

SPECIFICATION FOR APPROVAL

承 认 书

Description : **Magnetic Transducer**

Vender's Part No. : **SMT-4020A-03040**

Customer's. Part No. :

Serial No. : **SAN-2057**

Version No. : **1.1**

| CUSTOMER'S APPROVED SIGNATURE | | |
|-------------------------------|--|--|
| | | |

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|-------------|------------|-------------------------------------|
| | | James Li 2012-9-21 |

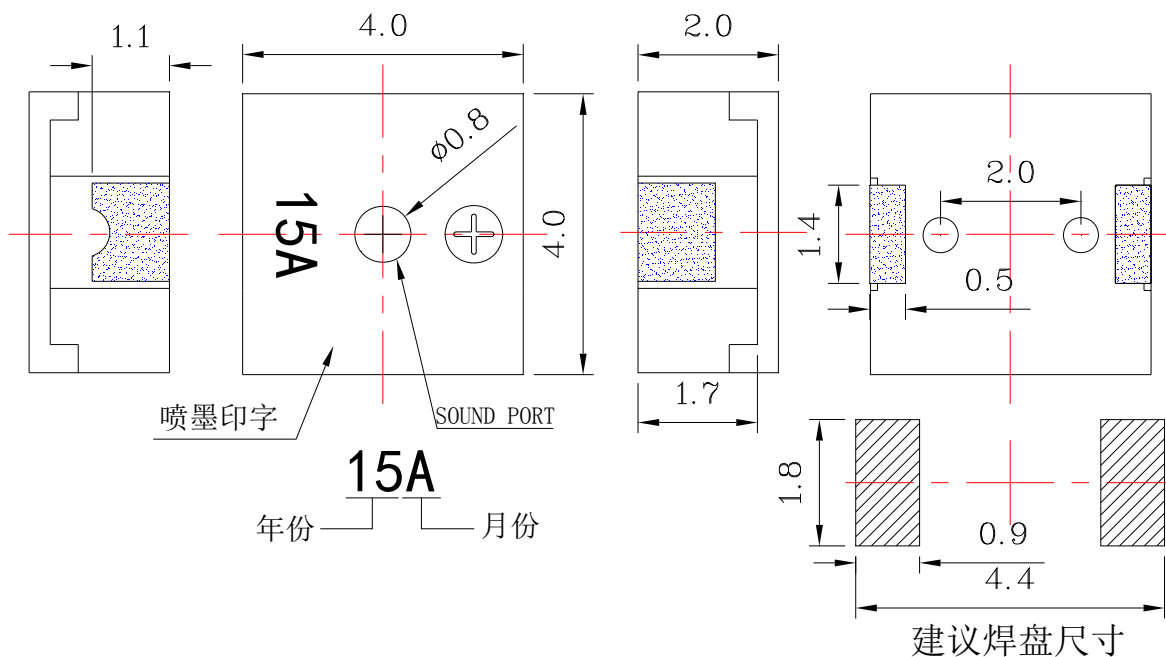
A. SCOPE

This specification applies magnetic buzzer, **SMT-4020A-03040**

B. SPECIFICATION

| No. | Item | Unit | Specification | Condition |
|-----|-------------------------------------|--------------------|----------------------|----------------------------|
| 1 | Oscillation Frequency | Hz | 4000 | Vo-p=1/2duty , square wave |
| 2 | Operating Voltage | Vo-p | 2 ~ 4 | |
| 3 | Rated Voltage | Vo-p | 3 | |
| 4 | Current Consumption | mA | MAX. 90 | at Rated Voltage |
| 5 | Sound Pressure Level | dB | MIN. 70 | at 10cm at Rated Voltage |
| 6 | Coil Resistance | Ω | 17 \pm 3 | |
| 7 | Operating Temperature | $^{\circ}\text{C}$ | -20 ~ +70 | |
| 8 | Storage Temperature | $^{\circ}\text{C}$ | -30 ~ +80 | |
| 9 | Dimension | mm | 4.0 x 4.0 x H2.0 | See appearance drawing |
| 10 | Weight (MAX) | gram | 0.1 | |
| 11 | Housing Material | | LCP(Black) | |
| 12 | Leading Pin | | Tin Plated Brass(Sn) | See appearance drawing |
| 13 | Environmental Protection Regulation | | RoHS | |

C. APPEARANCE DRAWING



Tol : ± 0.3

Unit: mm

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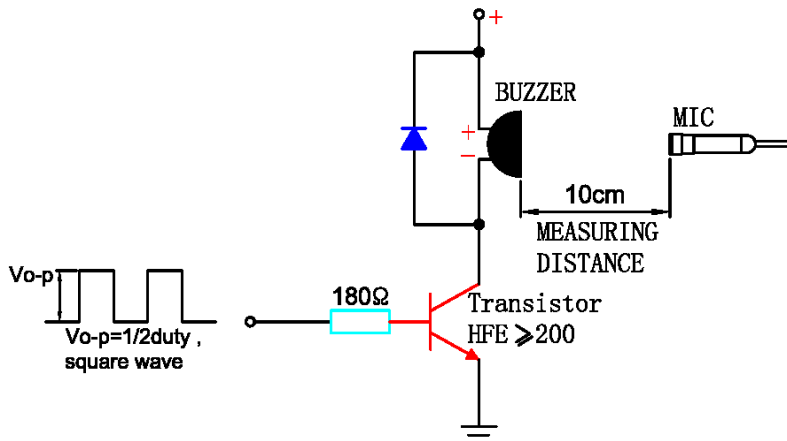
D. TESTING METHOD

Standard Measurement conditions

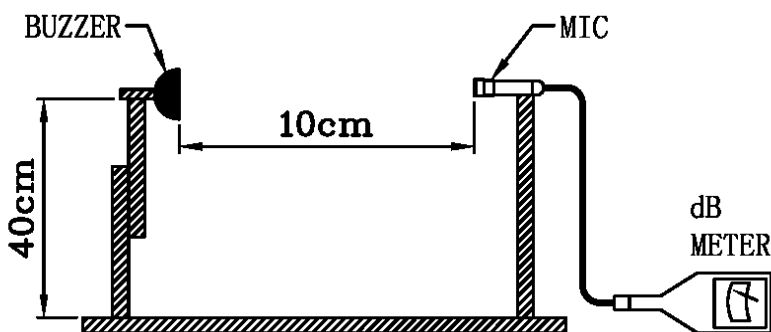
Temperature: $25 \pm 2^\circ\text{C}$ Humidity: 45-65%

Acoustic Characteristics:

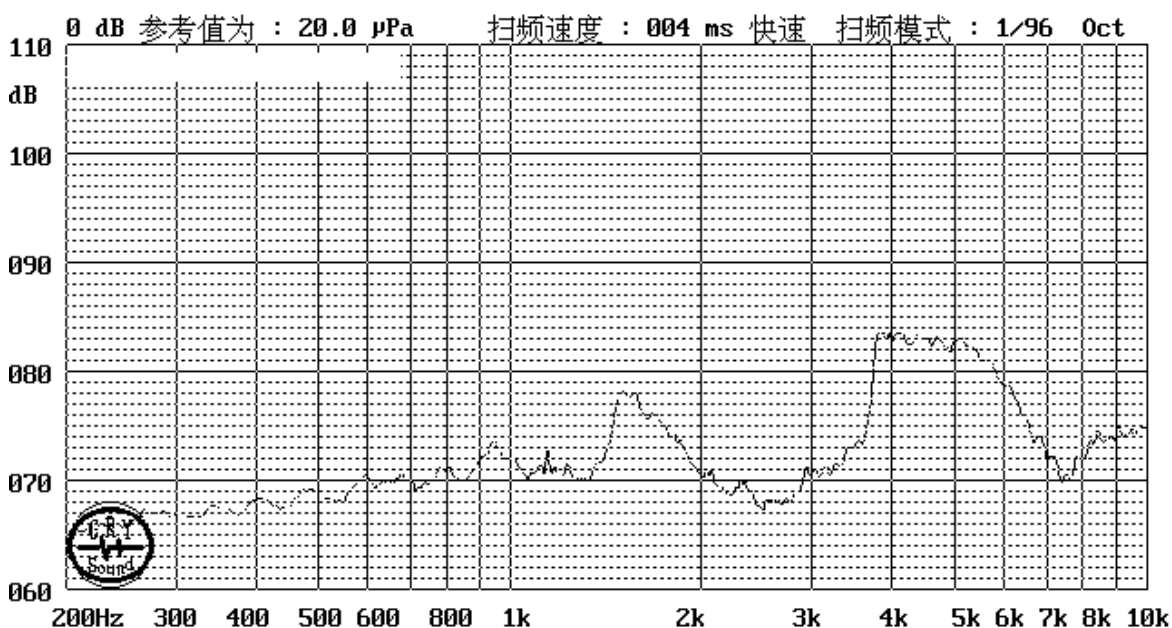
The oscillation frequency, current consumption and sound pressure are measured by the measuring instruments shown below



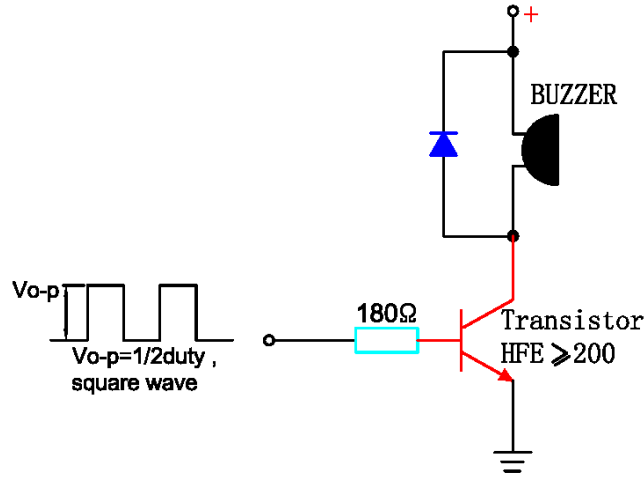
In the measuring test, buzzer is placed as follows:



E. Typical Frequency Response Curve



F. Recommend Driving Circuit



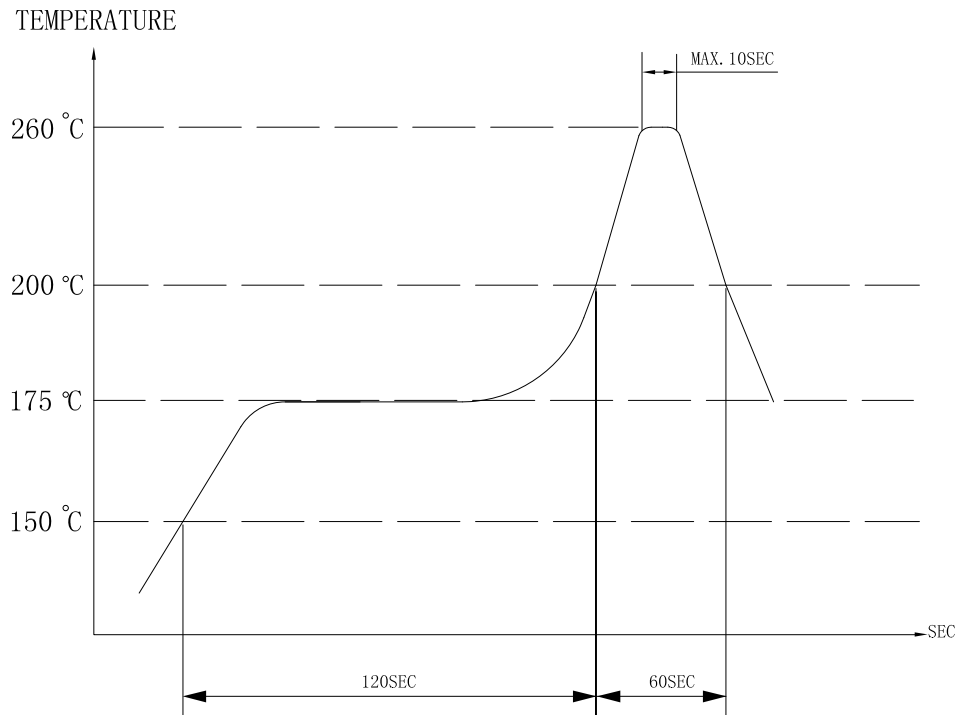
The base current I_b should be high enough so that it saturates the collector current of the transistor with the CB load.

G. Soldering Condition

(1) Recommended reflow soldering condition is as follows

(Reflow soldering is twice)

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



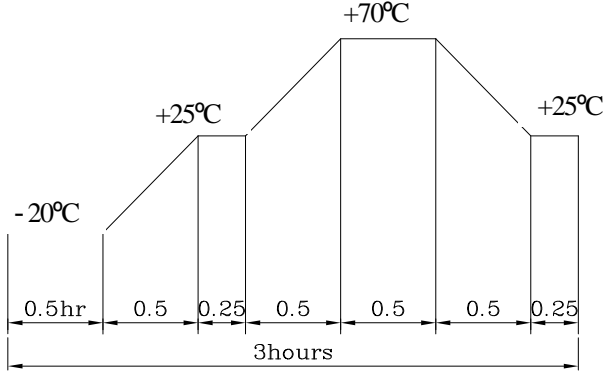
Heat resistant line

(Used when heat resistant reliability test is performed)

(2) Manual soldering

Manual soldering temperature 350 $^{\circ}\text{C}$ within 5 sec.

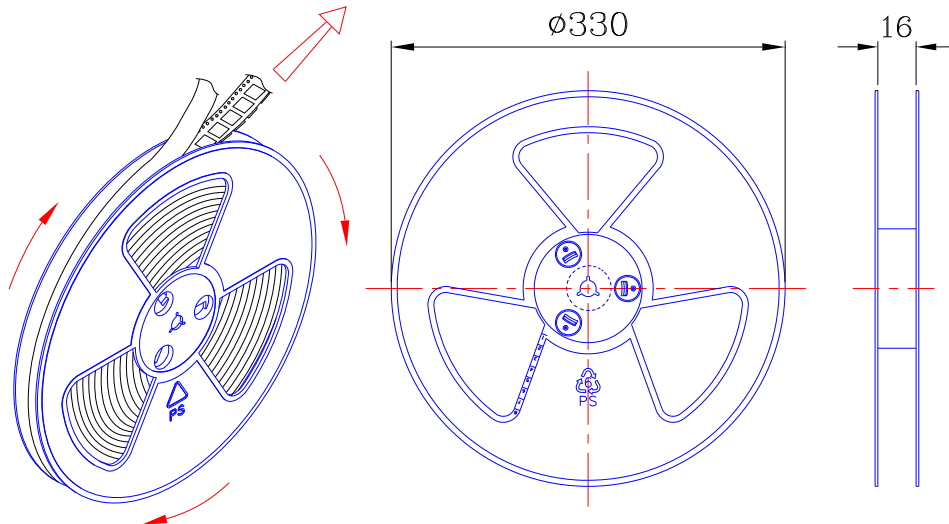
H. RELIABILITY TEST

| NO. | ITEM | TEST CONDITION AND REQUIREMENT |
|-----|---------------------------------|---|
| 1 | 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: $\pm 10\text{dB}$. |
| 2 | 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: $\pm 10\text{dB}$. |
| 3 | 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: $\pm 10\text{dB}$. |
| 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 -20°C for 0.5 hours, then ramps up to $+25^{\circ}\text{C}$ in 0.5 hours, holds at $+25^{\circ}\text{C}$ for 0.25 hours, ramps up to $+70^{\circ}\text{C}$ in 0.5 hours, holds at $+70^{\circ}\text{C}$ for 0.5 hours, ramps down to $+25^{\circ}\text{C}$ in 0.5 hours, holds at $+25^{\circ}\text{C}$ for 0.25 hours, and finally ramps down to -20°C in 0.5 hours. The total duration is 3 hours.</p> <p>Allowable variation of SPL after test: $\pm 10\text{dB}$.</p> |
| 5 | 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: $\pm 10\text{dB}$. |
| 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 . Allowable variation of SPL after test: $\pm 10\text{dB}$. |
| 7 | 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 ± 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. |

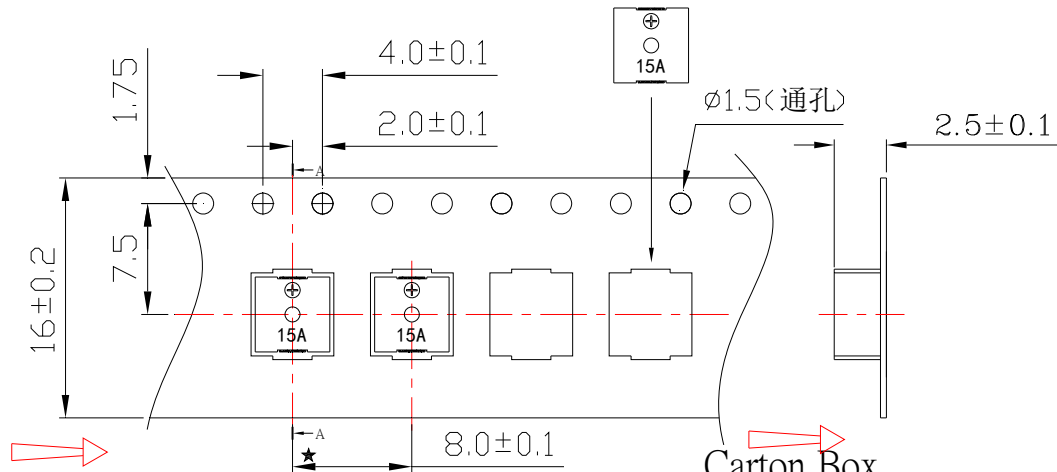
TEST CONDITION.

| | | | | |
|-------------------------|---|--|----------------------|----------------------------|
| Standard Test Condition | : | a) Temperature : $+5 \sim +35^{\circ}\text{C}$ | b) Humidity : 45-85% | c) Pressure : 860-1060mbar |
| 一般测试条件 | : | a) 温度 : $+5 \sim +35^{\circ}\text{C}$ | b) 湿度 : 45-85% | c) 气压 : 860-1060mbar |
| Judgment Test Condition | : | a) Temperature : $+25 \pm 2^{\circ}\text{C}$ | b) Humidity : 60-70% | c) Pressure : 860-1060mbar |
| 争议时测试条件 | : | a) 温度 : $+25 \pm 2^{\circ}\text{C}$ | b) 湿度 : 60-70% | c) 气压 : 860-1060mbar |

I. PACKING STANDARD

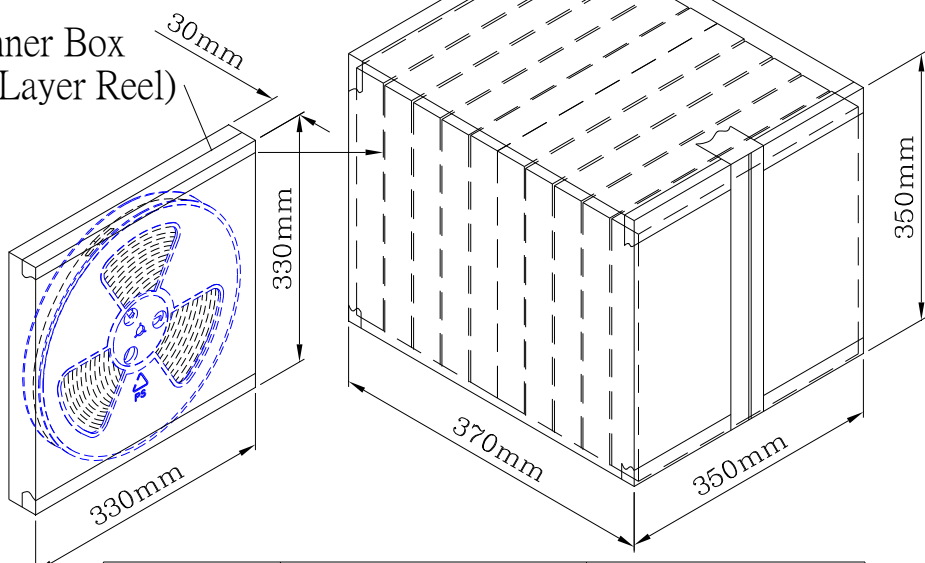


1 Reel : 3000PCS



Carton Box
(10 Inner Box)

Inner Box
(1Layer Reel)



| | | |
|------------|-------------------|----------------------|
| Inner Box | 330mmx330mmx30mm | 1x3000PCS=3000PCS |
| Carton Box | 350mmx350mmx370mm | 10x3000PCS=30,000PCS |