

# SPECIFICATION

## For Electro-Magnet Transducer

Customer	
Customer P/N	
BeStar Model Name	SMT1212-05H6.5F LF
Product No.	050635
Issue No.	BS/TET01.514A
Issue Date	07.12.28

### 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
魏奉玲	陶红仲	张秀琴	

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)



**BESTAR ELECTRONICS INDUSTRY CO.,LTD**  
 No.199 HuangHe West Road.New district,changzhou,  
 jiangsu Province,P.R.China  
 Tel:86-519-88222567 Fax:86-519-88222551  
 Http:[www.be-star.com](http://www.be-star.com)  
 E-mail: [wu@be-star.com](mailto:wu@be-star.com), [info@be-star.com](mailto:info@be-star.com)

# SMT1212-05H6.5F 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): 500 pcs.



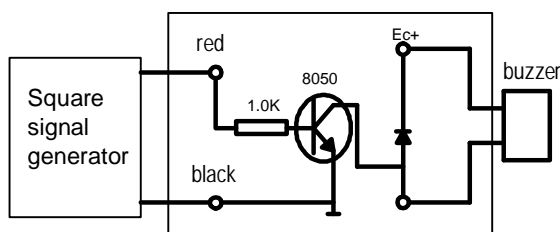
### 1.2 Electrical and Mechanical Characteristics

No.	Item	Specifications
1	Rated Voltage	5Vo-p
2	Operating Voltage	4...7 Vo-p
3	* Rated Current	max.40mA
4	* Sound Output (at 10cm)	min.90dB
5	Resonance Frequency	2400Hz
6	Coil Resistance	45± 5 Ω
7	**Coil Impedance	80 Ω
8	Operating Temp.	-40...+ 85 °C
9	Storage Temp.	-40...+ 90 °C
10	Weight	2 g
*Rate applying rated voltage (2400Hz,1/2 duty,square wave)		
**Value applying (2400Hz,sine wave,measuring current 60μA)		

### 1.3 Test method:

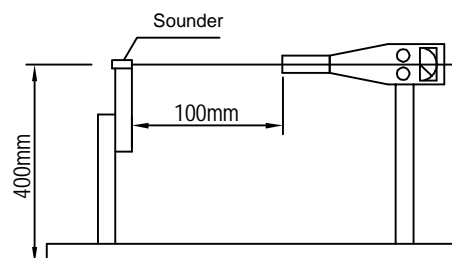
#### 1.31.Recommended Circuit

the following are examples of externally driven circuits.



#### 1.32.Standard test Fixture

No reaction in space with in 400mm in all direction

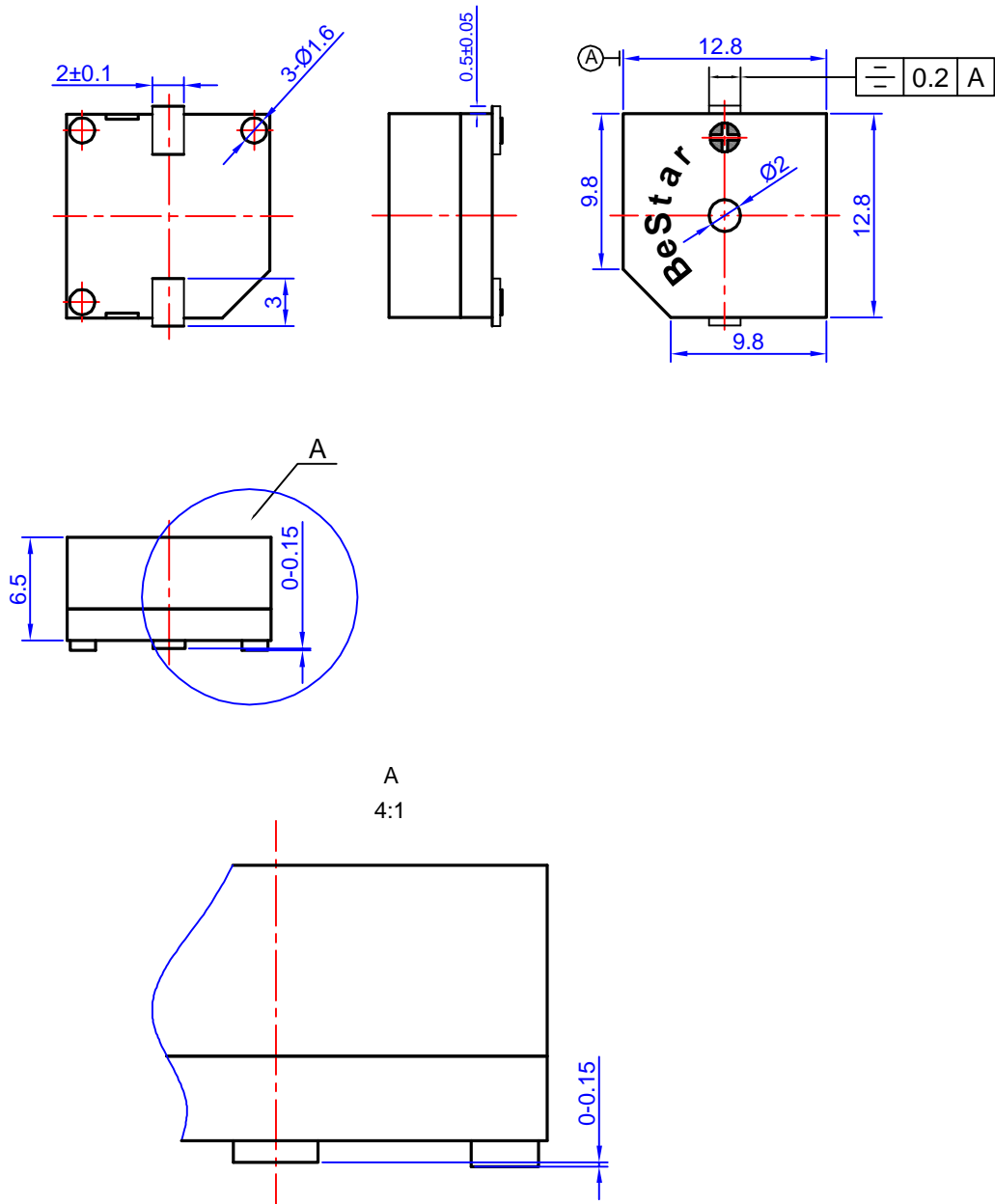


This print and information there in are proprietary to Bestar Electronics Industry Co., Ltd. and shall not be used in whole or in part without its written content

				Date:	07/12/28	SMT1212-05H6.5F LF	
				Drawn by:	魏奉玲		
A	A	07/12/28	魏奉玲	Checked by:	陶红仲	Transducer	
REV.	Date	Drawn	Note	Approved by:	张秀琴		
BESTAR ELECTRONICS INDUSTRY CO.,LTD						BS/TET01.514A	Page:1 of 7
<a href="http://www.be-star.com">www.be-star.com</a> <a href="mailto:wu@be-star.com">wu@be-star.com</a>							

# SMT1212-05H6.5F LF

## 2.Dimension



Unit: mm

Tolerance:  $\pm 0.3$

This print and information there in are propriety to Bestar Electronics Industry Co., Ltd. and shall not be used in whole or in part without its written content

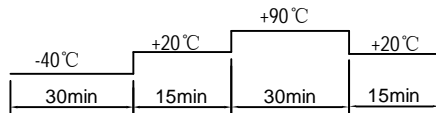
				Date:	07/12/28	SMT1212-05H6.5F LF	
				Drawn by:	魏奉玲		
A	A	07/12/28	魏奉玲	Checked by:	陶红仲	Transducer	
REV.	Date	Drawn	Note	Approved by:	张秀琴		
BESTAR ELECTRONICS INDUSTRY CO.,LTD						BS/TET01.514A	Page:2 of 7
www.be-star.com wu@be-star.com							

# SMT1212-05H6.5F LF

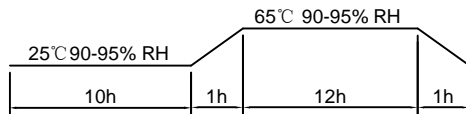
## 3.Environmental Test

- 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 2hrs.

- 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 ± 5°C
  - Duration 5 ± 0.5sec

Notice: All specifications must be satisfied in this condition except SPL. SPL shall be 88dB or More.

				Date:	07/12/28	SMT1212-05H6.5F LF
				Drawn by:	魏奉玲	
A	A	07/12/28	魏奉玲	Checked by:	陶红仲	Transducer
REV.	Date	Drawn	Note	Approved by:	张秀琴	
BESTAR ELECTRONICS INDUSTRY CO.,LTD						BS/TET01.514A
www.be-star.com wu@be-star.com						
						Page:3 of 7

This print and information there in are propriety to Bestar Electronics Industry Co., Ltd. and shall not be used in whole or in part without its written content.

# SMT1212-05H6.5F LF

## 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

Temperature profile for a lead-free reflow process

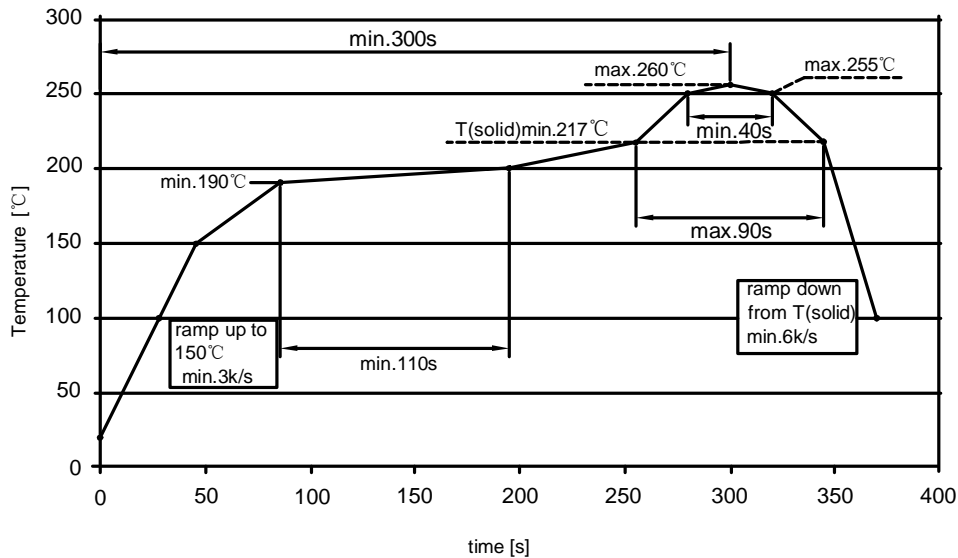


Fig. 1 Recommended soldering Temperature-Time profile (Reflow soldering)

Notice: All specifications must be satisfied in this condition except SPL. SPL shall be 88dB or More.

				Date:	07/12/28	SMT1212-05H6.5F LF	
				Drawn by:	魏奉玲		
A	A	07/12/28	魏奉玲	Checked by:	陶红仲	Transducer	
REV.	Date	Drawn	Note	Approved by:	张秀琴		
BESTAR ELECTRONICS INDUSTRY CO.,LTD						BS/TET01.514A	Page:4 of 7
www.be-star.com wu@be-star.com							

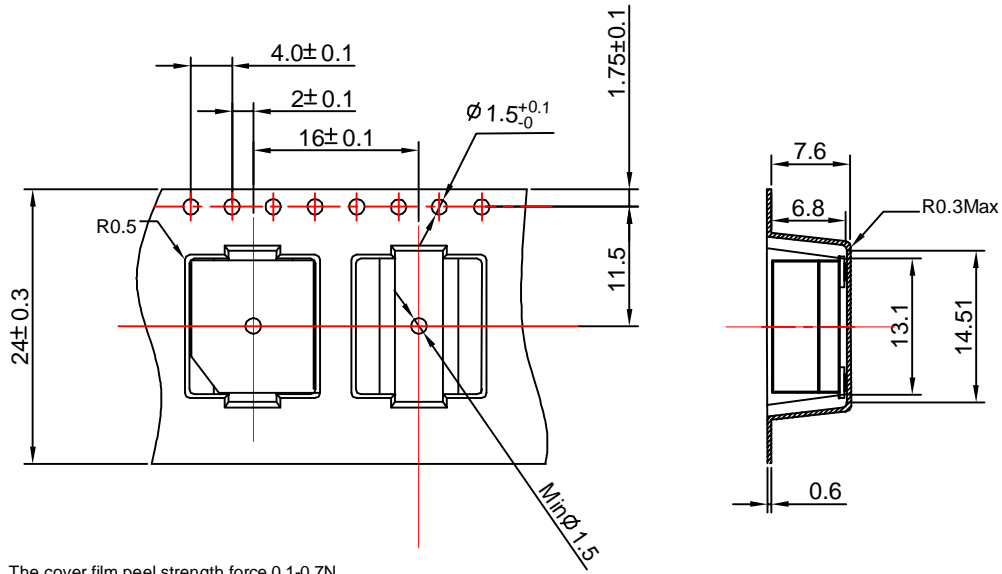
This print and information there in are proprietary to Bestar Electronics Industry Co., Ltd. and shall not be used in whole or in part without its written content.

# SMT1212-05H6.5F LF

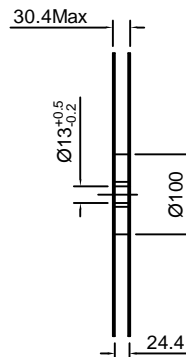
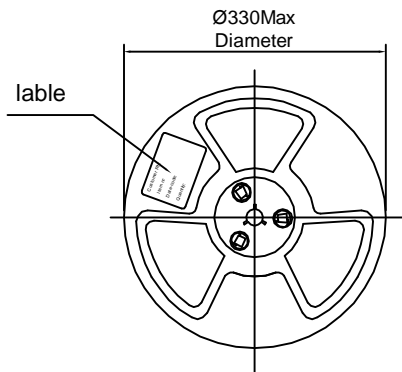
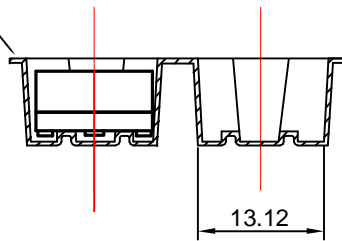
## 5. Tape on Reel Packing

### 5.1 packing drawing

#### Dimensions of carrier tape



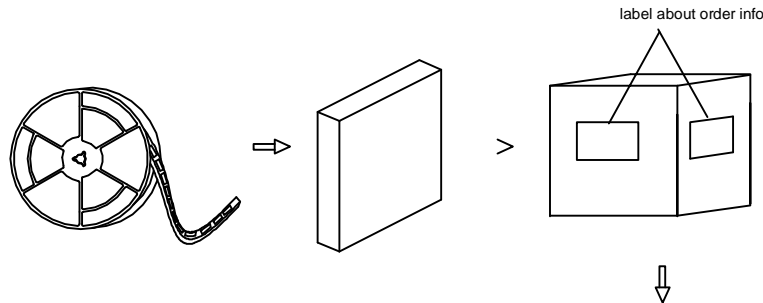
The cover film peel strength force 0.1-0.7N  
The cover film peel speed 300mm/min.



This print and information there in are proprietary to Bestar Electronics Industry Co., Ltd. and shall not be used in whole or in part without its written content

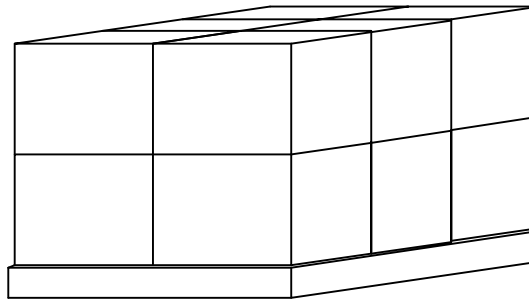
				Date:	07/12/28	SMT1212-05H6.5F LF
				Drawn by:	魏奉玲	
A	07/12/28	魏奉玲		Checked by:	陶红仲	Transducer
REV.	Date	Drawn	Note	Approved by:	张秀琴	
BESTAR ELECTRONICS INDUSTRY CO.,LTD						BS/TET01.514A
www.be-star.com wu@be-star.com						Page:5 of 7

# SMT1212-05H6.5F LF



## 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.

This print and information there in are proprietary to Bestar Electronics Industry Co., Ltd. and shall not be used in whole or in part without its written content

				Date:	07/12/28	SMT1212-05H6.5F LF	
				Drawn by:	魏奉玲		
A	A	07/12/28	魏奉玲	Checked by:	陶红仲	Transducer	
REV.	Date	Drawn	Note	Approved by:	张秀琴		
BESTAR ELECTRONICS INDUSTRY CO.,LTD						BS/TET01.514A	Page:6 of 7
www.be-star.com wu@be-star.com							

