



## PRODUCT SPECIFICATION

Product Name: SMD Buzzer

Part Number: SM09ET03AV3R16SH

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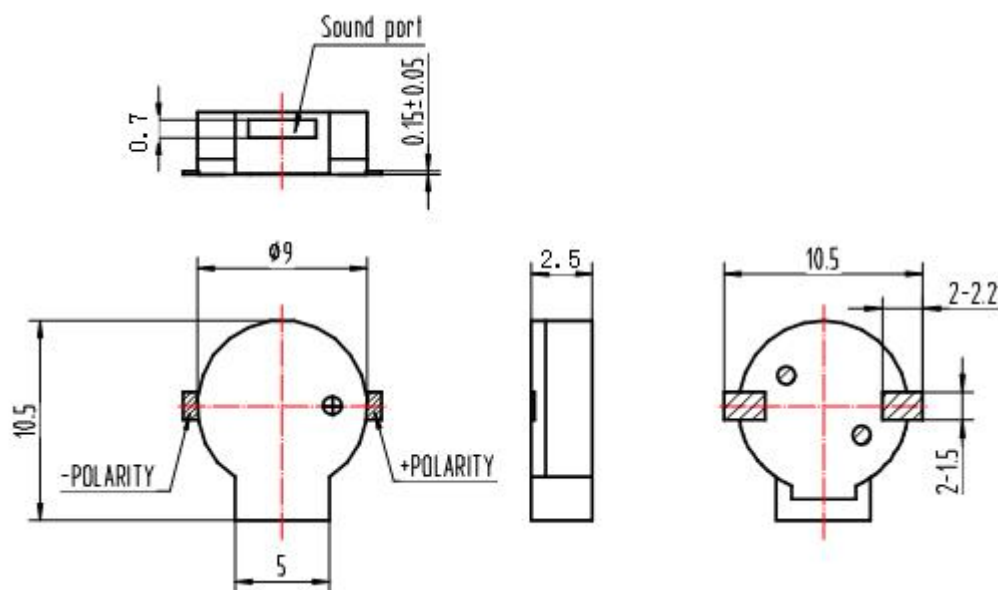
## 1.ELECTRICAL AND ACOUSTICAL SPECIFICATION

Rated Voltage	3 Vo-p
Operating Voltage	2.5~4.5Vo-p
Rated Current	Max.90mA ,at 2700Hz 50% duty Square Wave 3.6Vo-p
Sound Output at 10cm	Min. 85dB,at 2700Hz 50% duty Square Wave 3.6Vo-p
Coil Resistance	16±3Ω
Resonant Frequency	2700Hz
Operating Temperature	-20℃ ~ +70℃
Store Temperature	-30℃ ~ +80℃
Net Weight	Approx 1g
RoHS	Yes

### Measuring condition

Part shall be measured under a condition (Temperature: 5 ~ 35℃, Humidity: 45% ~ 85%R.H., Atmospheric pressure: 860 ~ 1060hPa) unless the standard condition (Temperature: 25±3℃, Humidity: 60±10%R.H. Atmospheric pressure: 860 ~ 1060hPa) is regulated to measure.

## 2. DIMENSION



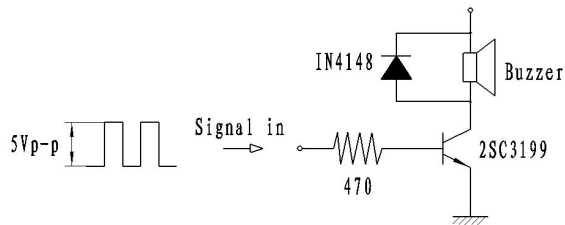
\*Unit: mm; Tolerance:  $\pm 0.3$ mm Except Specified

\*Housing Material: Black LCP

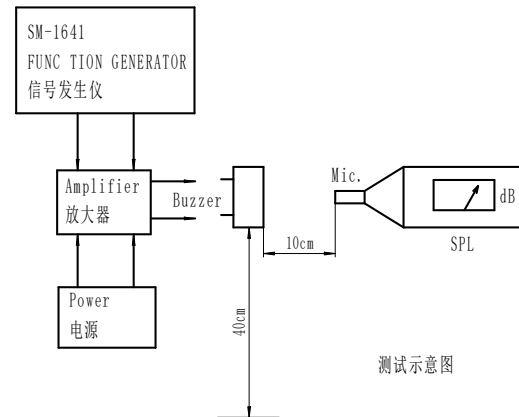
\*Terminal plate: 3 soldering pads, tin Plating Brass

## 3.ELECTRICAL AND ACOUSTICAL MEASURING CONDITION

Recommended Driving Circuit

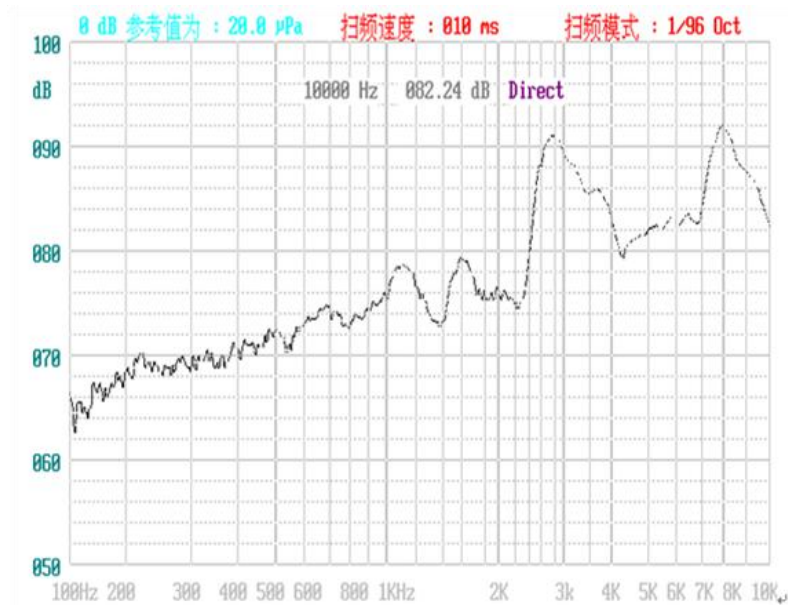


Recommended Setting



Resonant frequency, 1/2 duty cycle. Square wave.  
Signal amplitude should be large enough to saturate the transistor.

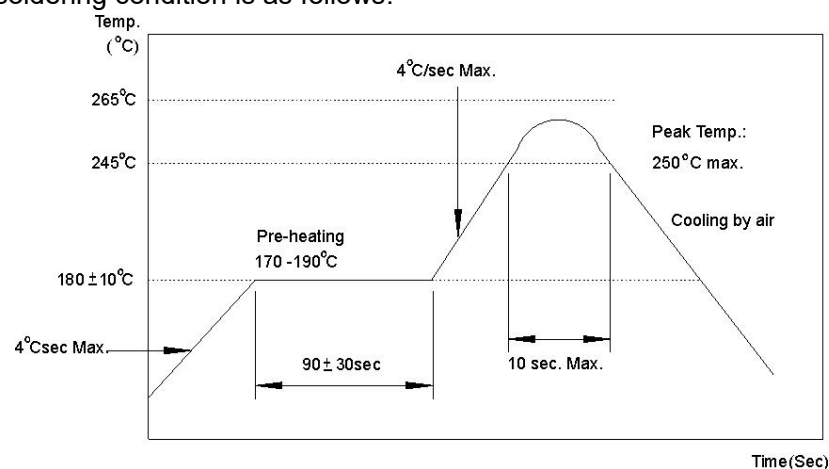
## 4.FREQUENCY RESPONSE



## 5. SURFACE MOUNTING CONDITION

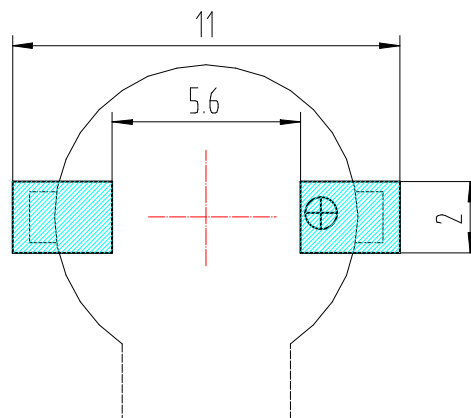
### 5.1 Reflow soldering

Recommendable reflow soldering condition is as follows.



**Note:** (1) In automated mounting of the SMD sound transducers on PCB, any bending, expanding and pulling forces or shocks against the SMD sound transducers shall be kept minimum to prevent them from electrical failures and mechanical damages of the devices.  
(2) In the reflow soldering, too high soldering temperatures and too large temperature Gradient such as rapid heating or cooling may cause electrical failures and mechanical damages of the devices.

## 5.2 Soldering pattern



## 6.RELIABILITY TEST

After any following tests the part shall meet specifications without any degradation in appearance and performance except SPL. SPL shall not deviate more than -10 dB from the initial value

### 6.1 Ordinary Temperature Life Test

The part shall be subjected to 96 hours at  $25\pm 10^{\circ}\text{C}$ . Input rated voltage Resonant frequency, 1/2 duty Square wave.

### 6.2 High Temperature Test

The part shall be capable of with standing a storage temperature of  $+80^{\circ}\text{C}$  for 96 hours.

### 6.3 Low Temperature Test

The part shall be capable of with standing a storage temperature of  $-30^{\circ}\text{C}$  for 96 hours.

### 6.4 Humidity Test

Temperature:  $+40^{\circ}\text{C}\pm 3^{\circ}\text{C}$  Relative Humidity: 90%~95% Duration: 48 hours and expose to room temperature for 6 hours

### 6.5 Temperature Shock Test

Temperature:  $60^{\circ}\text{C}/1\text{hour}\rightarrow 25^{\circ}\text{C}/3\text{hours}\rightarrow -20^{\circ}\text{C}/1\text{hour}\rightarrow 25^{\circ}\text{C}/3\text{hours}$  (1cycle)  
Total cycle: 10 cycles

### 6.6 Drop Test

Standard Packaging From 75cm(Drop on hard wood or board of 5cm thick, three sides, six plain.)

### 6.7 Vibration Test

Vibration: 1000cycles /min. Amplitude: 1.5mm, Duration: 1 hour in each 3 axes

### 6.8 Reflow Test

Use recommendable reflow soldering condition (as shown in 5.1)

- (1) No abnormality should be found after reflow
- (2) Good soldering to meet soldering requirements

### Note:

As this product is not protected from foreign material entering, please make sure that any foreign materials (e.g. magnetic powder, washing solvent, flux, corrosive gas) do not enter this product in your production processes. The functional degradation (e.g. SPL down)

may occur if foreign material enter it

## 7.PACKING

