



SPECIFICATION
FOR ELECTRO-MAGNET TRANSDUCER

TOTAL PAGE

09

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RoHS

Customer		Model Name	SMT1411-03H3.5 LF
Customer P/N		Product No.	050500
Date	24 Jul.2019	Issue No.	BS/TET01.033C1
Page	01 of 09	Issue Date	2019.07.24

Approval:

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

Drawn by	Checked by	Approved by	Customer approved
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SMT1411-03H3.5 LF

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): 750 pcs.

1.2 Electrical and Mechanical Characteristics

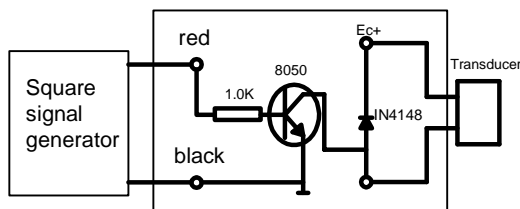
No.	Item	Specifications
1	Rated Voltage	3 Vo-p
2	Operating Voltage	2...4.5 Vo-p
3	Rated Current	max.70mA
4	Sound Output (at 10cm)	min.87dB
5	Resonance Frequency	3200Hz
6	Coil Resistance	19±2ohm
7	Operating Temp.	-40...+85 °C
8	Storage Temp.	-40...+85 °C
9	Weight	1.2 g
10	Housing material	LCP
Current/Sound Output:value applying rated voltage (3200Hz,3Vo-p,1/2 duty,squre wave)		



1.3 Test method:

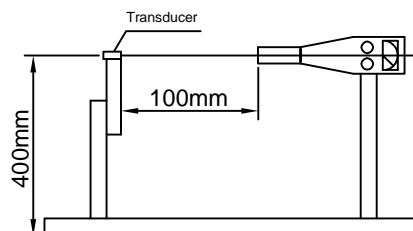
1.3.1.Recommended Circuit

the following are examples of externally driven circuits.



1.3.2.Standard text Fixture

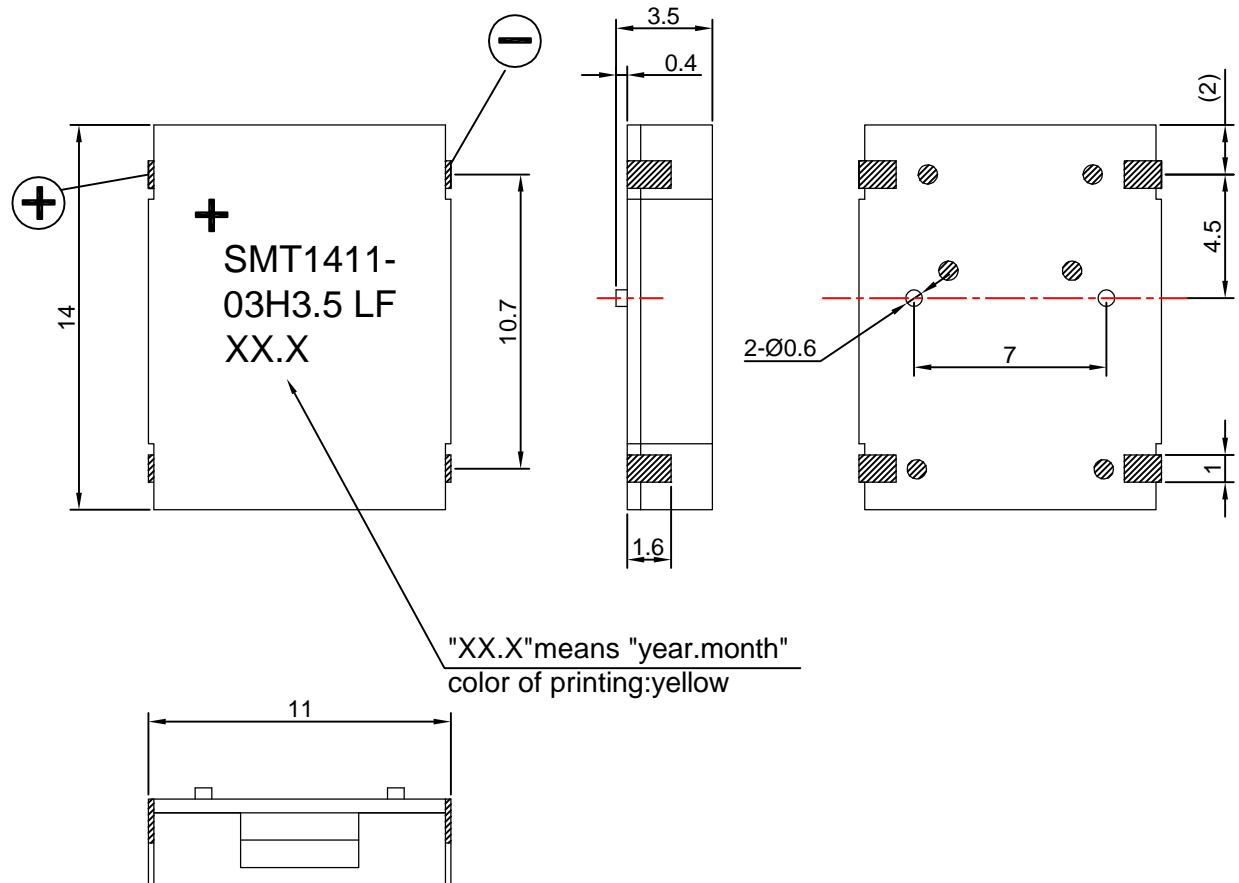
No reaction in space with in 400mm in all direction



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SMT1411-03H3.5 LF

2.Dimension



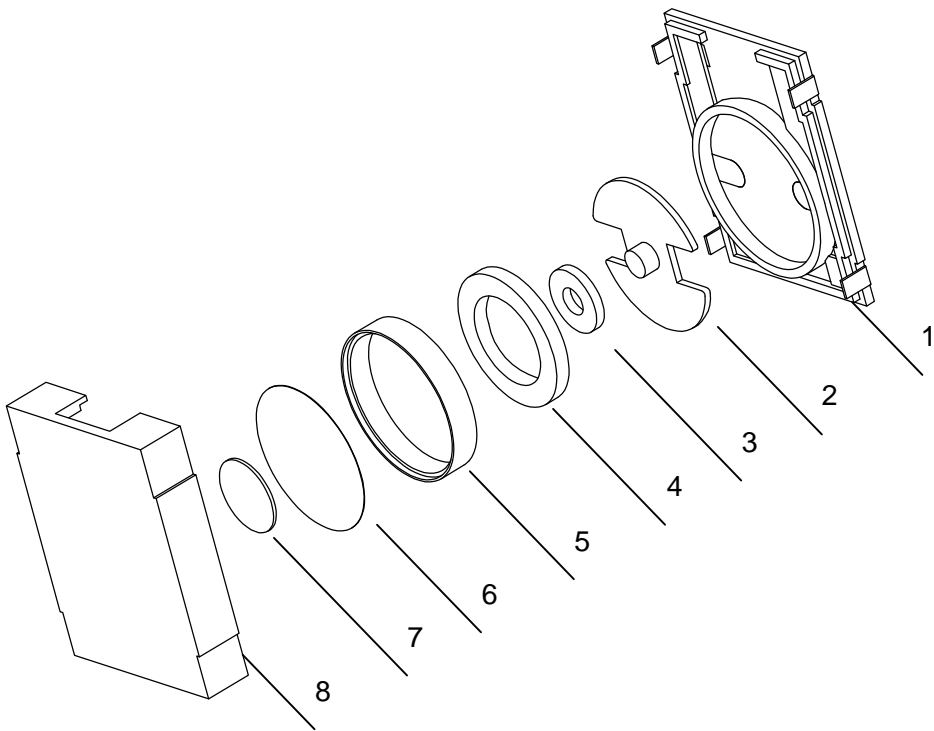
Tolerance: ± 0.3

Unit: mm

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SMT1411-03H3.5 LF

3. Part List



No	Part Name	Material
1.	Housing	LCP+Cu
2.	T-Yoke	DT4E
3.	Voice coil	Cu
4.	Magnet ring	SmCo
5.	Copper ring	Cu
6.	Membrane	NiFe50
7.	Magnet piece	SPCC
8.	Cover	LCP

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SMT1411-03H3.5 LF

4. Reliability Test

4.1 High temp. storage life test

Temperature +85 °C
Duration 96hrs

4.2 Low temp. storage life test

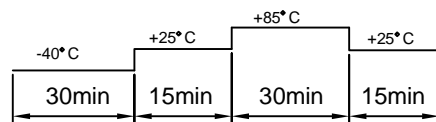
Temperature -40 °C
Duration 96hrs

4.3 Life test in normal temperature

Power supply Rated voltage
Duration 1000hrs

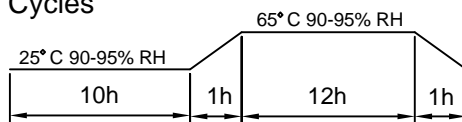
4.4 Temperature shock test

Cycles 5



4.5 Humidity cycle test

Cycles 5



4.6 High temp. life test

Temperature +85 °C
Duration 96hrs

4.7 Low temp. life test

Temperature -40 °C
Duration 96hrs

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

4.8 Vibration Test

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

4.9 Drop test

Height 70cm(drop to concrete floor)
Direction one time in each 6 planes(total of 6 times)

4.10 Solderability

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

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

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SMT1411-03H3.5 LF

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

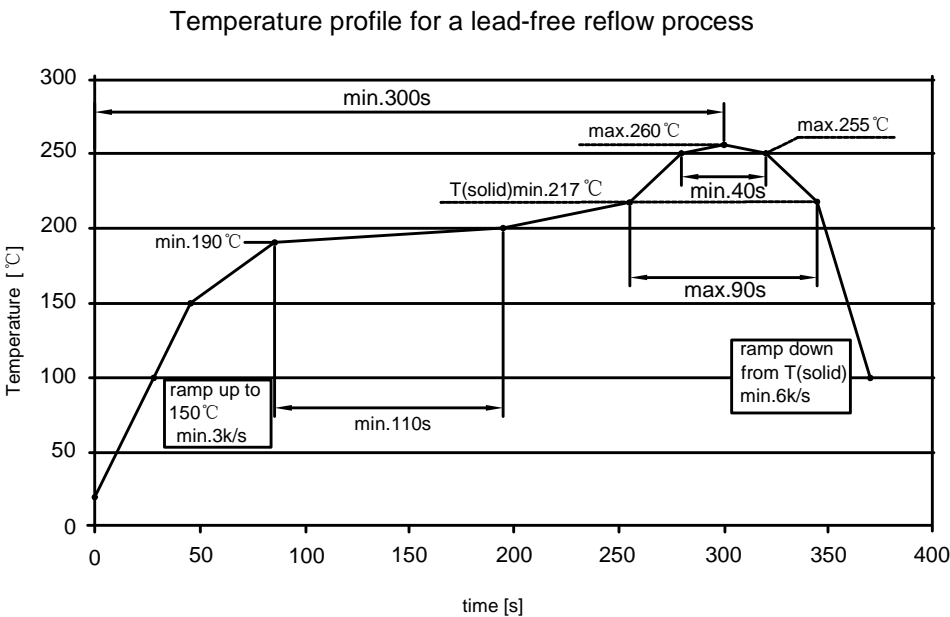


Fig. 1 Recommended soldering Temperature-Time profile (Reflow soldering)

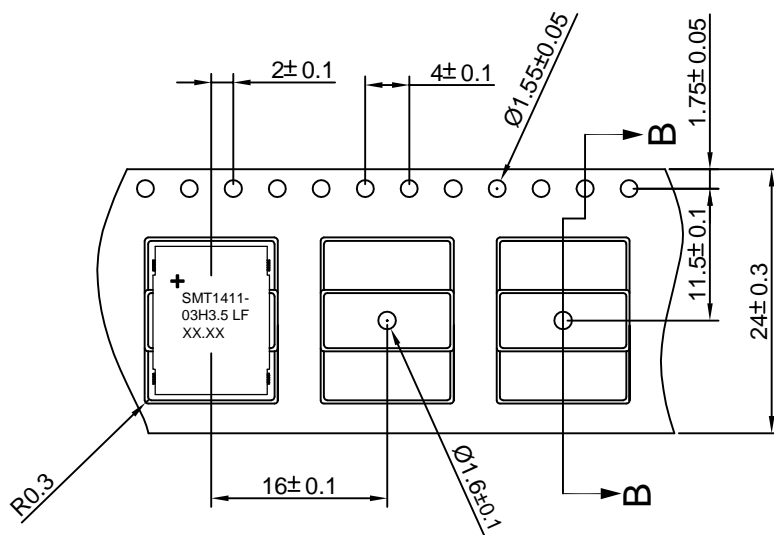
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SMT1411-03H3.5 LF

6. Tape on Reel Packing

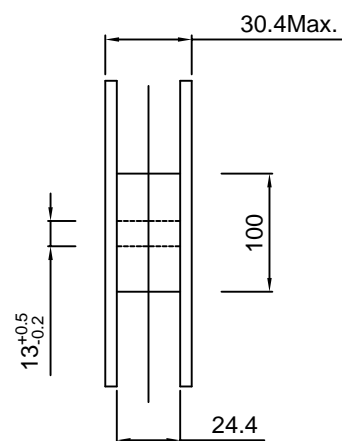
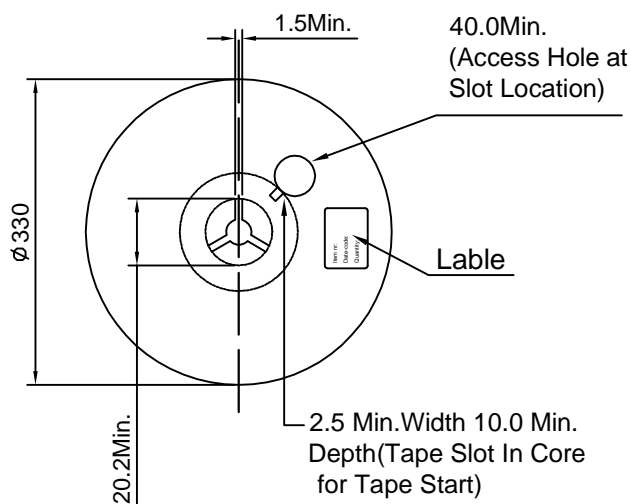
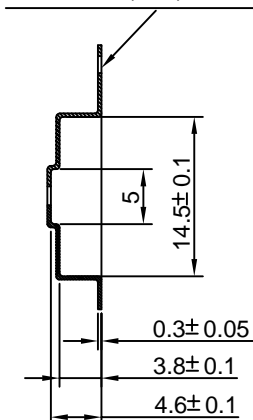
6.1 packing drawing

Dimensions of carrier tape



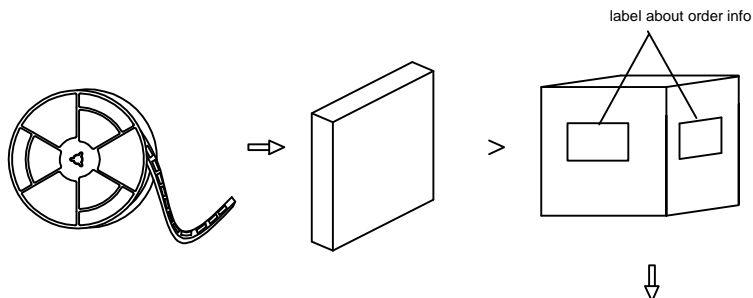
B-B

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



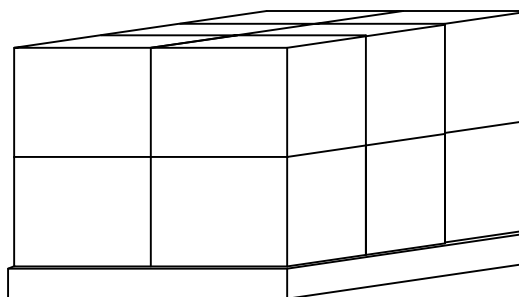
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http://www.be-star.com info@be-star.com						Page:07 of 09

SMT1411-03H3.5 LF



6.2 packing quantity

- 6.2.1 750pcs/reel
- 6.2.2 5reels/carton
- 6.2.3 3750 pcs/carton in total
- 6.2.4 carton size 38x28x37cm
- 6.2.5 12carton/tray
- 6.2.6 tray size 85x77x74cm



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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