

SPECIFICATION APPROVAL SHEET

Customer Name:

No.:

Customer Part Name:

Date: 2018/09/20

Customer Model No.:

Signature of Customer Approval

Part Name: ELECTRO-MAGNETIC
TRANSDUCER

Dsg'd: Alan

Model No. : MBTE9032S3-LH001

Chk'd: Jason

Revision : 1.0

App'd: Arlang

MARQUESS[®]

MARQUESS CO., LTD

1F,NO.123, SEC. 3, HUAN NAN. RD., PING CHEN DISTRICT,
TAOYUAN CITY, TAIWAN, R. O. C.

TEL : +886-3-4287262

FAX : +886-3-2842353

[HTTP://www.marquess.com.tw](http://www.marquess.com.tw)

MF-D001

SPEC

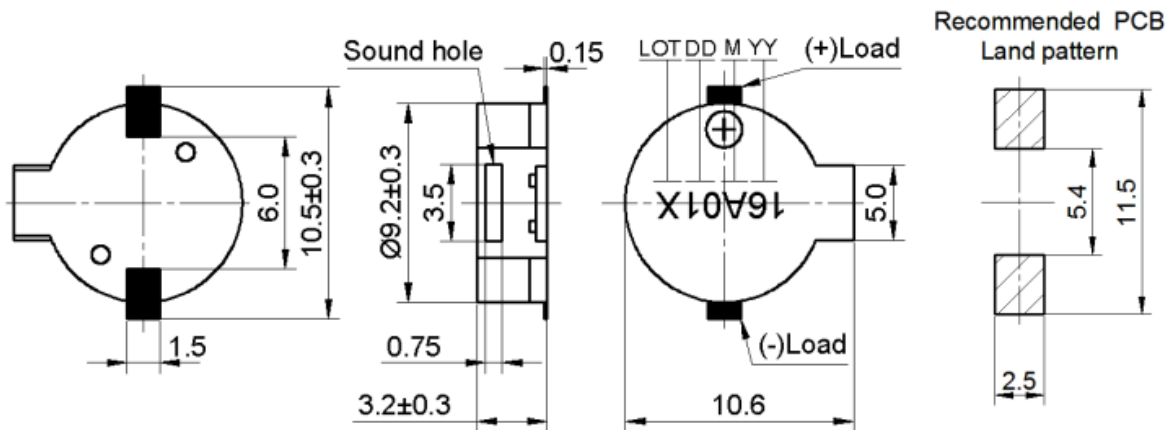
No.	Technical terms	Value
1	Rated Voltage (V)	3
2	Operating Voltage (V)	2~5
3	☆*Current Consumption (mA)	≤80
4	☆Coil Resistance (Ω)	16±3
5	☆*Sound Output at 10cm (dB)	≥92
6	Resonant Frequency (Hz)	2700
7	Operating Temperature (°C)	-40~+105
8	Storage Temperature (°C)	-40~+120
9	Weight (g)	0.4
10	Housing Material	LCP
11	RoHS	Yes

*Applying rated voltage (Resonant frequency, 1/2 duty, Square wave)

☆Basic Test State: Temp(20±2°C),Humidity(40~70%RH),Air pressure(860~1060hPa).

DIMENSIONS (UNIT: mm)

Tolerance: ±0.5mm Except Specified



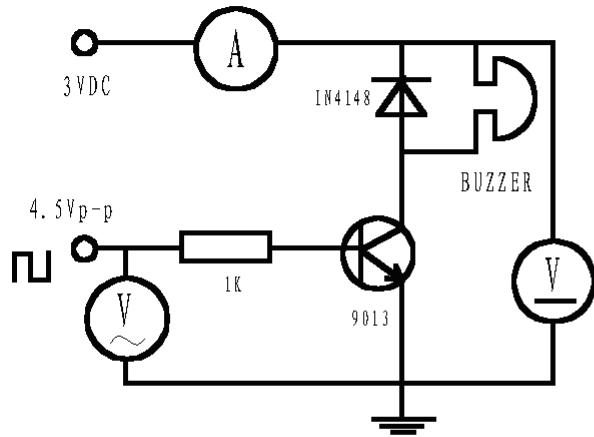
Date code : Six characters, the definition is as following

1. First two characters are the last two numbers of year, for example, “ 16 ” means the year 2016.
2. The third character is an alphabet to represent the month, below is the code table

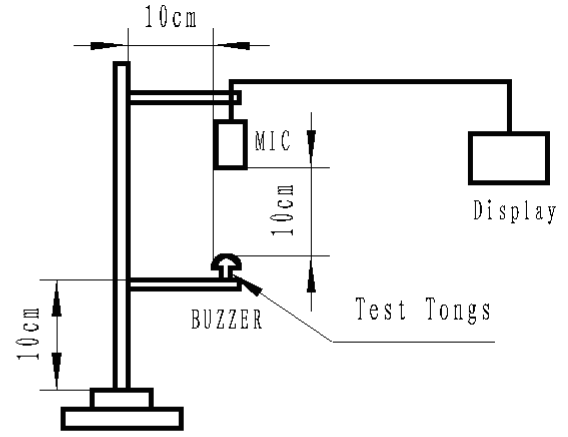
A: January	D: April	G: July	J: October
B: February	E: May	H: August	K: November
C: March	F: June	I: September	L: December

3. The forth and fifth characters are numbers to represent the day.
4. The sixth character is the lot number.

TEST METHOD:

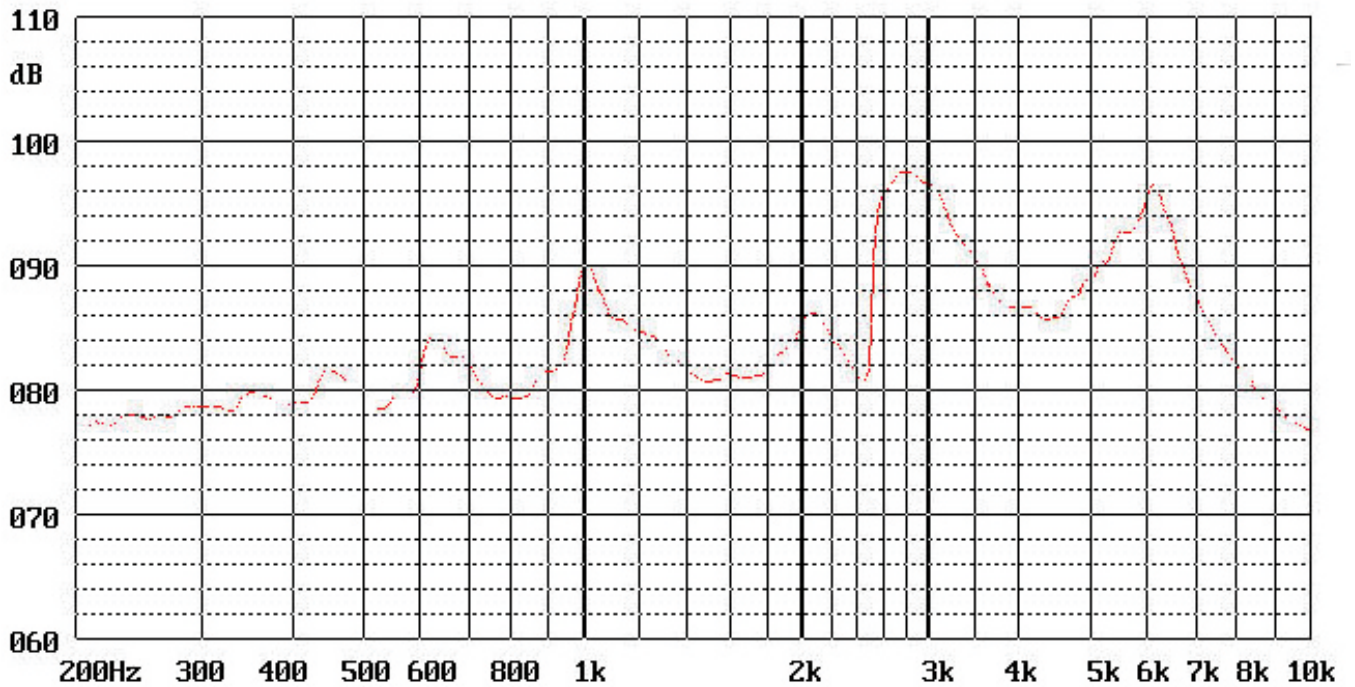


Test Circuit

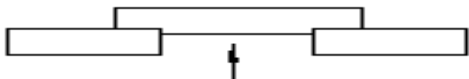


Test Equipis

FREQUENCY RESPONSE:

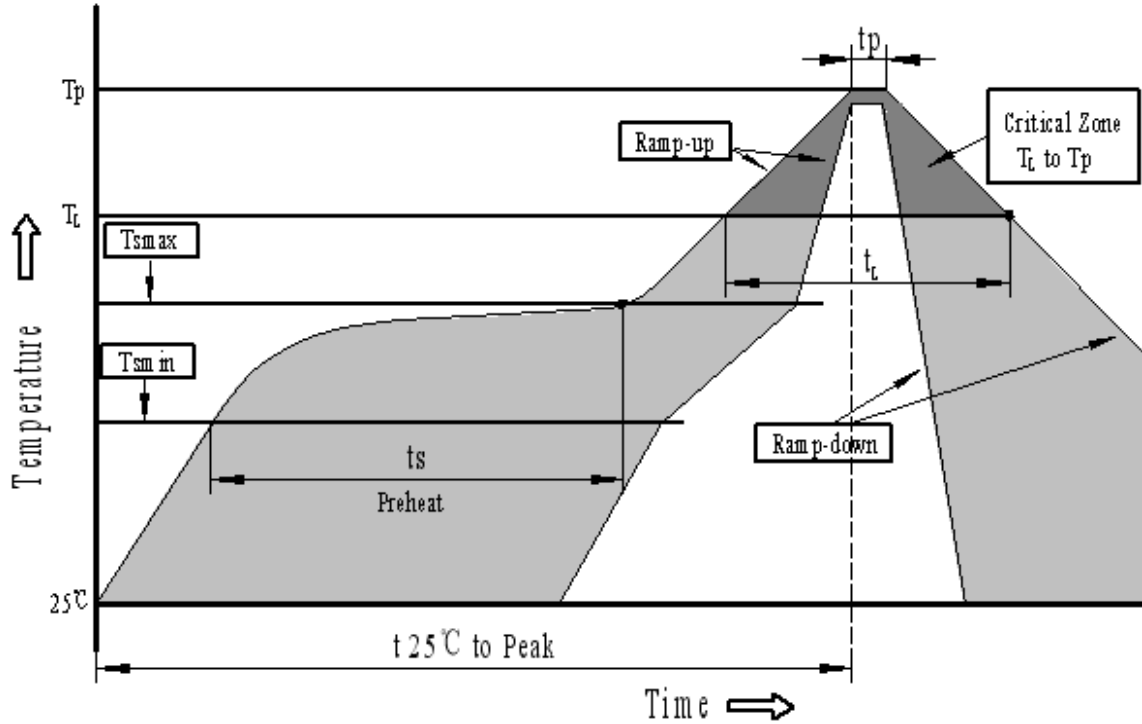


RELIABLY TEST:

NO.	ITEM	TESTING CONDITION	VARIANCE AFTER TEST
1	High temp. storage	The part shall be capable of withstanding a storage temperature is +120°C for 120 hours	After the test the part shall meet specifications without any degradation in appearance and performance except SPL shall be initial value±10dB .(pls do the test after 2 hours when you finish the experiment)
2	Low temp. storage	The part shall be capable of withstanding a storage temperature is -40°C for 120 hours	
3	Temp. Cycle	Total 5 cycles, 1 cycle consisting of -40±2°C, 30 minutes 20±5°C 15 minutes 120±2°C, 30 minutes 20±5°C 15 minutes	
4	Humidity Test	40±2°C, 90~95% RH, 120 hours	
5	Vibration Test	The part shall be subjected to a vibration cycle is 10Hz in a period of 1 minute. Total peak amplitude shall be 1.52mm(9.3g). The vibration test shall consist of 2 hours per plane in each three mutually perpendicular planes for a total time of 6 hours.	
6	Shock	Sounder shall be measured after being applied shock (980m/s ²) for each three mutually perpendicular directions to each of 3 times by half sine wave.	
7	Drop Test	Dropped naturally from 700mm height onto the surface of 10mm thick wooden board. 2 directions-upper and side of the part are to be applied.	
8	Lead pull	The part shall be pushed with a force of 9.8N for 10±1 seconds behind the part. 	After the test part shall meet specifications without any degradation in appearance and performance.
9	Recommended temp. Profile for Reflow Oven	Shown in Fig.1	

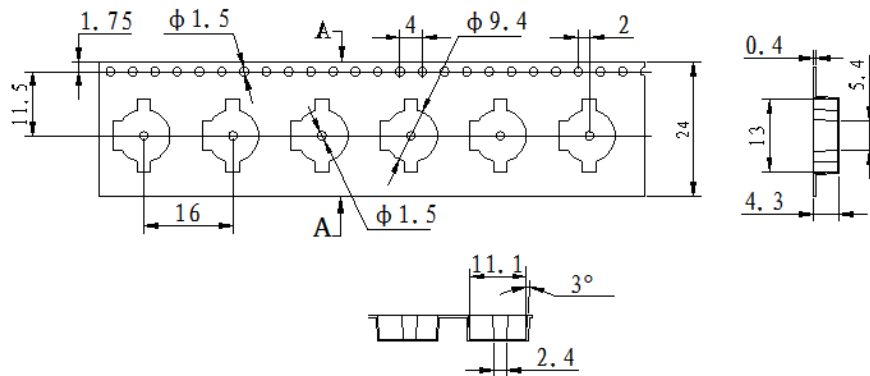
Warranty: For a period of one year from date of manufacture under normal operations.

Recommended Temp. Profile for Reflow Oven (Fig.1)



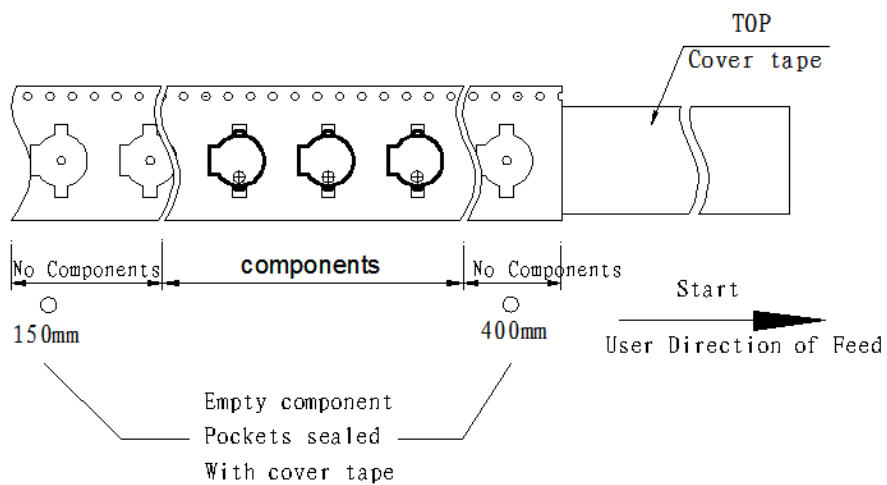
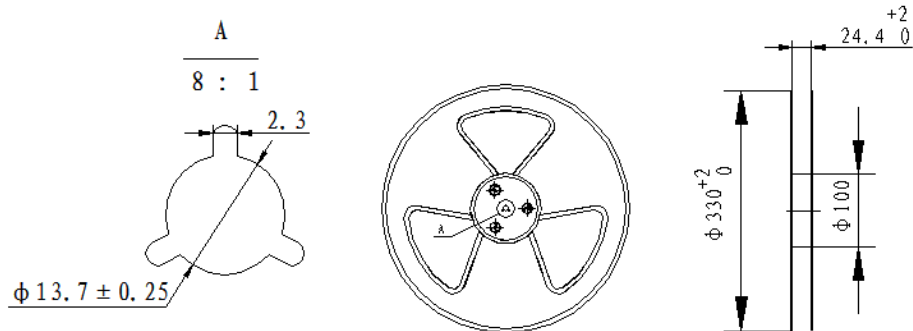
Profile Feature	Pb-Free Assembly
Average ramp-up rate(T_L to T_p)	3°C/second max.
Preheat	
-Temperature Min.(T_{smin})	150°C
-Temperature Min.(T_{smax})	200°C
-Temperature Min.(t_s)	60~180 seconds
T_{smax} to T_L	
-Ramp-up Rate	3°C/second max.
Time maintained above:	
- Temperature(T_L)	217°C
-Time(T_L)	60~150 seconds
Peak temperature(T_p)	250°C+0/-5°C
Time within 5°C of actual Peak temperature (t_p)	6 seconds max.
Ramp-down Rate	6°C/second max.
Time 25°C to Peak Temperature	8 minutes max.

PACKING:

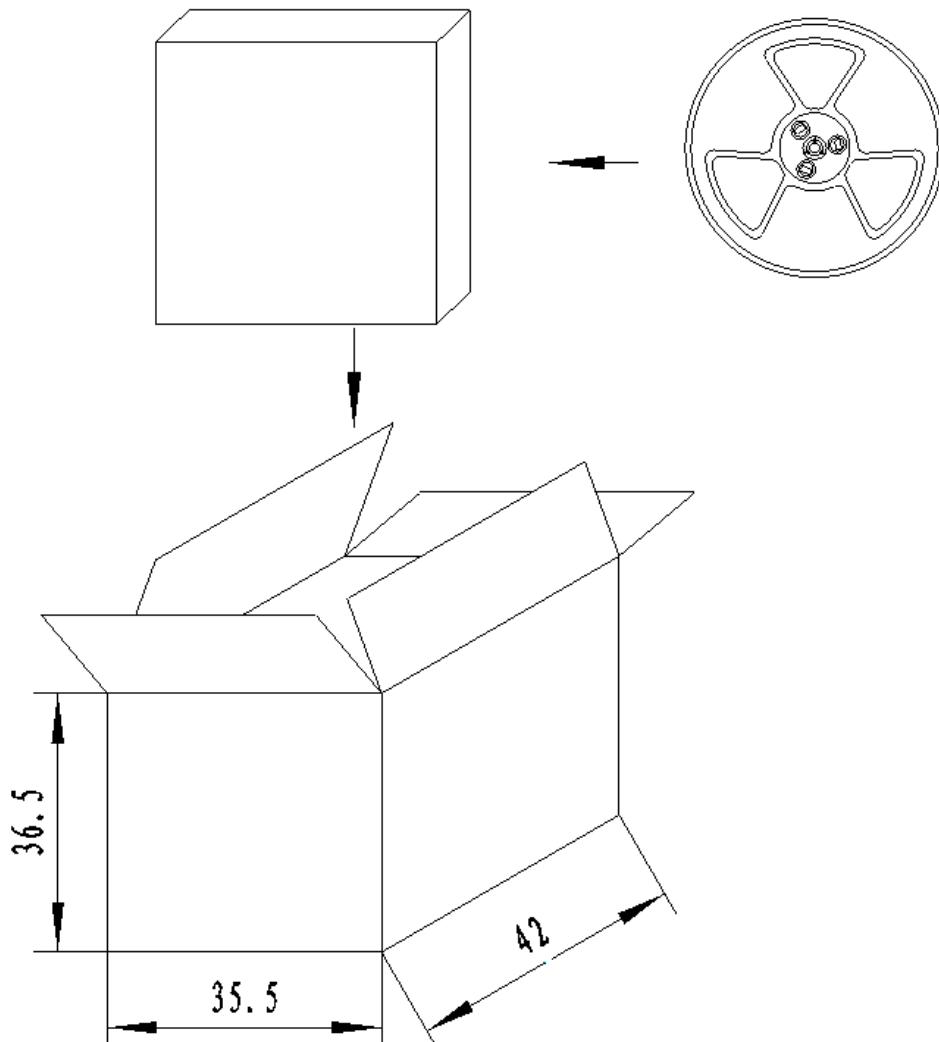


NOTE:

1. 10 sprocket hole pitch cumulative tolerance ± 0.2 mm.
2. All dimensions meet EIA-481-D requirements.
3. Thickness: 0.4 ± 0.05 mm.
4. Component loaded per 13" reel: 1000pcs.



PACKING:



NOTES:

- 1.1000 PCS per box
- 2.Total 10 boxes per carton
- 3.Total 10000 PCS carton