

# SPECIFICATION

## For Electro-Magnet Transducer

Customer	
Customer P/N	SMT-0825-T-R
BeStar Model Name	SMT8585-3.6H04-05LF
Product No.	050220
Issue No.	BS/TET01.430A
Issue Date	07/02/01

### Approval:

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

Drawn by	Checked by	Approved by	Customer approved
韩学慧	邵凯	程久生	

For conform to the European Union Directive on the Restriction of Hazardous Substances(RoHS), this type of productions forbid use all the hazardous substances as follow:

Lead  
 Cadmium  
 Mercury  
 Hexavalent chromium  
 Polybrominated biphenyls (PBB)  
 Polybrominated diphenyl ethers (PBDE)



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# SMT8585-3.6H04-05 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): 1000 pcs.

### 1.2 Electrical and Mechanical Characteristics

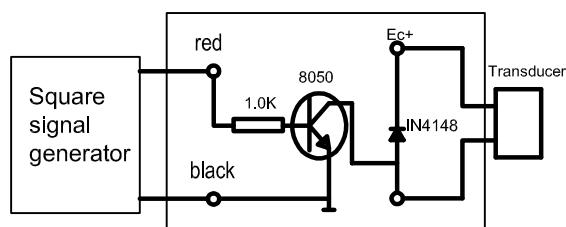
No.	Item	Specifications
1	Rated Voltage	3.6 Vp-p
2	Operating Voltage	2.5...4.5 Vp-p
3	Rated Current	max.90mA
4	Sound Output (at 10cm)	min.87dB
5	Resonance Frequency	2500Hz
6	Coil Resistance	15± 3ohm
7	Operating Temp.	-30...+70℃
8	Storage Temp.	-40...+85℃
9	Weight	0.6 g
10	Housing material	LCP

Current/Sound Output:value applying rated voltage (2500Hz,3.6Vp-p,1/2 duty,squre wave)

### 1.3 Test method:

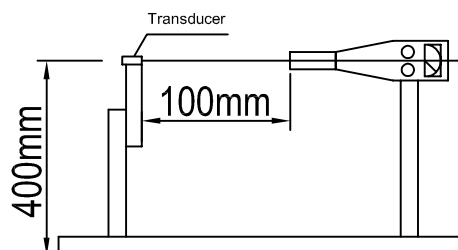
#### 1.3.1.Recommended Circuit

the following are examples of externally driven circuits.



#### 1.3.2.Standard test Fixture

No reaction in space with in 400mm in all direction



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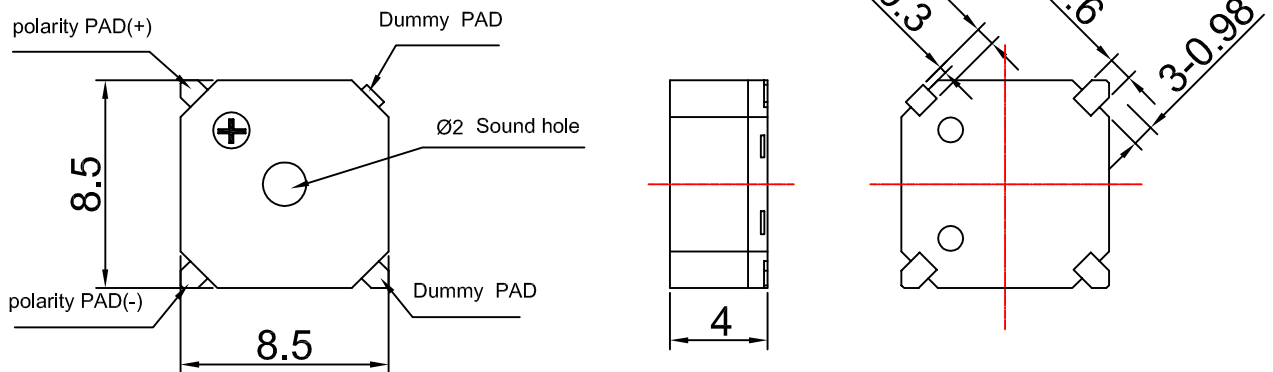
1.4 Frequency Response (Square wave, 3.6Vp-p 10cm)



## 2. Dimension

Tolerance:  $\pm 0.3$

Unit: mm



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## 3. Reliability Test

### 3.1 High temp. storage life test

Temperature +85 °C  
Duration 96hrs

### 3.2 Low temp. storage life test

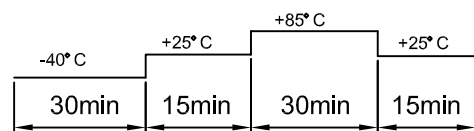
Temperature -40 °C  
Duration 96hrs

### 3.3 Life test in normal temperature

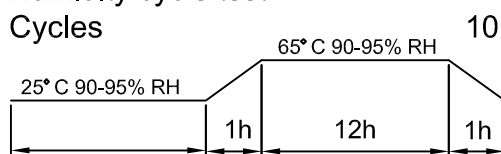
Power supply Rated voltage  
Duration 96hrs

### 3.4 Temperature shock test

Cycles 14



### 3.5 Humidity cycle test



### 3.6 High temp. life test

Temperature +85° C  
Duration 96hrs

### 3.7 Low temp. life test

Temperature -40° C  
Duration 96hrs

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

### 3.8 Vibration Test

Vibration Frequency 10~200~10Hz  
Time 15min  
Acceleration 5g  
Direction x.y & z 2h (total 6hrs)

### 3.9 Drop test

Height 150cm(drop to concrete floor)  
Direction one time in each 6 planes(total of 6 times)

### 3.10 Solderability

Temperature of soldering pot 245 °C ±5  
Duration 2 ±0.5sec

### 3.11 Pin lead strength

Force 10N  
Duration 10 ±1sec

Notice: All specification must be satisfied in this condition except SPL. SPL shall be 77dB or more.

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## 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 minimum to prevent 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 temperature 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

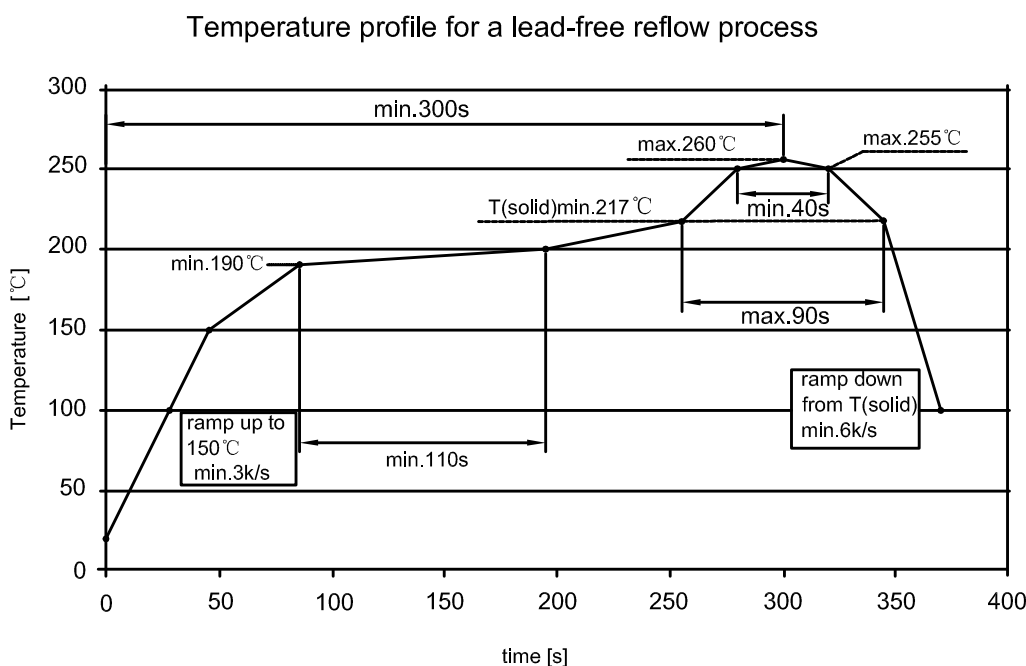


Fig. 1 Recommended soldering Temperature-Time profile (Reflow soldering)

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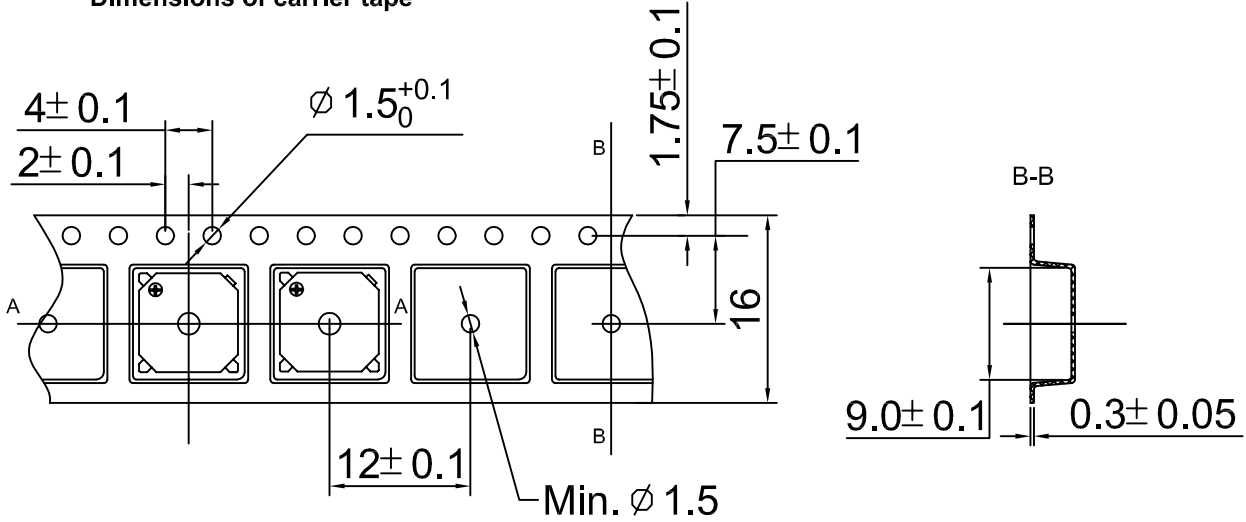
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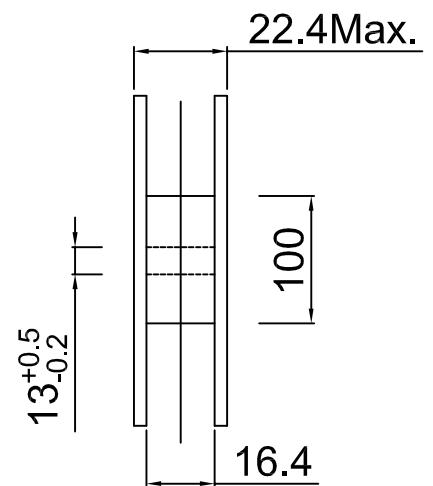
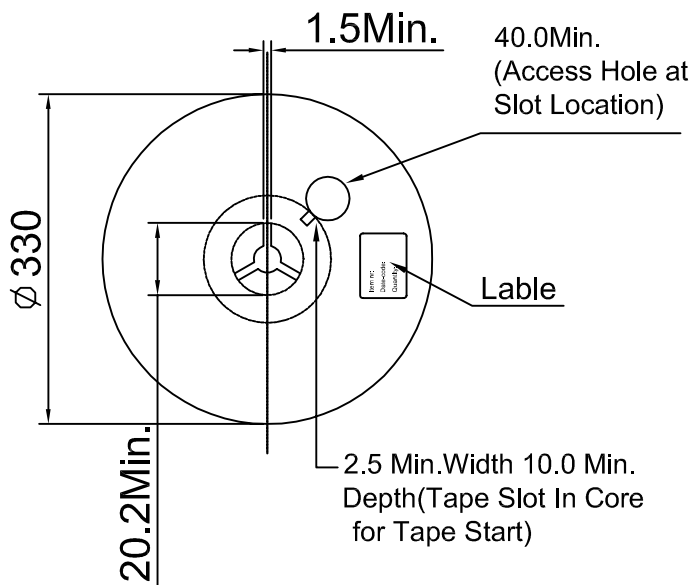
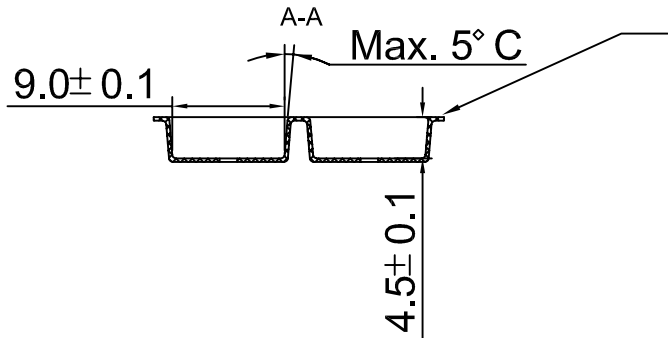
## 5. Tape on Reel Packing

5.1 packing drawing

Dimensions of carrier tape



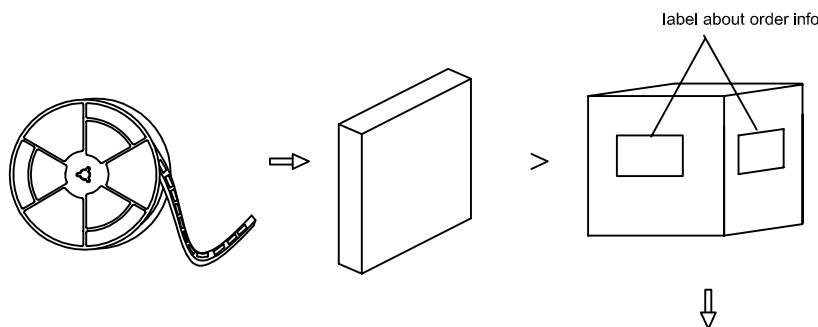
The cover film peel strength force 0.1-0.7N  
The cover film peel speed 300mm/min.



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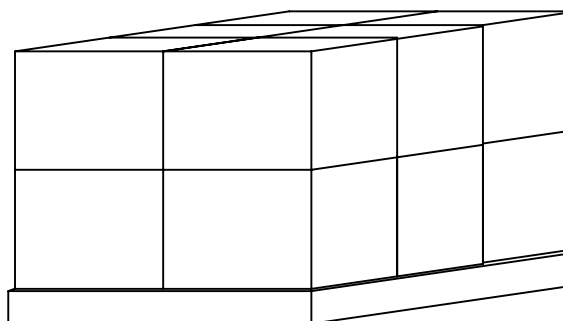
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## 5.2 packing quantity

- 5.2.1 1000pcs/reel
- 5.2.2 5reel/carton
- 5.2.3 5000 pcs/carton in total
- 5.2.4 carton size 38x28x37cm
- 5.2.5 12carton/tray
- 5.2.6 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.

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## 7. History change record

version No.	Change Items		Date	Drawn	Approved
	Before	After			
A			07/02/01	韩学慧	程久生

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