



# MANORSHI ELECTRONICS CO.,LTD

## PRODUCT SPECIFICATION

Product Name: SMD Buzzer

Part Number: SM09ET03BV5R30SH

Document No: \_\_\_\_\_

Date: 2021.05.31

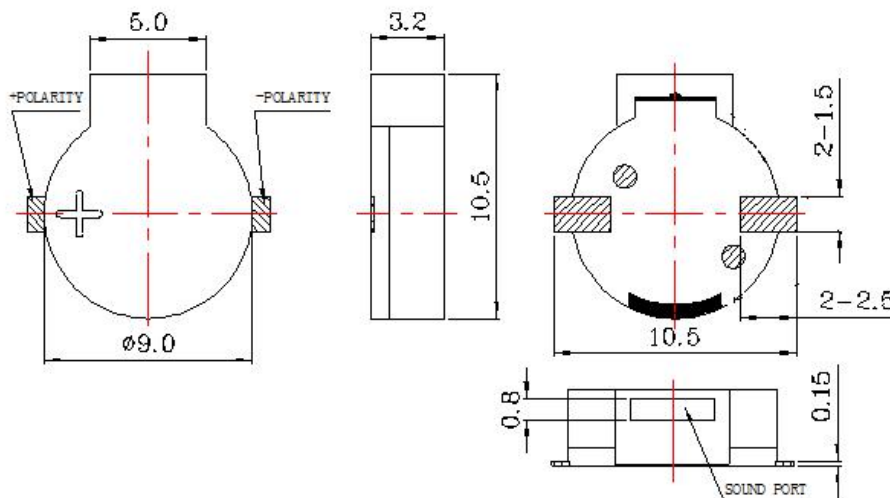
DRAWING BY	CHECKED BY	APPROVED BY
CHEN YUAN	YUE QIN	JIN LI

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## 1. ELECTRICAL AND ACOUSTICAL SPECIFICATION

No.	Item	Unit	Specification	Condition
1	Oscillation Frequency	Hz	2731	Vo-p=1/2duty , square wave
2	Operating Voltage	Vo-p	3 ~8	
3	Rated Voltage	Vo-p	5	
4	Current Consumption	mA	MAX. 80	at Rated Voltage
5	Sound Pressure Level	dB	MIN. 85	at 10cm at Rated Voltage
6	Coil Resistance	$\Omega$	30 $\pm$ 5	
7	Operating Temperature	$^{\circ}$ C	-30 ~ +70	
8	Storage Temperature	$^{\circ}$ C	-40 ~ +85	
9	Dimension	mm	$\Phi$ 9.0x H3.2	See appearance drawing
10	Weight (MAX)	gram	0.8	
11	Housing Material		LCP( Black )	
12	Leading Pin		Tin Plated Brass(Sn)	See appearance drawing
13	Environmental Protection Regulation		RoHS	

## 2.APPEARANCE DRAWING (Tol: $\pm$ 0.5 Unit: mm)



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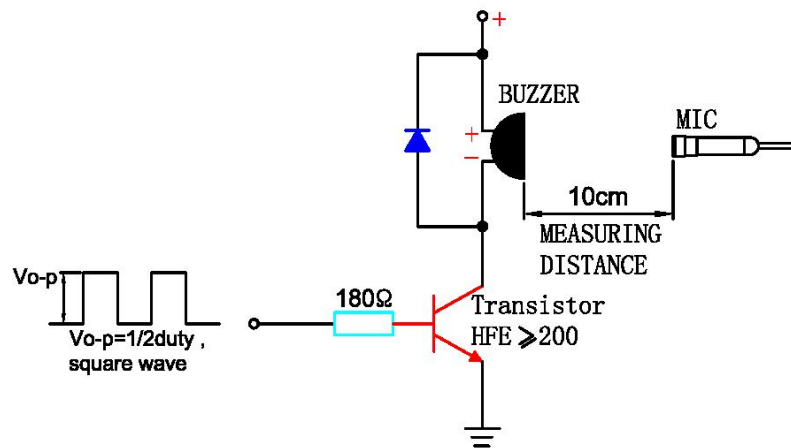
## 3.TESTING METHOD

### Standard Measurement conditions

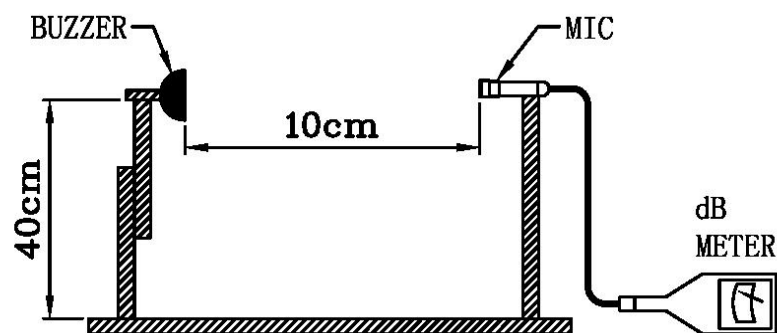
Temperature: $25\pm 2^{\circ}\text{C}$  Humidity:45-65%

### Acoustic Characteristics:

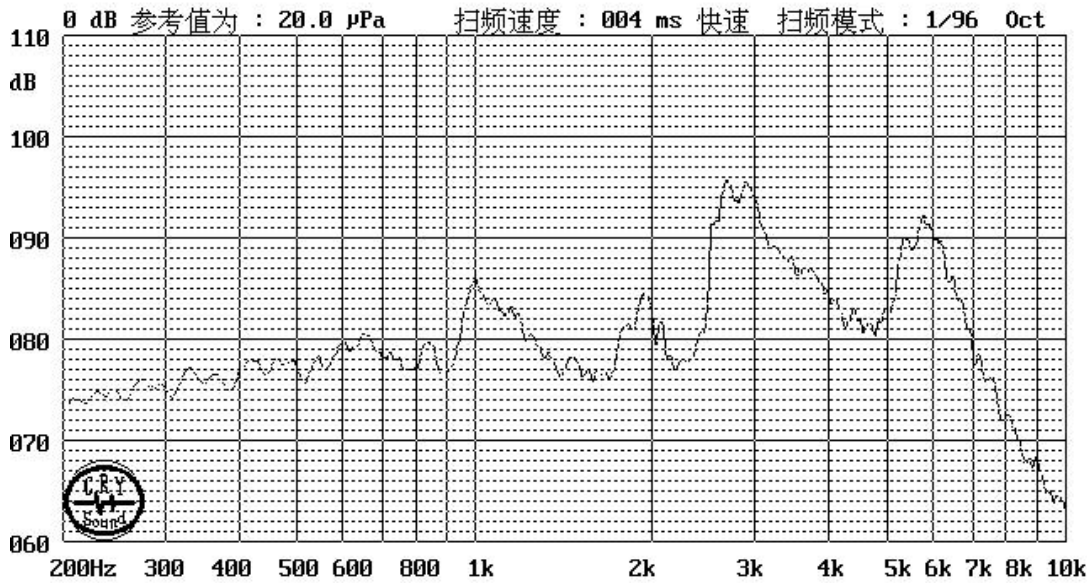
The oscillation frequency, current consumption and sound pressure are measured by the measuring instruments shown below



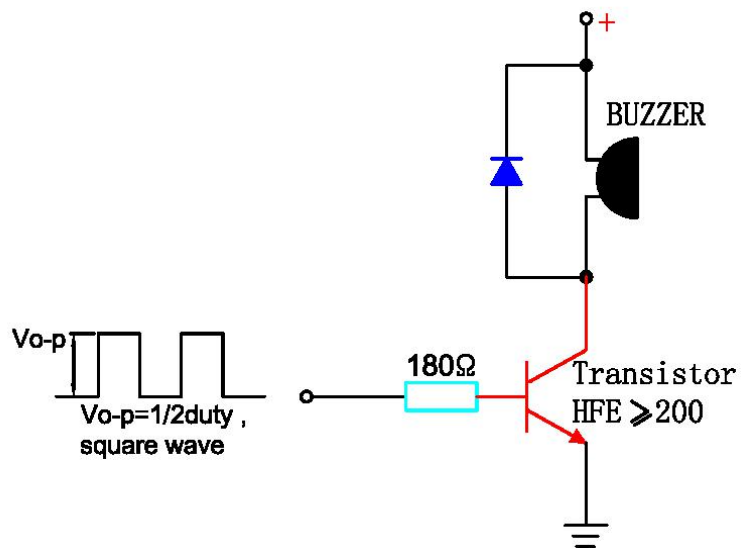
In the measuring test, buzzer is placed as follows:



## 4. TYPICAL FREQUENCY CURVE



## 5. RECOMMEND DRIVING CIRCUIT



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

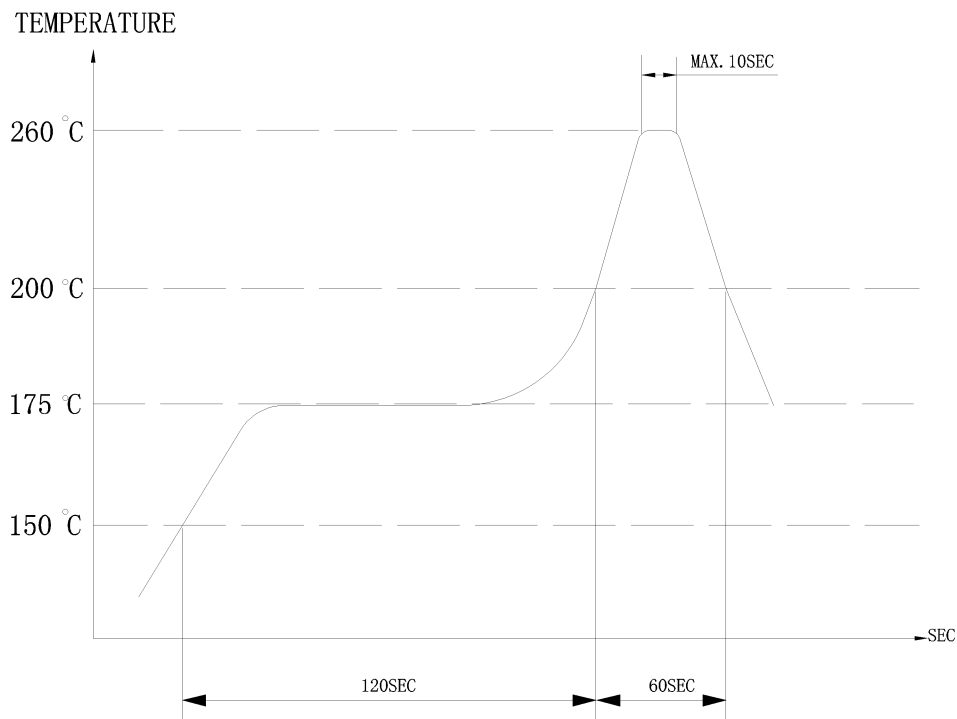
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## 6.SOLDERING CONDITION

(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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## 7. RELIABILITY TEST

NO.	ITEM	TEST CONDITION AND REQUIREMENT
1	High Temperature Test (Storage)	After being placed in a chamber with 85 °C for 96 hours and then being placed in normal condition for 2 hours.
2	Low Temperature Test (Storage)	After being Placed in a chamber with -40 °C for 96 hours and then being placed in normal condition for 2 hours.
3	Humidity Test	After being Placed in a chamber with 90-95% R.H. at 40 °C for 96 hours and then being placed in normal condition for 2 hours.
4	Temperature Cycle Test	<p>The part shall be subjected to 5 cycles. One cycle shall be consist of:</p> <p>The diagram shows a temperature cycle profile over 3 hours. It starts at -30°C for 0.5 hours, ramps up to +25°C (0.5 hr), dwells at +25°C (0.25 hr), ramps up to +70°C (0.5 hr), dwells at +70°C (0.5 hr), ramps down to +25°C (0.5 hr), dwells at +25°C (0.25 hr), and finally ramps down to -30°C (0.25 hr).</p>
5	Drop Test	Drop on a hard wood board of 4cm thick, any directions ,6 times, at the height of 75cm .
6	Vibration Test	After being applied vibration of amplitude of 1.5mm with 10 to 55 Hz band of vibration frequency to each of 3 perpendicular directions for 2 hours .
7	Solderability Test	Lead terminals are immersed in rosin for 5 seconds and then immersed in solder bath of +300 °C for 3 1 seconds . 90% min. lead terminals shall be wet with solder (Except the edge of terminals).
8	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.

Remark: Allowable variation of SPL after test: 10dB.

### TEST CONDITION.

Standard Test Condition: a) Temperature : +5 ~ +35°C b) Humidity : 45-85%  
c) Pressure : 860-1060mbar

Judgment Test Condition: a) Temperature : +25 ± 2°C b) Humidity : 60-70%  
c) Pressure : 860-1060mbar

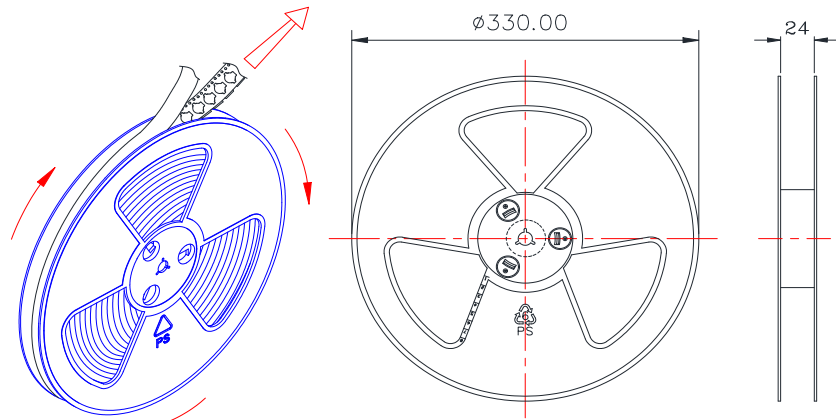


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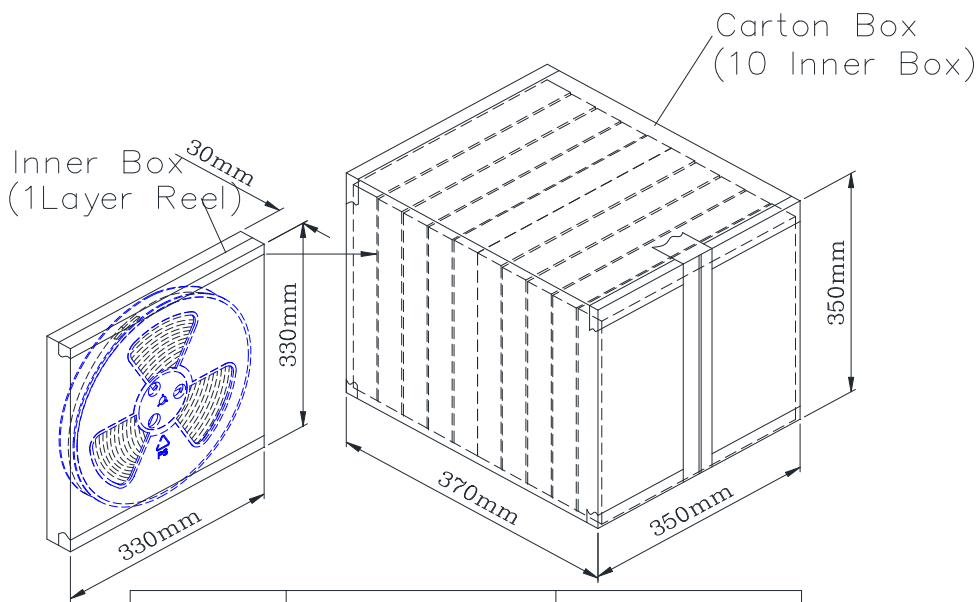
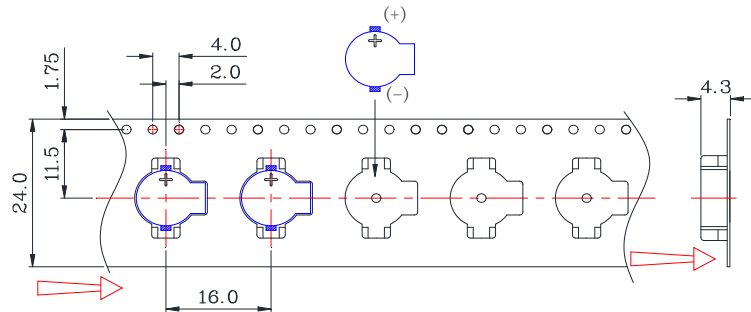
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## 8.PACKING STANDARD

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1 Reel : 1000PCS



Inner Box	33cmx33cmx3cm	1x1000=1000PCS
Carton Box	35cmx35cmx37cm	10x1000=10,000PCS