



soberton inc.

ELECTRO MAGNETIC BUZZER

Acoustic Product Specification

Product Number: ST-0311T



Release | Revision: A / 2022

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Specifications

Item	Unit	Specifications
Rated Voltage	Vo-p	3
Operating Voltage	Vo-p	2 ~ 4
Rated Current	mA	Max. 90 at 2.731KHz 50% duty cycle, square wave, 3 Vo-p
Sound Output	dB	Min. 90 at 2.731KHz 50% duty cycle, square wave, 3 Vo-p
Coil Resistance	Ω	16±3
Resonant Frequency	Hz	2731
Operating Temperature	°C	-20 ~ +70
Storage Temperature	°C	-30 ~ +80
Dimensions	mm	∅9.0 x H3.2
Housing Material		Black LCP
Terminal		SMD
Net Weight	gram	Approx. 0.5
Environmental Protection Regulation		RoHs 2.0

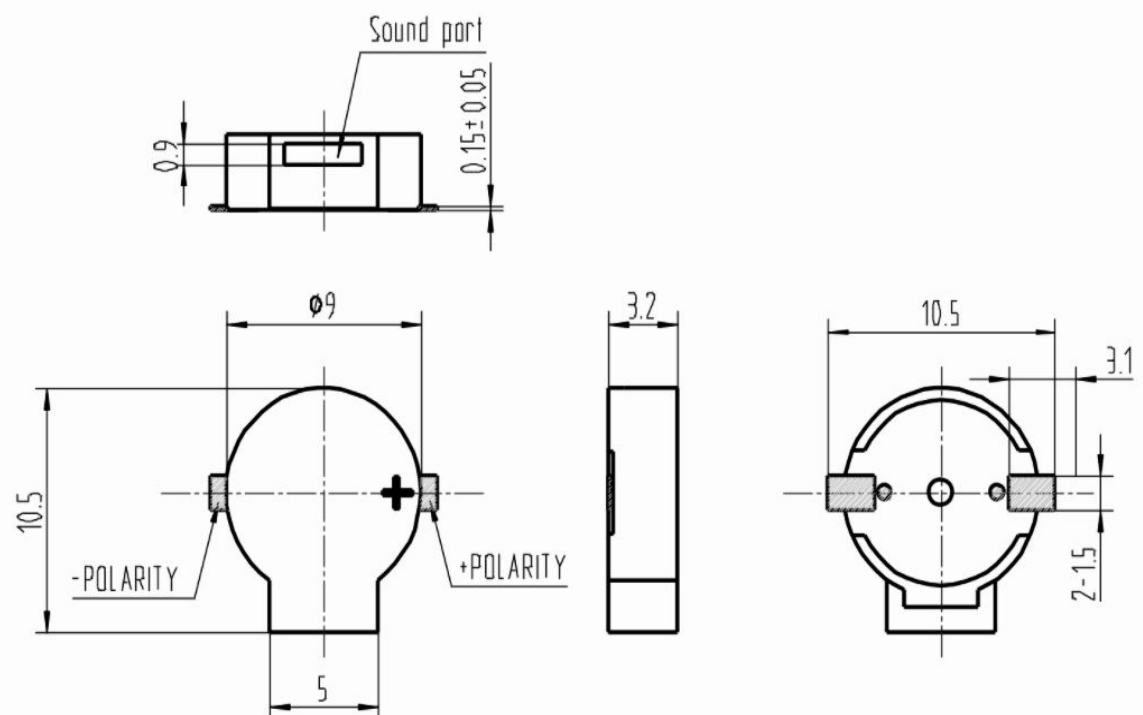
Measuring Condition:

Temperature: 5~35°C Humidity: 45%~85%R.H Atmospheric Pressure: 860 ~1060hPa

Dimensions

Unit: mm

Tolerance: ±0.3mm, except where specified



Housing Material: Black LCP

Terminal Plate: 2 soldering pads, Tin Plating Brass



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Reliability Test

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

Standard Temperature Life Test

The part shall be subjected to 96 hours at $25\pm 10^{\circ}\text{C}$.

Input rated voltage: 3 Vo-p

Resonant frequency: 2731Hz, 50% duty cycle, square wave.

High Temperature Test

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

Low Temperature Test

The part shall be capable of withstanding a storage temperature of -30°C for 96 hours.

Humidity Test

Temperature $+40^{\circ}\text{C}\pm 3^{\circ}\text{C}$

Relative Humidity 90% ~ 95%

Duration 48 hours and exposure to room temperature for 6 hours

Temperature Shock Test

Per cycle

$60^{\circ}\text{C}/1\text{ hour} \rightarrow 25^{\circ}\text{C}/3\text{ hours} \rightarrow -20^{\circ}\text{C}/1\text{ hour} \rightarrow 25^{\circ}\text{C}/3\text{ hours}$

Total cycle 10 cycles

Drop Test

Standard Packaging from 75cm

Drop on hardwood or board of 5cm thick, three sides, six plain

Vibration Test

Vibration 1000 cycles/min.

Amplitude 1.5mm

Duration 1 hour in each 3 axes

Reflow Test

Use recommendable reflow soldering condition

1. No abnormality should be found after reflow
2. Good soldering to meet soldering requirements

Note

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. Contamination may result in a loss of some or all audio output.



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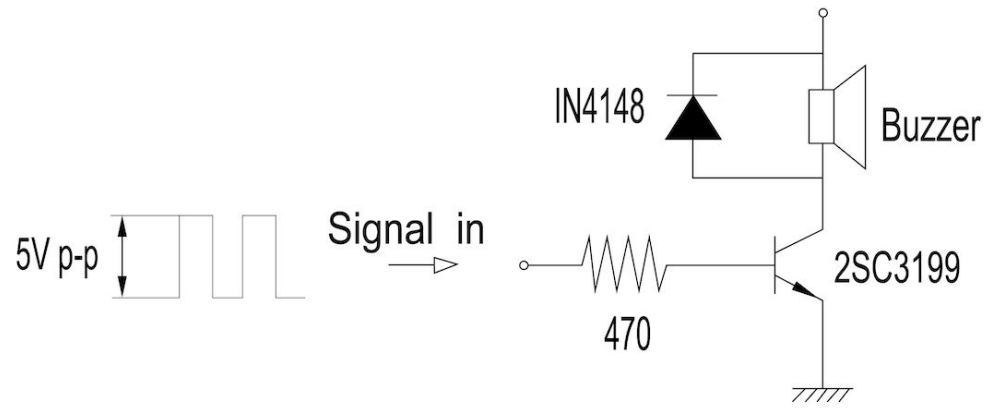
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Electrical And Acoustical Measuring Condition

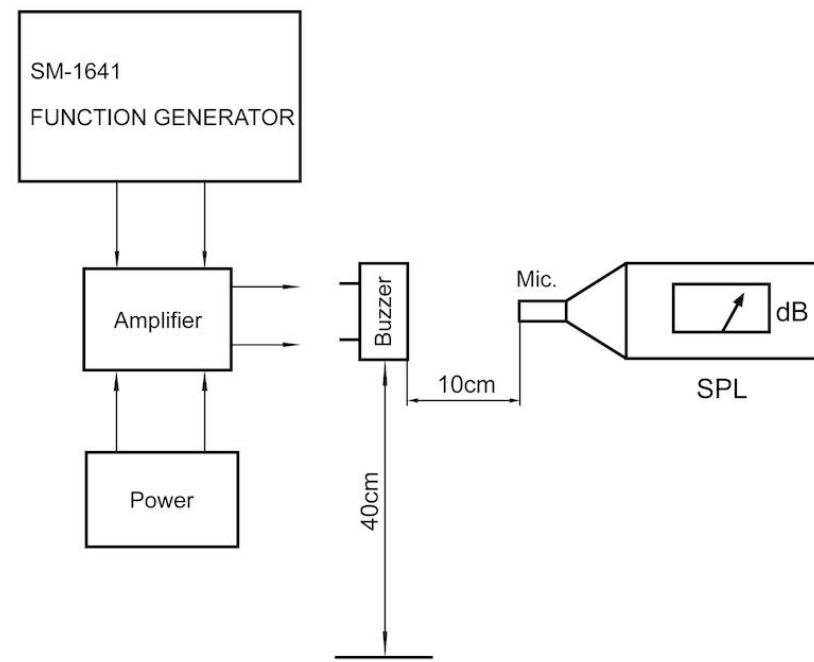
Recommended Driving Circuit

Resonant frequency, 50% duty cycle, square wave.

Signal amplitude should be large enough to saturate the transistor.

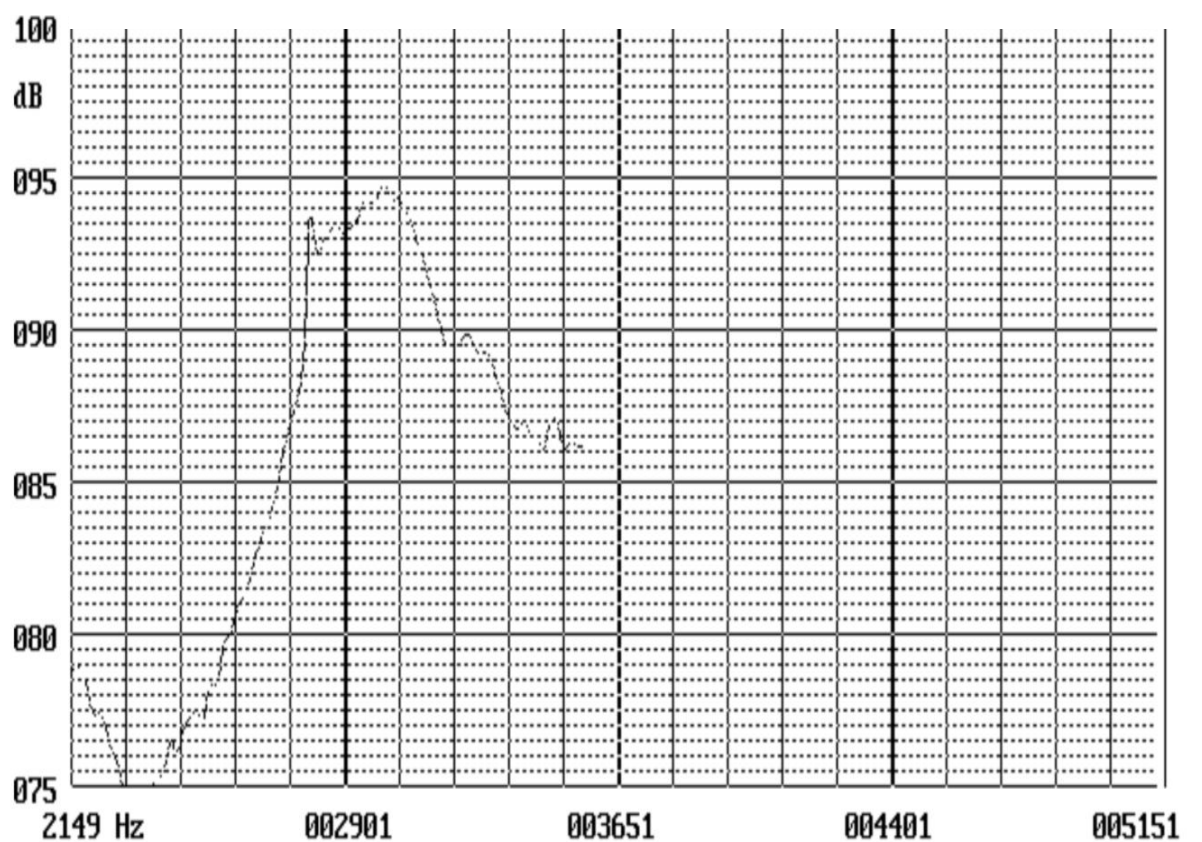


Recommended Setting



Typical Frequency Response Curve

3 Vo-p, 50% duty cycle, square wave, 10cm



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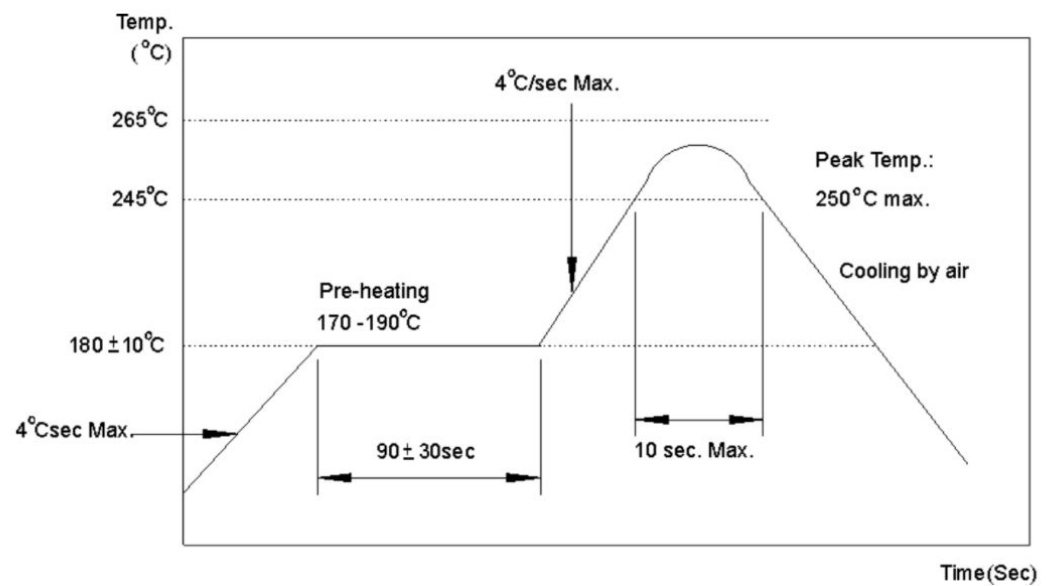
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Surface Mounting Condition

Reflow soldering

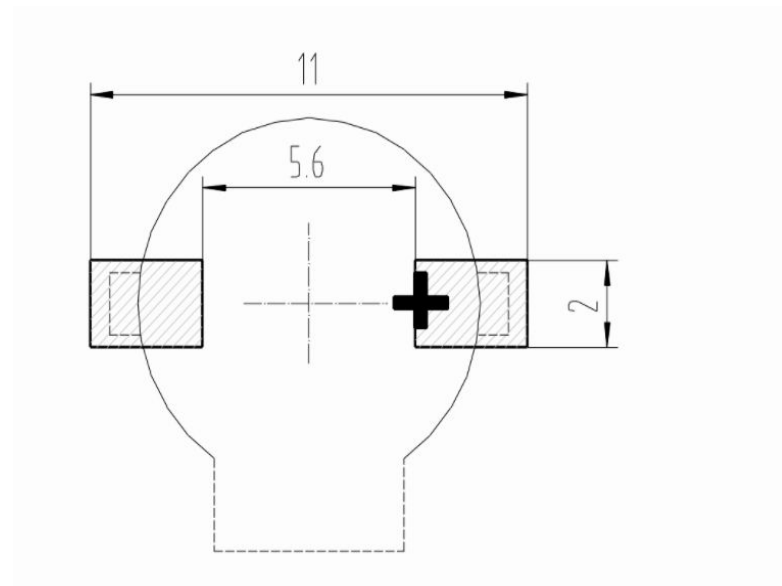
Recommended reflow soldering condition is as follows.



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 damage of the devices.
2. In the reflow soldering, soldering temperatures that are too high and extreme gradient such as rapid heating or cooling may cause electrical failures and mechanical damage of the devices.

Soldering Pattern



Terminal Plate: 2 soldering pads, Tin Plating Brass



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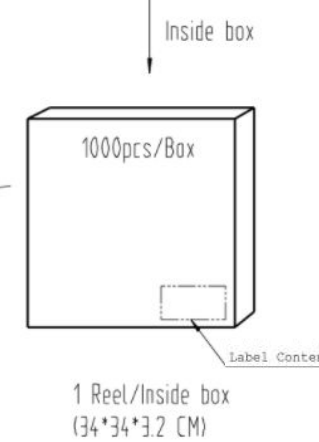
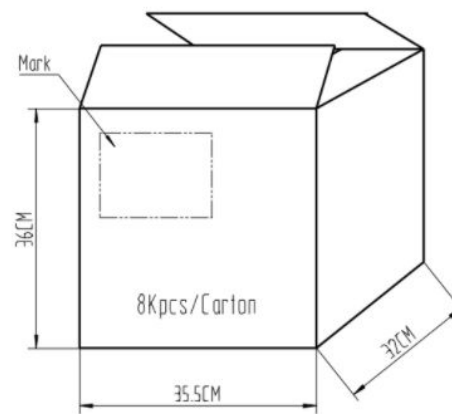
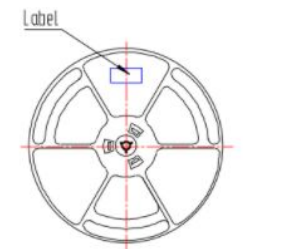
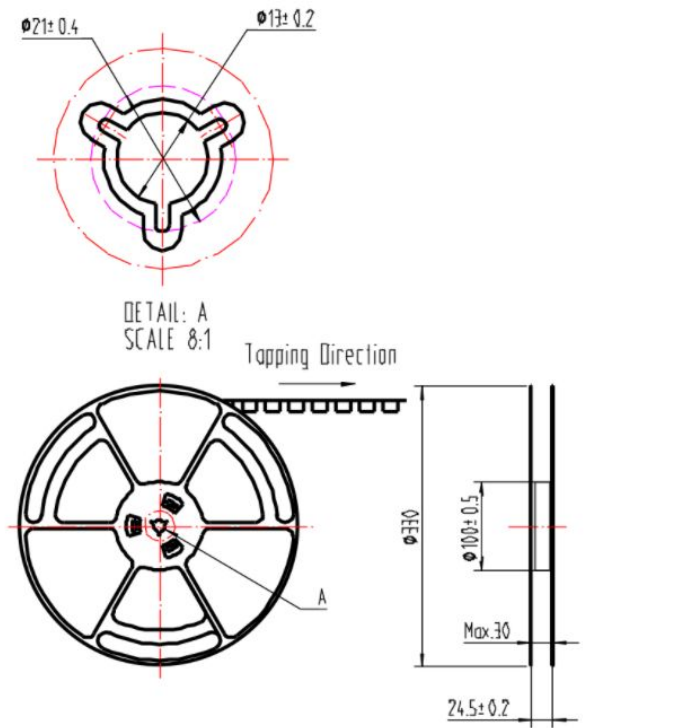
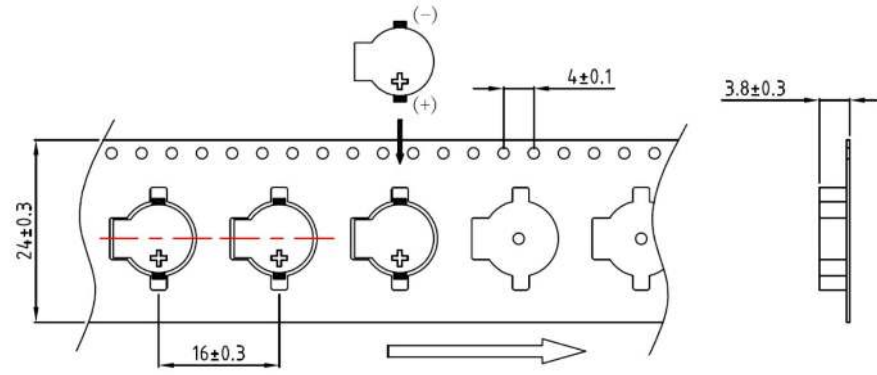
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Packing Order:

1. Per Reel: 1,000pcs
2. Per Carton: 8 Reels
3. Per Carton: 8,000pcs
4. Carton Size: 35.5x32x36cm