

APPROVAL SHEET



FHD ELECTRONICS CORPORATION

CUSTOMER NAME : _____

COMMODITY : Piezo Transducer

FHD PART NO. : T110917-P4100E-S

CUSTOMER PART NO. : _____

| | | | |
|-------------|-----------|-------------|---------|
| Approved by | Yin Jiang | Prepared by | HY Shen |
|-------------|-----------|-------------|---------|

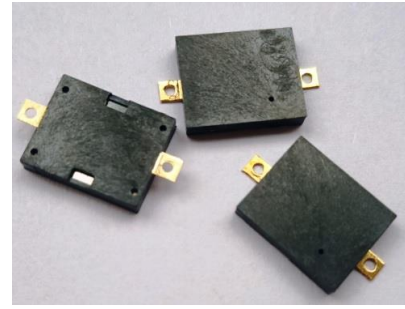
| | | | |
|--------------------------|--|-----------------|--|
| Customer Approval | | | |
| Approved | | Rejected | |
| | | | |

8104 Lynores Way, Plano, TX 75025
Tel: 469-409-2828 Cell: 408-693-5952
Email: sales@fhdmfg.com Website: www.fhdmfg.com

1. Technical Parameter

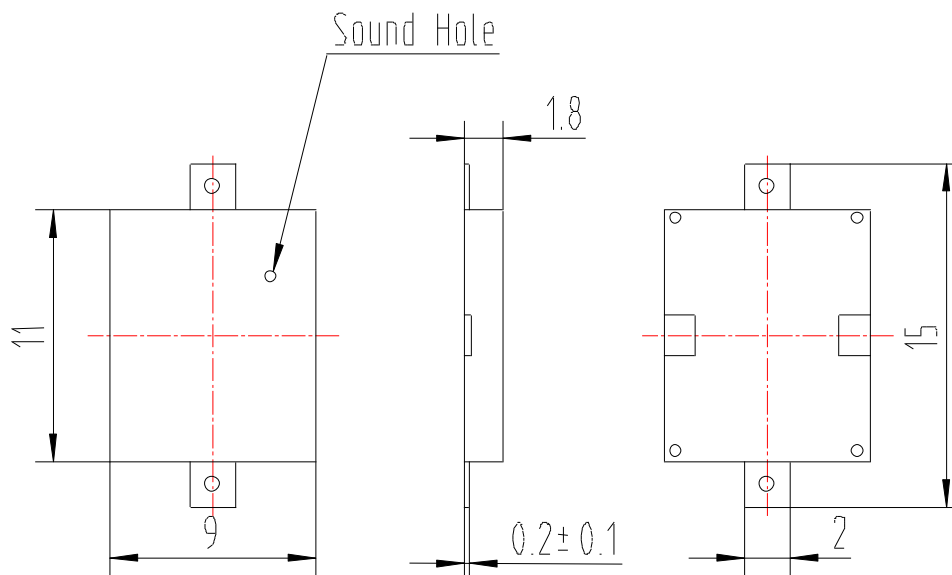
Measuring condition

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



| | | |
|----|------------------------------|--|
| 1 | Resonant Frequency | 4100±300Hz |
| 2 | Operating Voltage | 1~20 Vp-p |
| 3 | Rated Voltage | 3 Vp-p |
| 4 | Rated Current | Max.3mA ,at 4.1KHz 50% duty Square Wave 3Vp-p Max.5mA ,at 4.1KHz 50% duty Square Wave 5Vp-p |
| 5 | Sound Output at 10cm | Min. 65dB,at 4.1KHz 50% duty Square Wave 3Vp-p Min. 70dB,at 4.1KHz 50% duty Square Wave 5Vp-p |
| 6 | Capacitance | 12000 ± 30%pF at 1KHz |
| 7 | Operating Temperature | -20°C ~ +85°C |
| 8 | Store Temperature | -40°C ~ +85°C |
| 9 | Net Weight | Approx 0.2 g |
| 10 | RoHS | Yes |

2. Dimensions



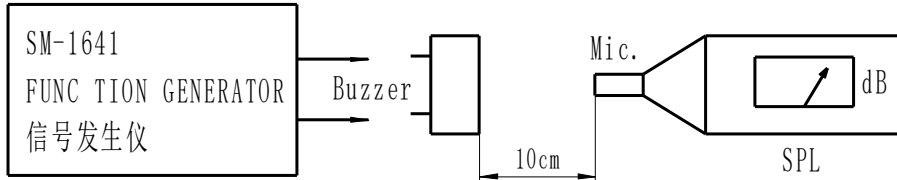
*Unit: mm; Tolerance: ± 0.3mm Except Specified

*Housing Material: Black LCP

*Terminal plate: 2 soldering pads, gold Plating Brass

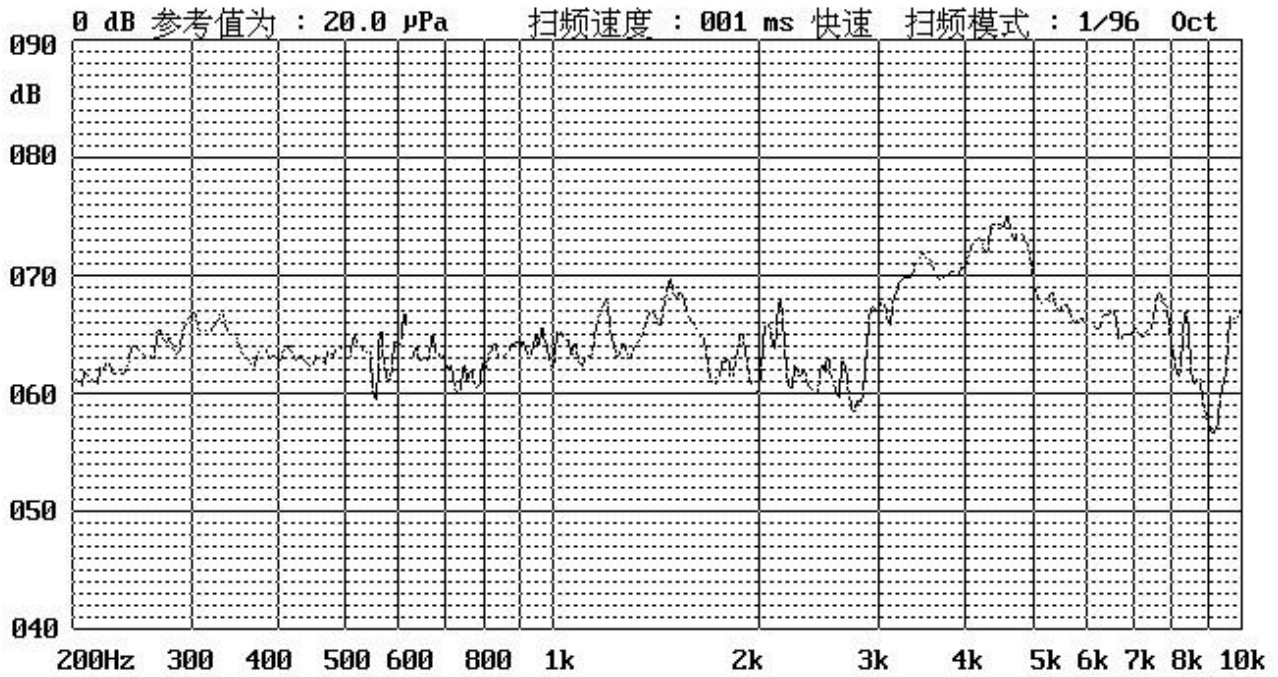
3. Electrical And Acoustical Measuring Condition

Recommended Setting



测试示意图

4. Frequency Response



5. Lot Number Nomination

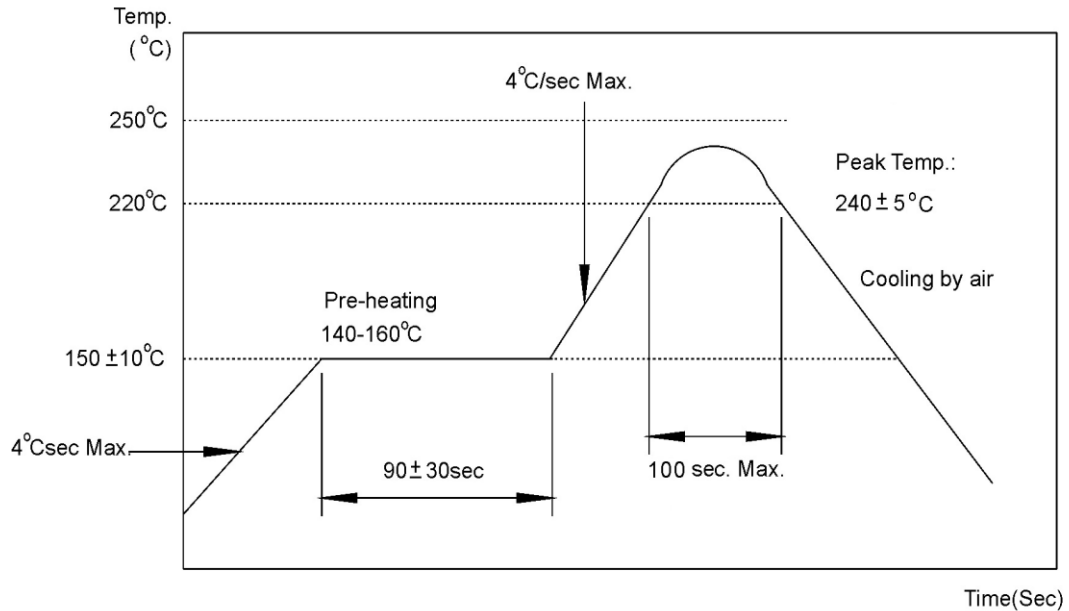
XX X XX

- Batch number; 24000pcs/batch
A: Jan. B: Feb C: Mar. D: Apr. E: May F: Jun.
G: Jul. H: Aug. I: Sept. J: Oct. K: Nov. L: Dec.
- Year

6. Surface mounting condition

6.1 Reflow soldering

Recommendable reflow soldering condition is as follows.

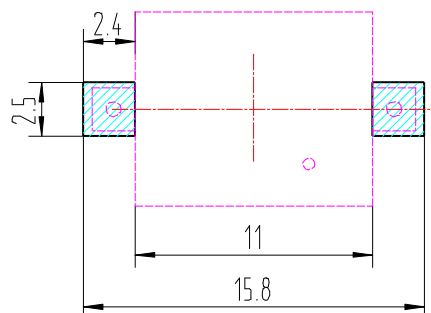


Note: (1) In automated mounting of the SMD sound transducers on PCB, any bending, expanding and pulling forces or shocks against the SMD sound transducers shall be kept minimum to prevent them from electrical failures and mechanical damages of the devices.

(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.

6.2 Soldering pattern

Recommended thickness of Tin on PCB is 0.15mm



7. 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

7.1 Ordinary Temperature Life Test

The part shall be subjected to 96 hours at $25\pm 10^{\circ}\text{C}$. Input rated voltage Resonant frequency, 1/2 duty Square wave.

7.2 High Temperature Test

The part shall be capable of withstanding a storage temperature of $+85^{\circ}\text{C}$ for 96 hours.

7.3 Low Temperature Test

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

7.4 Humidity Test

Temperature: $+40^{\circ}\text{C}\pm 3^{\circ}\text{C}$ Relative Humidity: 90%~95% Duration: 48 hours and expose to room temperature for 6 hours

7.5 Temperature Shock Test

Temperature: 60°C /1hour \rightarrow 25°C /3hours \rightarrow -20°C /1hour \rightarrow 25°C /3hours (1 cycle)
Total cycle: 10 cycles

7.6 Drop Test

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

7.7 Vibration Test

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

7.8 Reflow Test

Use recommendable reflow soldering condition (as shown in 5.1)

- (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 material enter it.

8. Packing Information

