

<b>SPECIFICATION FOR ELECTRO-MAGNET TRANSDUCER</b>			
	TOTAL PAGE	09	RoHS

Customer		Model Name	
Customer P/N		Product No.	051602
Date	19 Aug. 09	Issue No.	BS/TET01.059D
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Approval:

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- 5.Packing
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- 7.History change record

Drawn by	Checked by	Approved by	Customer approved
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# 1.Characteristics

## 1.1 Features

1. SMD;thinner , smaller size
2. High S.P.L.; and clear sound
3. Reflowable;RoHS complant
4. Tape & Reel supply
5. Minimum quantity (one reel): 500 pcs.



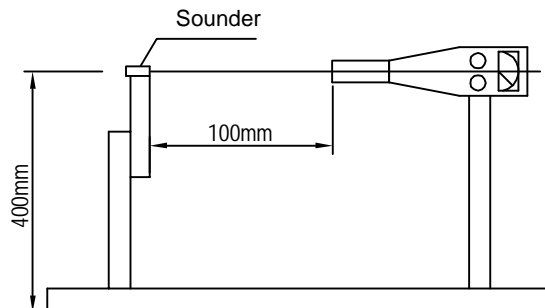
## 1.2 Electrical and Mechanical Characteristics

No	Type	Specifications
1	Rated Voltage ( V )	5
2	Operating Voltage ( V )	4-7
3	a)Rated Current ( mA )	max.30
4	a)Sound Output at 10cm(dB)	min.85
5	a)Resonant Frequency( Hz )	2300 ± 300
6	Operating Temperature( ° C )	-40~+85
7	Storage Temperature( ° C )	-40~+90
8	Weight ( g )	2
	a)Value applying rated voltage(DC)	
	Sound Output after reliability test more than 75 dB	

## 1.3 Test method:

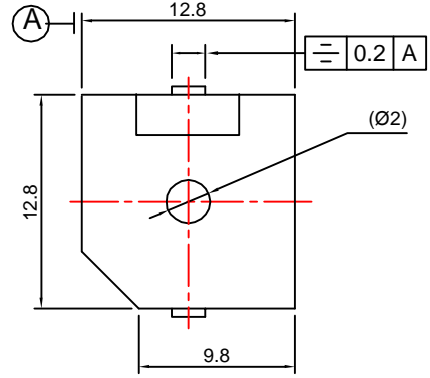
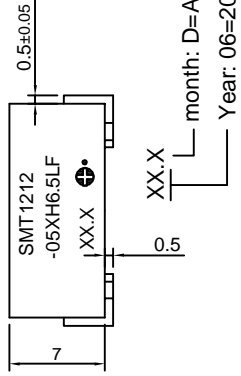
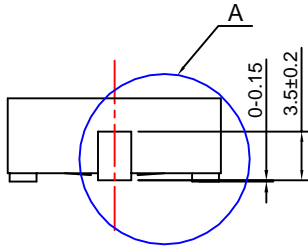
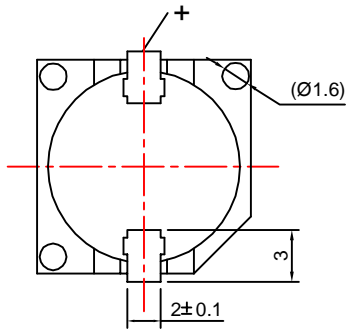
### Standard test Fixture

No reaction in space with in 400mm in all direction



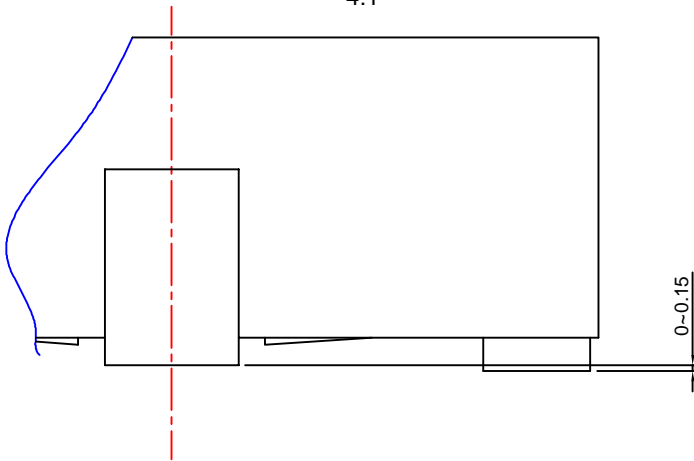
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## 2.Dimension:



A

4:1



Tolerance:  $\pm 0.3$ mm

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### 3. Reliability Test

#### 3.1 High temperature storage test

Temperature +90° C  
Duration 96hrs

#### 3.2 Low temperature storage test

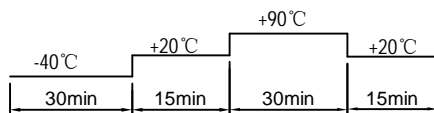
Temperature -40° C  
Duration 96hrs

#### 3.3 Life test in normal temperature

Power supply Rated voltage  
Duration 1000hrs

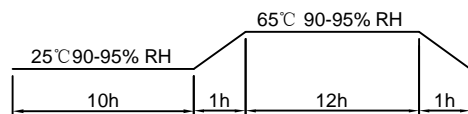
#### 3.4 Temperature cycle test

Cycles 5



#### 3.5 Humidity cycle test

Cycles 5



All these tests above should be measured after leaving normal temperature for 4hrs.

#### 3.6 Vibration Test

Vibration Frequency 10~55Hz  
Amplitude 1.53mm  
Direction 3(x.y&z)  
Duration 2hrs each direction (total 6 hrs)

#### 3.7 Drop test

Height 70cm  
(to 10mm thickness woodenboard)  
Direction 3(x.y&z)

#### 3.8 Solderability Test

Soldering Temperature  $250 \pm 5^\circ\text{C}$   
Duration  $3 \pm 0.5\text{sec}$

Notice: All specification must be satisfied in this condition except SPL. SPL shall be 75dB or more.

## 4.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 to a minimum to prevent them from electrical failures and mechanical damages of the devices.

### Soldering(Reflow)

- (1)Soldering of The SMD Sound Transducers shall conform to the soldering conditions in the individual specifications.
- (2)The SMD Sound Transducers are designed for"Reflow Soldering"
- (3)In the reflow soldering,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.

Following soldering conditions are recommended; Refer to Fig.1

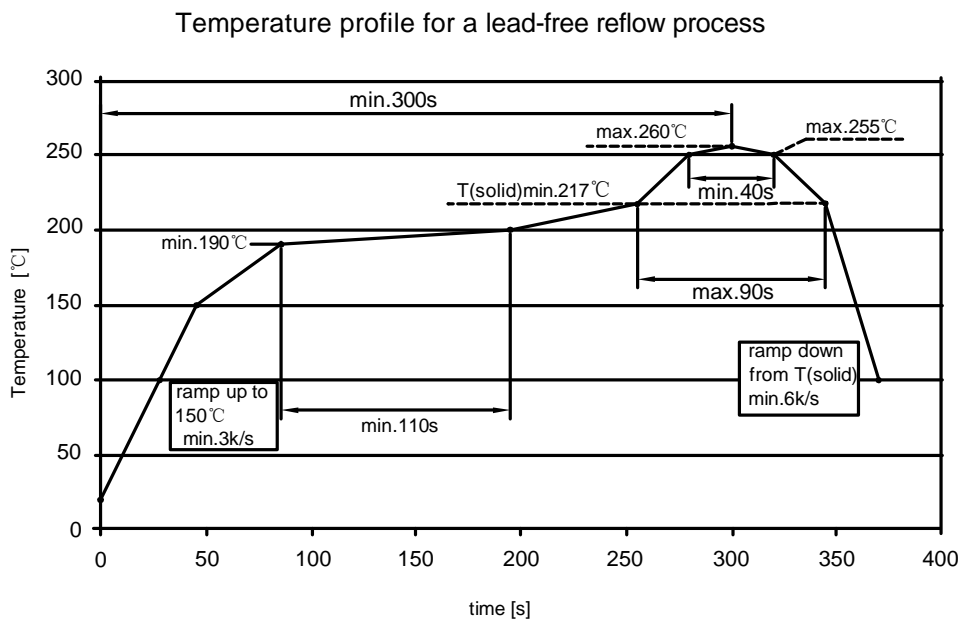


Fig. 1 Recommended soldering Temperature-Time profile (Reflow soldering)

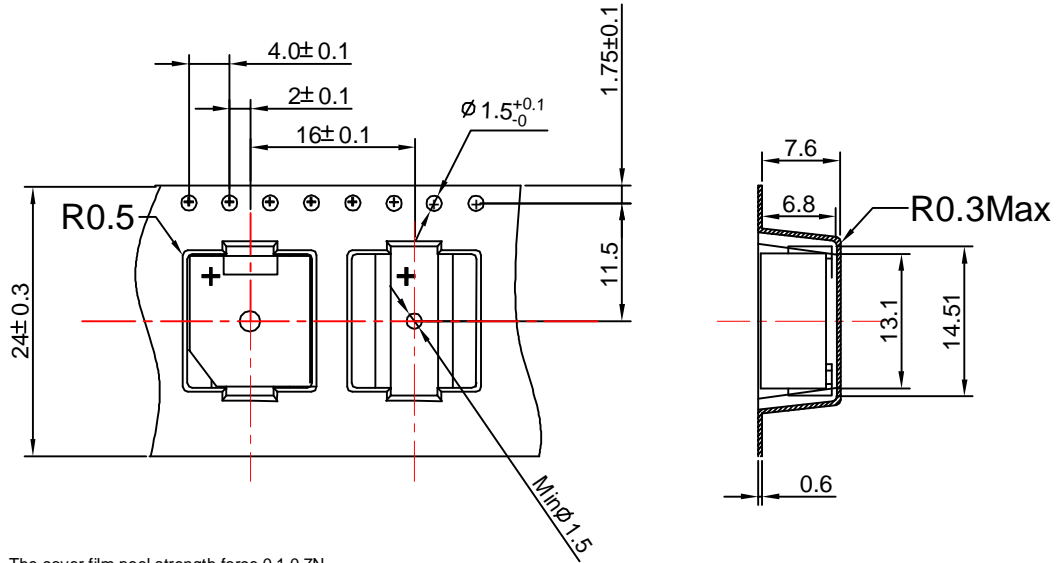
Notice: All specification must be satisfied in this condition except SPL. SPL shall be 82dB or more.

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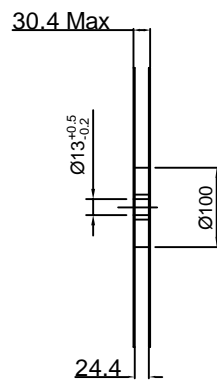
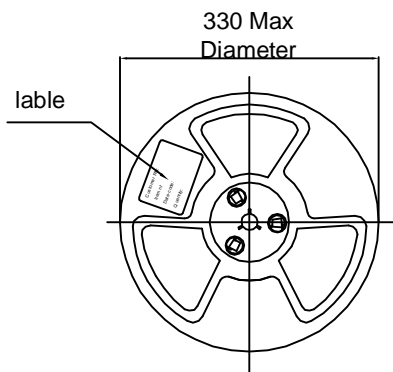
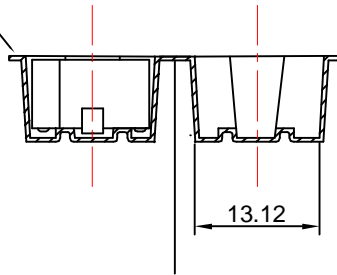
## 5. Packing

### 5.1 Reel packing

#### 5.1.1 Reel drawing

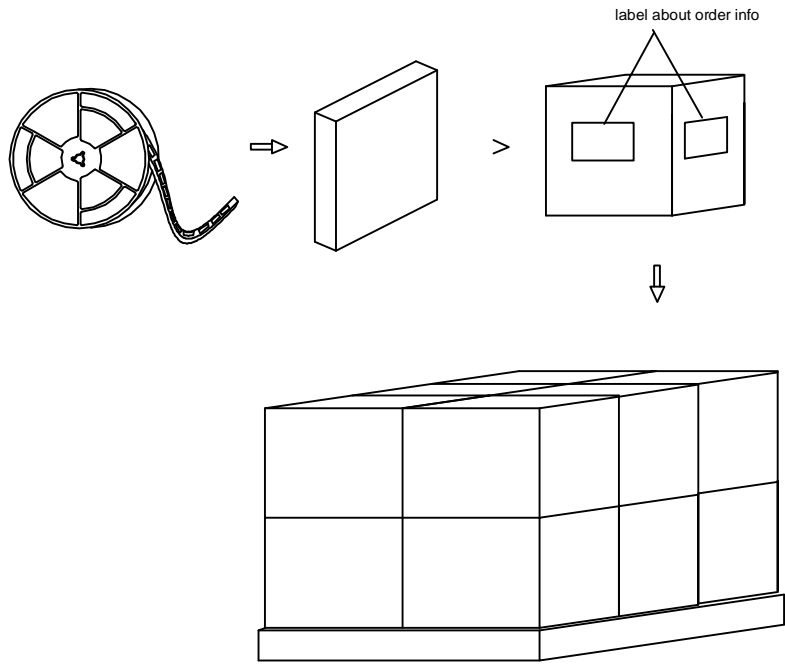


The cover film peel strength force 0.1-0.7N  
The cover film peel speed 300mm/min.



## 5.2 packing quantity

- 5.21 500pcs/reel
- 5.22 5reels/carton
- 5.23 2500 pcs/carton in total
- 5.24 carton size 38x28x37cm
- 5.25 12cartons/tray
- 5.26 tray size 85x77x74cm



## 6. Notice

### 6.1 The products mustn't be washed

### 6.2 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.

### 6.3 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.

### 6.4 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.



