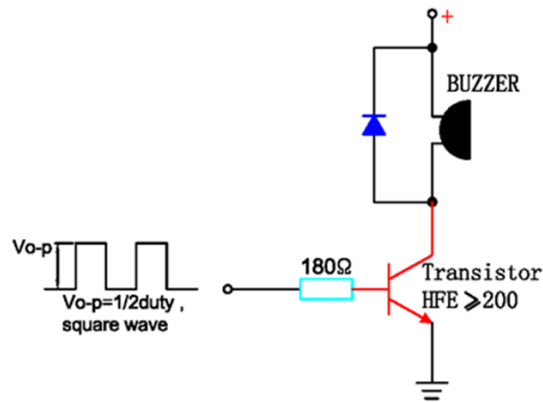




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## RECOMMENDED DRIVING CIRCUIT

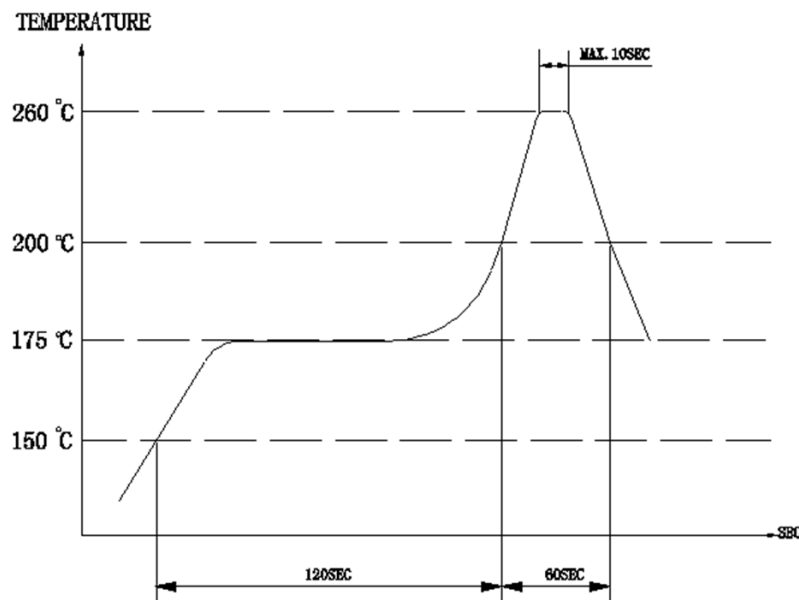


The base current  $I_b$  should be high enough so that it saturates the collector current of the transistor with the CB load.

## SOLDERING CONDITIONS

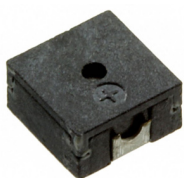
1. Recommendable reflow soldering condition is as follows (Reflow soldering is twice)

Note: It is requested that reflow soldering should be executed after heat of product goes down to normal.



Heat resistant line (Used when heat resistant reliability test is performed)

2. Manual soldering: Manual soldering temperature 350 °C within 5 sec.

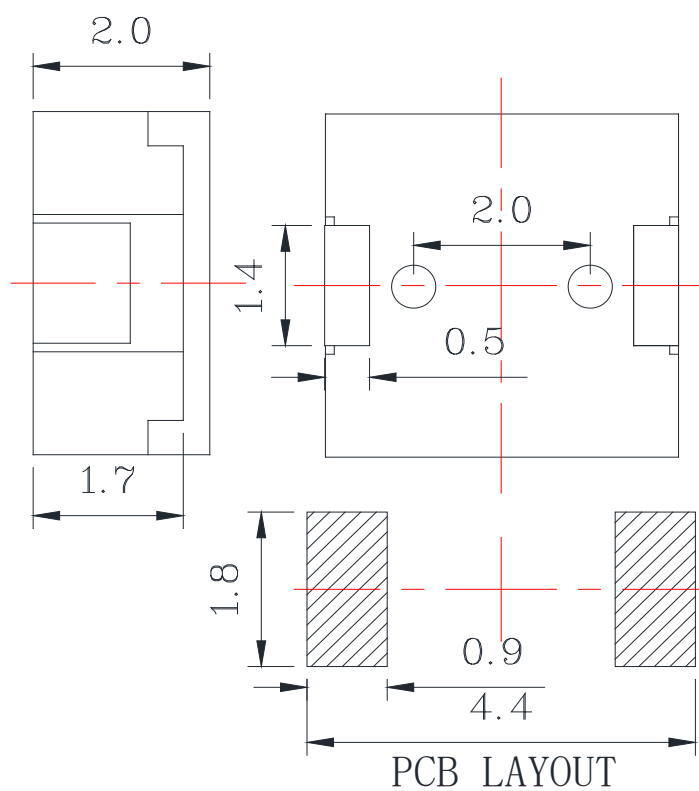
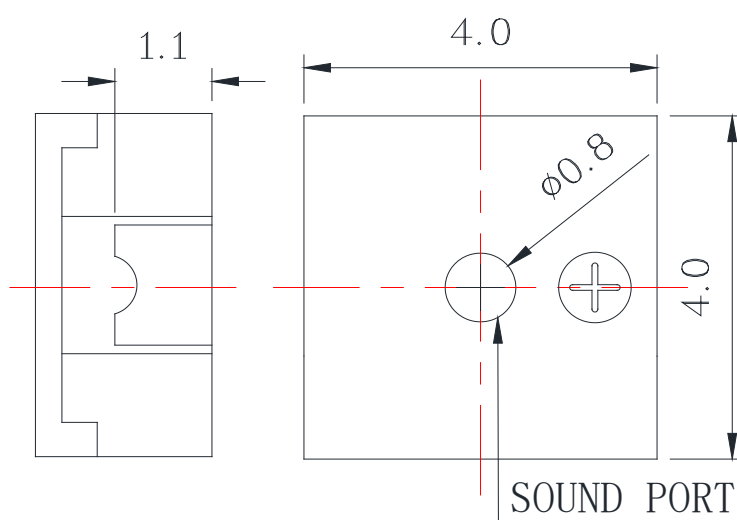


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## DRAWING

Tolerance:  $\pm 0.3$  Unit:mm





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## PACKING STANDARD

