



SPECIFICATION  
FOR ELECTRO-MAGNET TRANSDUCER

TOTAL PAGE 09 [www.bestargroups.com](http://www.bestargroups.com) RoHS

Customer		Model Name	SMT5050-03H03-02 LF
Customer P/N		Product No.	050715
Date	08 June. 2018	Issue No.	BS/TET01.530E
Page	01 of 09	Issue Date	18/06/08

Approval:

- 1.Characteristics
- 2.Dimension
- 3.Reliability Test
- 4.Frequency Characteristics Chart
- 5.Surface Mounting Condition
- 6.Reel Packing
- 7.Notice
- 8.History change record

Drawn by	Checked by	Approved by	Customer approved
包丽萍	李梅芳	赵峥	

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# SMT5050-03H03-02 LF

## 1. Characteristics

### 1.1 Features

1. SMD;thinner , smaller size
2. High S.P.L.; and clear sound
3. Reflowable;RoHS compliant
4. Tape & Reel supply
5. Minimum quantity (one reel): 2000 pcs.



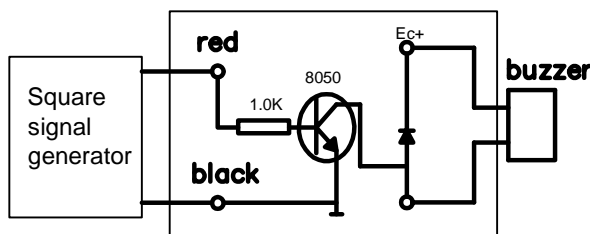
### 1.2 Electrical and Mechanical Characteristics

No.	Item	Specifications
1	Rated Voltage	3Vo-p
2	Operating Voltage range	2-4Vo-p
3	Rated Frequency	4000Hz
4	Rated Current	max.110mA
5	Coil Resistance	12±3 Ω
6	a) Sound Pressure Level at 10cm	min.78dB
7	Operating Temperature	-20...+70℃
8	Storage Temp.	-30...+80℃
9	Weight	0.3 g
a)Value applying rated voltage (4000Hz,1/2 duty,square wave)		

### 1.3 Test method:

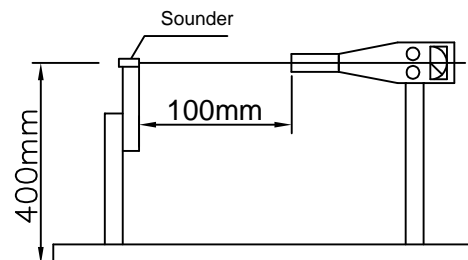
#### 1.31.Recommended Circuit

the following are examples of externally driven circuits.



#### 1.32.Standard test Fixture

No reaction in space with in 400mm in all direction

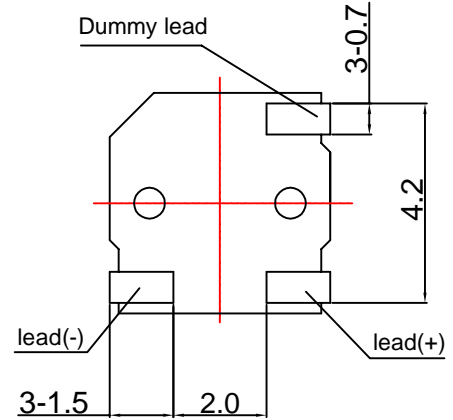
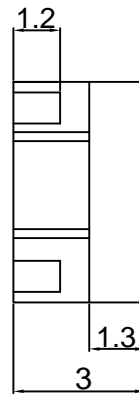
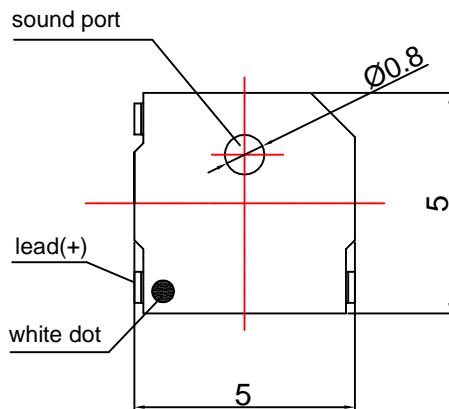


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C	13/07/28	陈兴中	add Soldering Pattern and change the tolerance	Checked by:	李梅芳	
REV.	Date	Drawn	Note	Approved by:	赵峥	Transducer
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## 2.Dimension



Unit:mm  
tolerance:±0.3

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## 3. Reliability Test

### 3.1 high temperature test

Temperature +80°C  
Duration 240hrs

### 3.2 low temperature test

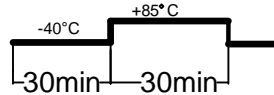
Temperature -30°C  
Duration 240hrs

### 3.3 life test in normal temperature

Temperature 25±10°C  
Power supply 3.0Vo-p squarewave 1/2 duty 4kHz  
Duration 240hrs

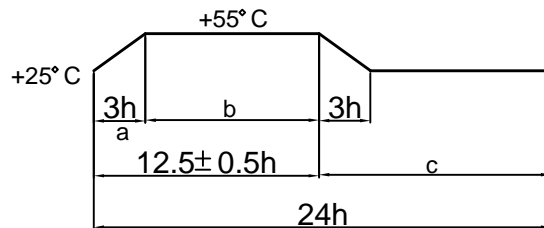
### 3.4 Thermal shock

Cycles 5



### 3.5 Humidity cycle test

Cycles 5



a, c : 95~100%RH  
b : 90~96%RH  
Cycles 6

### 3.6 High Temp. life

Temp. +70°C  
Power supply 4.0Vo-p Square wave 1/2 duty 4kHz  
Duration 240hrs

### 3.7 Low Temp. life

Temp. -30°C  
Power supply 3.0Vo-p Square wave 1/2 duty 4kHz  
Duration 240hrs

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## 3.8 Vibration

Frequency 10~55Hz  
 Amplitude 1.5mm  
 Direction X,Y&Z  
 Duration 2hrs each, total 6hrs

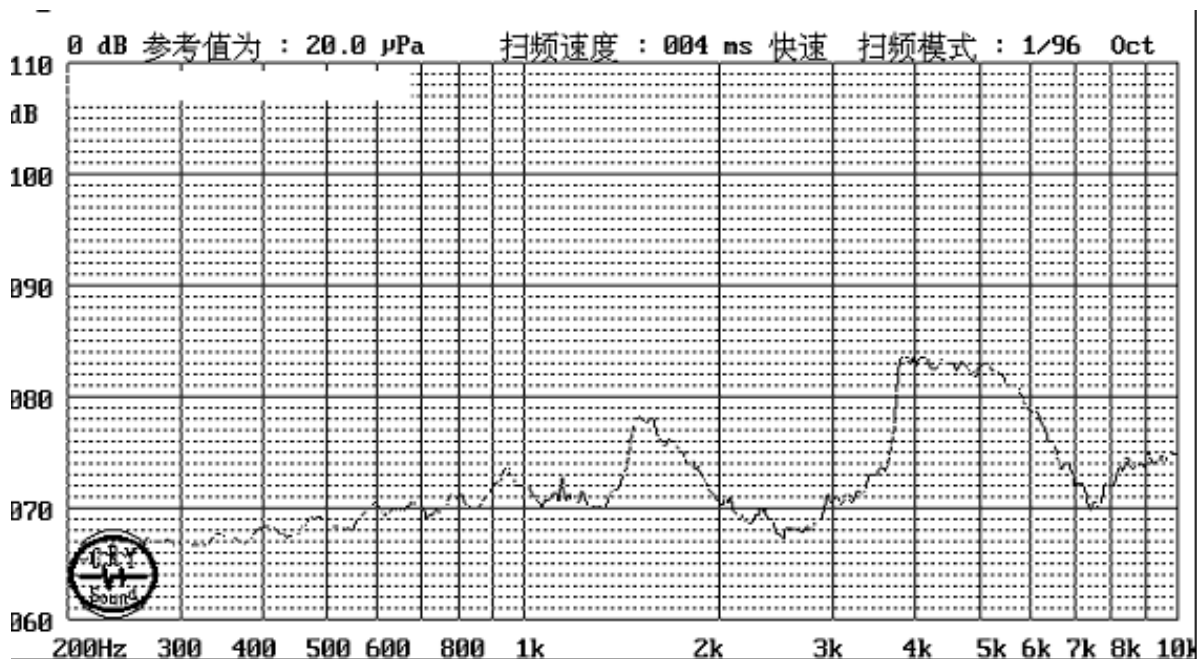
## 3.9 Drop test

Height 70cm  
 (to 10mm thickness woodenboard)  
 Direction 3

## 3.10 Solderability

Solder temp. 255±5°C  
 Soaking time 2±0.5sec

## 4. Frequency Characteristics Chart



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## 5.Surface Mounting Condition

In automated mounting of The SMD Sound Transducers on printed circuit boards,any bending,expanding and pulling forces or shocks against the SMD Sound Transducers shall be kept minimum to preven them from electrical failures and mechanical damages of the devices.

### Soldering(Reflow)

- (1)Solderings of The SMD Sound Transducers shall conform to the soldering conditions in the individual specifications.
- (2)The SMD Sound Transducers are designed for"Reflow Solderings"
- (3)In the reflow solderings,too high soldering temperatures and too large tempearture gradient such as rapid heating or cooling may cause electrical failures and mechanical damages of the devices.

Follwing soldering conditions are recommend;Refer to Fig.1

Temperature profile for a lead-free reflow process

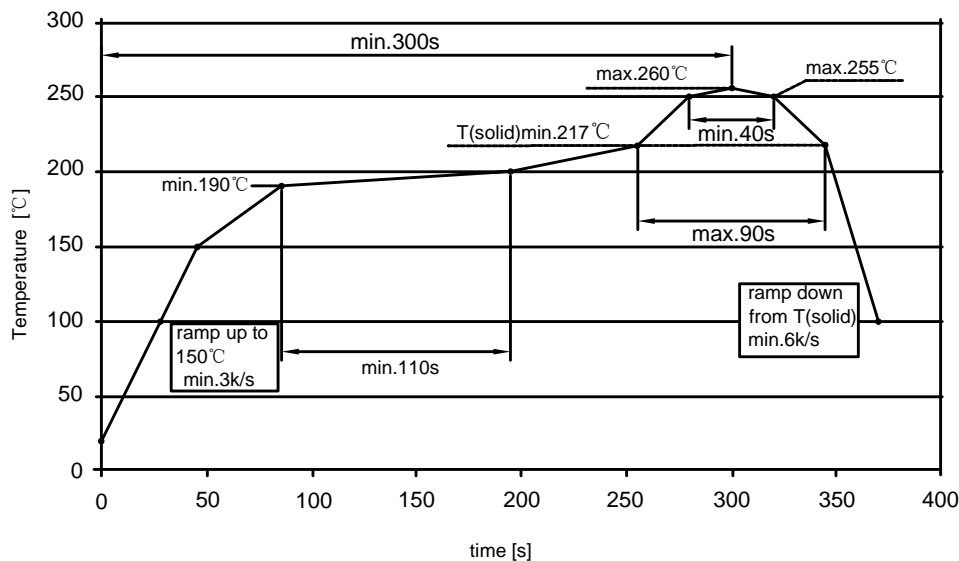
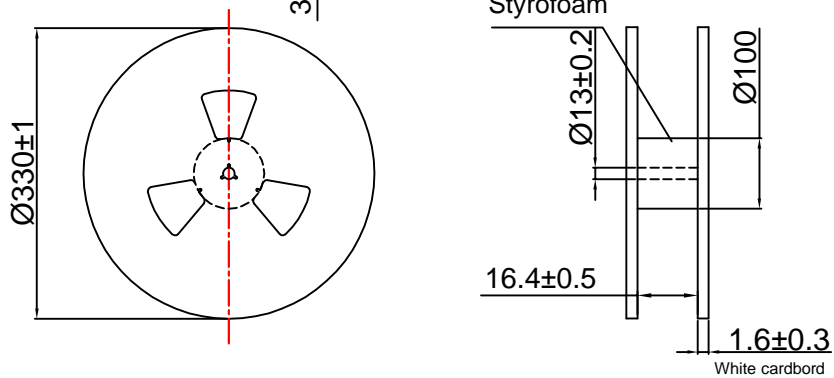
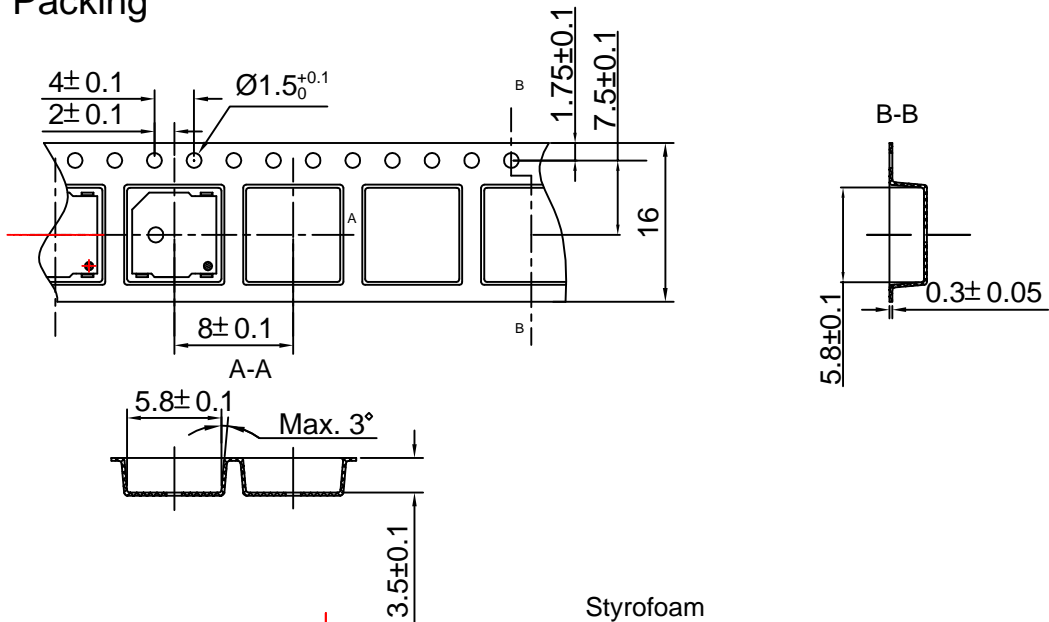


Fig. 1 Recommended soldering Temperature-Time profile (Reflow soldering)

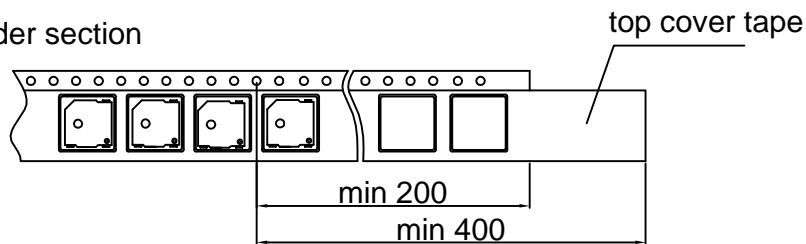
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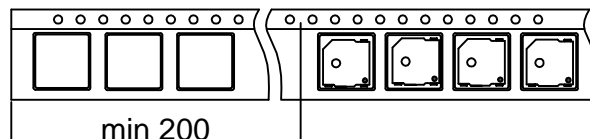
## 6.Reel Packing



### 1) Leader section



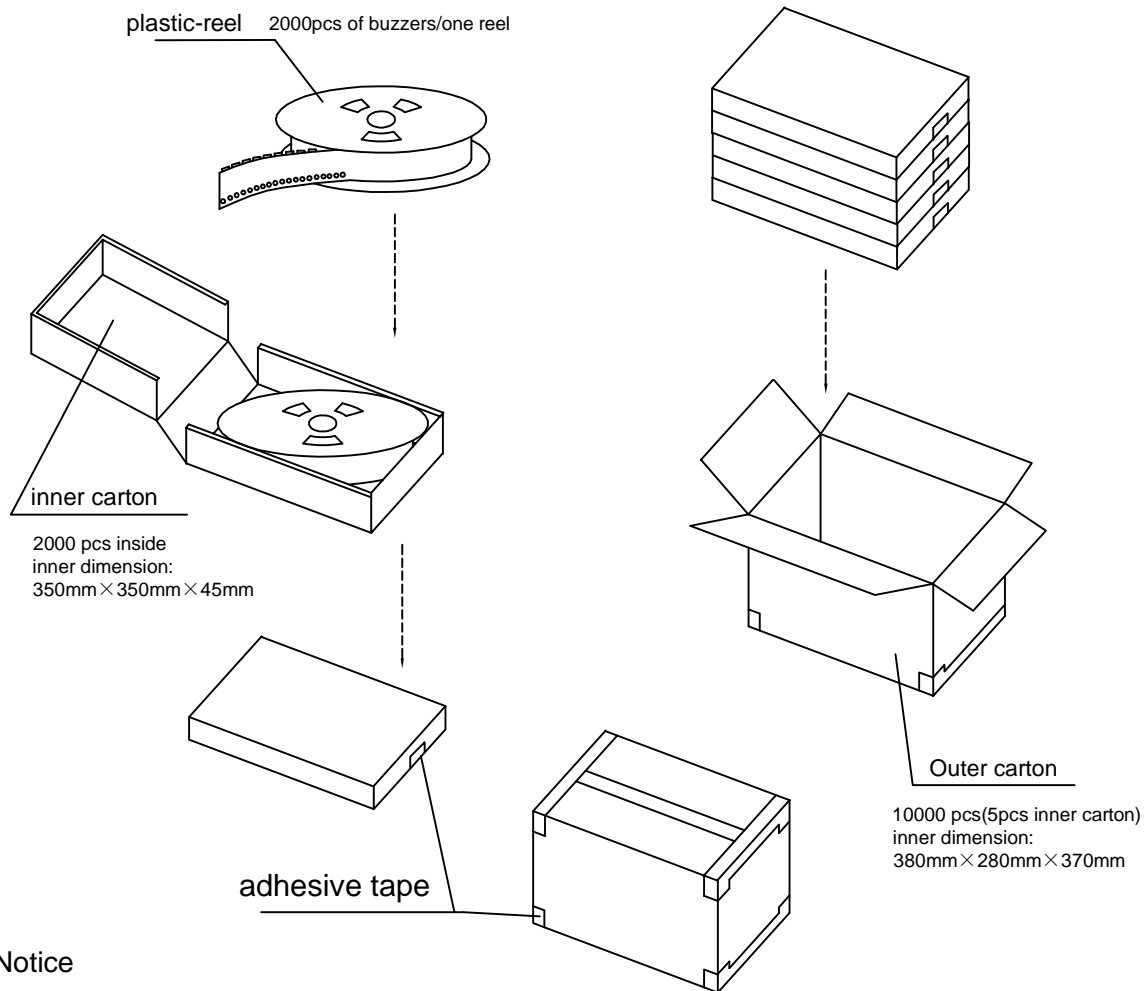
### 2) Trailer section



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## 7. Notice

7.1 The products mustn't be washed

### 7.2 Storage Condition

The products should be stored in the room where the temperature/humidity is stable. And avoid such places where there are large temperature changes. Please store the products at the following conditions:

Temperature: -10 to + 40° C Humidity: 15 to 85% R.H.

### 7.3 Expire Date on Storage

Expire date (Shelf life) of the products is six months after delivered under the conditions of a sealed and an unopened package. Please use the products within six months after delivered.

If you store the products for a long time (more than six months), use carefully because the products may be degraded in the solderability and/or rusty. Please confirm solderability and characteristics for the products regularly.

### 7.4 Notice on Product Storage

(1) Please do not store the products in a chemical atmosphere (Acids, Alkali, Bases, Organic gas, Sulfides and so on), because the characteristics may be reduced at quality, and/or be degraded in the solderability due to the storage in a chemical atmosphere.

(2) Please use the products immediately after the package is opened, because the characteristics may be reduced at quality, and/or be degraded in the solderability due to storage under the poor condition.

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## 8. History change record

version No.	Change Items		Date	Drawn	Approved
	Before	After			
A			08/03/07	高 正	郭敏
B		characteric standardized	09/08/06	魏奉玲	张秀琴
C		add Soldering Pattern and change the tolerance	13/07/28	陈兴中	王 平
D		change the dimension of the reel packing	14/03/07	徐波	王 平
E		updated version	18/06/08	包丽萍	赵 峥

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