APPROVAL SHEET

FHD ELECTRONICS CORPORATION

CUSTOMER NAME : _____

COMMODITY : MAGNETIC TRANSDUCER

TDAUSA PART NO. : T050525-M4000E-SH

CUSTOMER PART NO. : _____

Approved by	Y. J.	Prepared by	HY Shen

Customer Approval			
Approved		Rejected	

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FHD ELECTRONICS CORPORATION

REVISIONS				
PRODUCT PART NO. : T050525-M4000E-SH				
DATE	**REVISER**	**REV.**	**DESCRIPTION**	**REMARK**
2019/3/23	HY SHEN	1	Initial edition	
2021/3/19	HY SHEN	2	Edit Soldering Pattern	

A. PART NO.: T050525-M4000E-SH

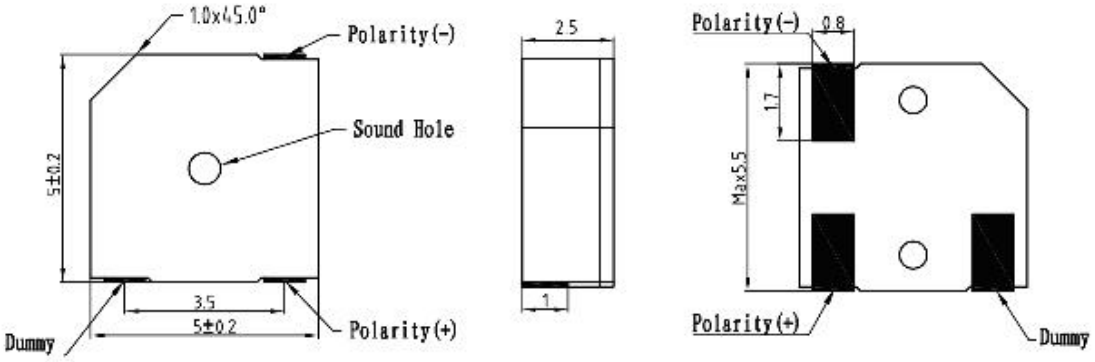
B. SPECIFICATION

Measuring condition

Part shall be measured under a condition (Temperature: 5～35℃, Humidity: 45%～85%R.H., Atmospheric pressure: 860～1060hPa) unless the standard condition (Temperature: 25±3℃, Humidity: 60±10%R.H. Atmospheric pressure: 860 ～1060hPa) is regulated to measure.

No.	Item	Unit	Specification	Condition
1	**Oscillation Frequency**	Hz	4000	square wave
2	**Operating Voltage**	Vo-p	2.5~4.5	
3	**Rated Voltage**	Vo-p	3.0	
4	**Coil Resistance**	Ω	12±3	
5	**Current Consumption**	mA	MAX. 100	At 4000Hz 50% duty Square Wave 3Vo-p
6	**Sound Pressure Level**	dB	MIN. 75	At 4000Hz 50% duty Square Wave 3Vo-p
7	**Operating Temperature**	℃	-20 ~ +70	
8	**Storage Temperature**	℃	-40 ~ +85	
9	**Dimension**	mm	5.0 x 5.0 x 2.5	See appearance drawing
10	**Weight (MAX)**	gram	0.1	
11	**Housing Material**		LCP (Black)	
12	**Cover Material (Top)**		Tin Plating Brass	
13	**Connection**		3 soldering pads SMD	See appearance drawing
14	**Environmental Protection Regulation**		RoHS	

C. APPEARANCE DRAWING



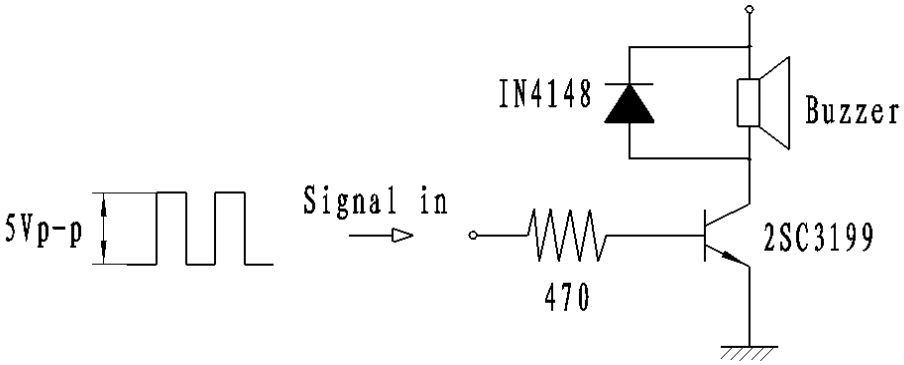
Tolerance: ± 0.3mm Except Specified

D. ELECTRICAL AND ACOUSTICAL MEASURING CONDITION

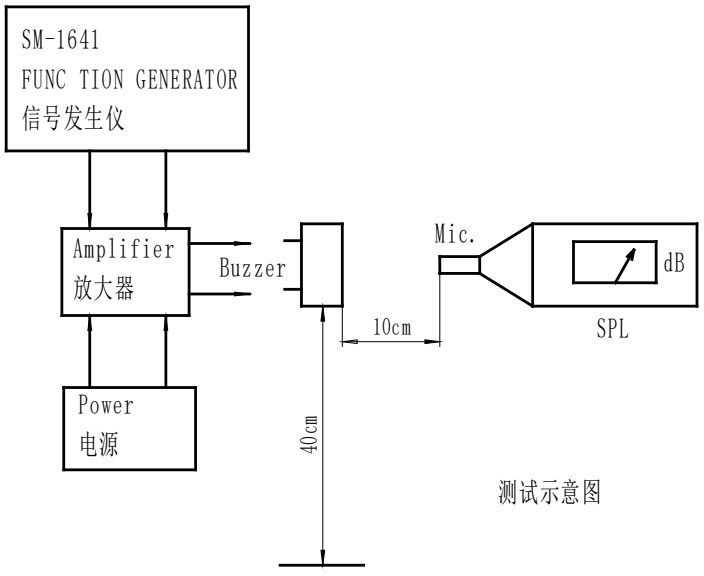
Recommended Driving Circuit:

Resonant frequency, 1/2 duty cycle. Square Wave.

Signal amplitude should be large enough to saturate the transistor.

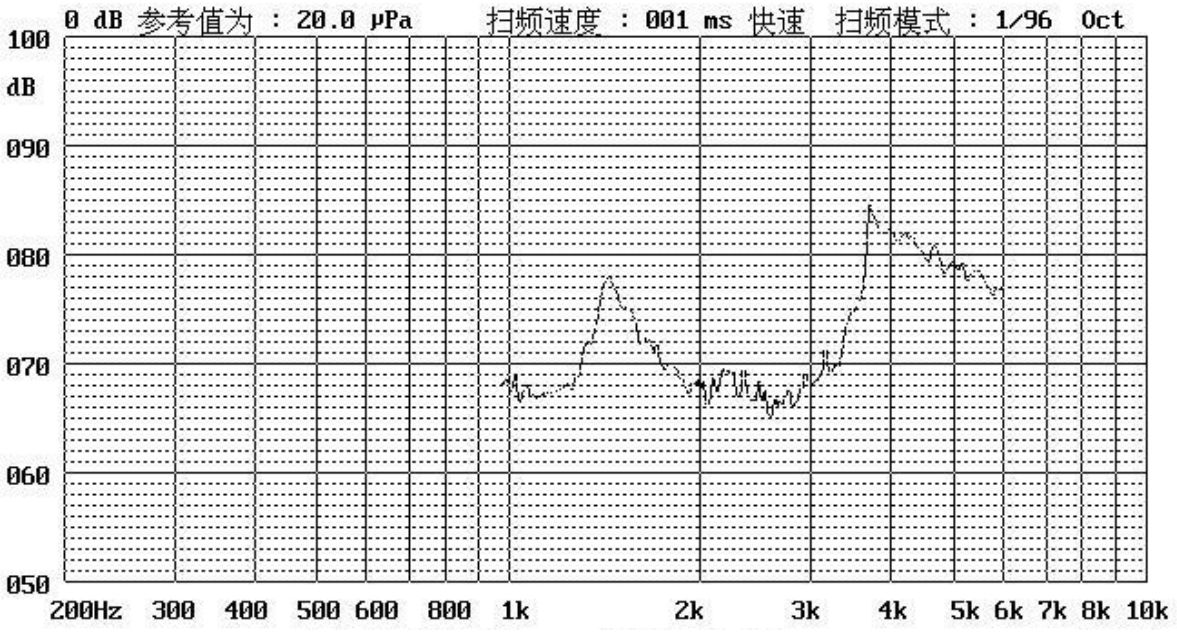


Recommended Setting:



测试示意图

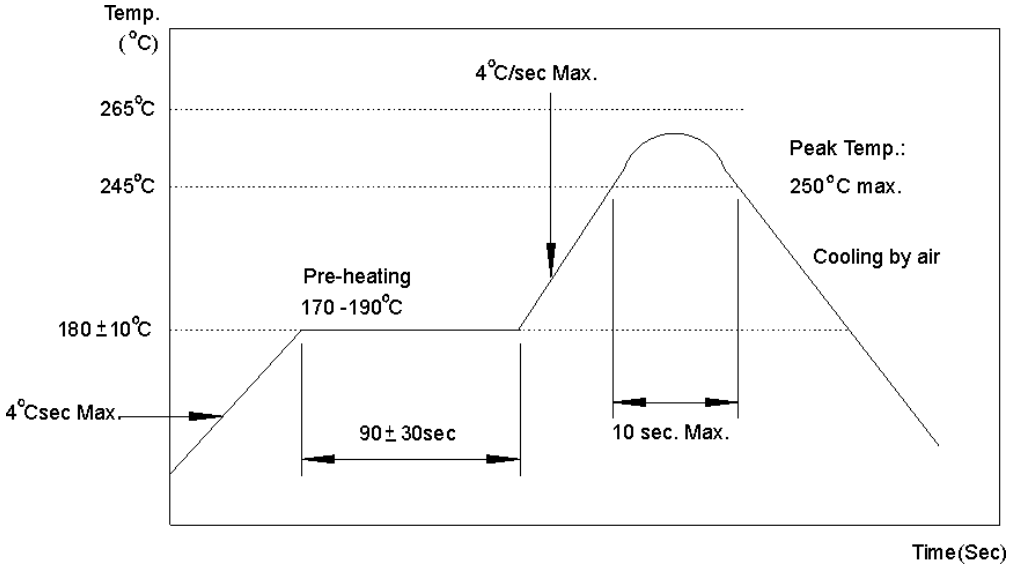
E. TYPICAL FREQUENCY RESPONSE CURVE



3Vo-p 50% duty square wave, 10cm

F. SURFACE MOUNTING CONDITION

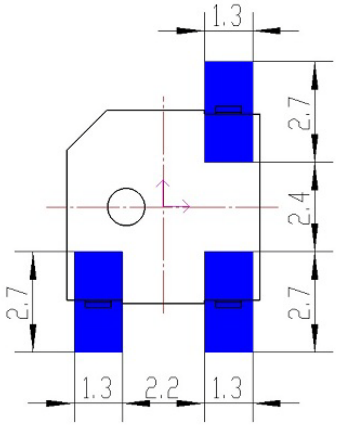
1. Recommendable reflow soldering condition is as follows



Note: (1) In automated mounting of the SMD sound transducers on PCB, 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.

(2) In the reflow soldering, 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.

2. Soldering Pattern



G.RELIABILITY TEST

After any following tests the part shall meet specifications without any degradation in appearance and performance except SPL. SPL shall not deviate more than -10 Db from the initial value

1. **Ordinary Temperature Life Test**

   The part shall be subjected to 96 hours at 25±10℃. Input rated voltage Resonant frequency, 1/2 duty Square wave.

2. **High Temperature Test**

   The part shall be capable of withstanding a storage temperature of +85℃ for 96 hours.

3. **Low Temperature Test**

   The part shall be capable of withstanding a storage temperature of -40℃ for 96 hours.

4. **Humidity Test**

   Temperature:+40℃±3℃ Relative Humidity:90%～95% Duration: 48 hours and expose to room temperature for 6 hours

5. **Temperature Shock Test**

   Temperature:60℃ /1hour→ 25℃/3hours→-20℃/1hour→ 25℃/3hours (1cycle)

   Total cycle: 10 cycles

6. **Drop Test**

   Standard Packaging From 75cm(Drop on hard wood or board of 5cm thick, three sides, six plain.)

7. **Vibration Test**

   Vibration:1000cycles /min. Amplitude:1.5mm, Duration: 1 hour in each 3 axes

8. **Reflow Test**

   Use recommendable reflow soldering condition (as shown in F.1)

   (1) No abnormality should be found after reflow

   (2) Good soldering to meet soldering requirements

Note:

As this product is not protected from foreign material entering, please make sure that any foreign materials (e.g. magnetic powder, washing solvent, flux, corrosive gas) do not enter this product in your production processes. The functional degradation (e.g. SPL down) may occur if foreign materials enter it.

H. PACKING INFORMATION