Piezoelectronic Ceramic Buzzer

SMD

12×12×3.1 mm

FHS12PP031M16000-2000

Revision

Date	Version	Status	Changes	Approver
2023/11/8	V0.1	Draft	First release	AX
2025/3/17	V0.2	Draft	Update operating & storage temp	AX

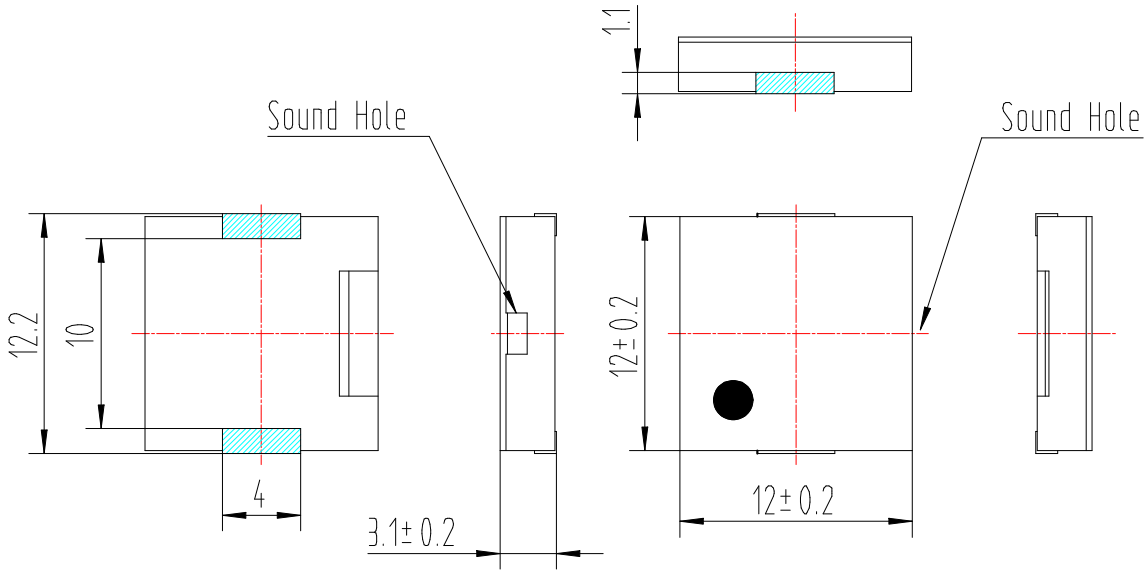
1.Technical Parameter Measuring condition

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.

1	Resonant Frequency	2000±500Hz
2	Operating Voltage	1～25 Vp-p
3	Rated Current	Max.3mA ,at 2KHz 50% duty Square Wave 3Vp-p
4	Sound Output at 10cm	Min. 70dB,at 2KHz 50% duty Square Wave 3Vp-p
5	Capacitance	16000±30%pF at 120Hz
6	Operating Temperature	-30℃～+120℃
7	Store Temperature	-40℃～+120℃
8	Net Weight	Approx 0.5g
9	RoHS	Yes

2.Dimensions

Unit: mm



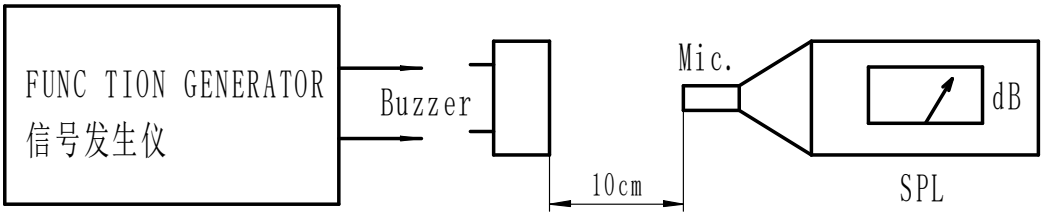
*Unit: mm; Tolerance: ±0.3mm Except Specified

*Housing Material: Black LCP

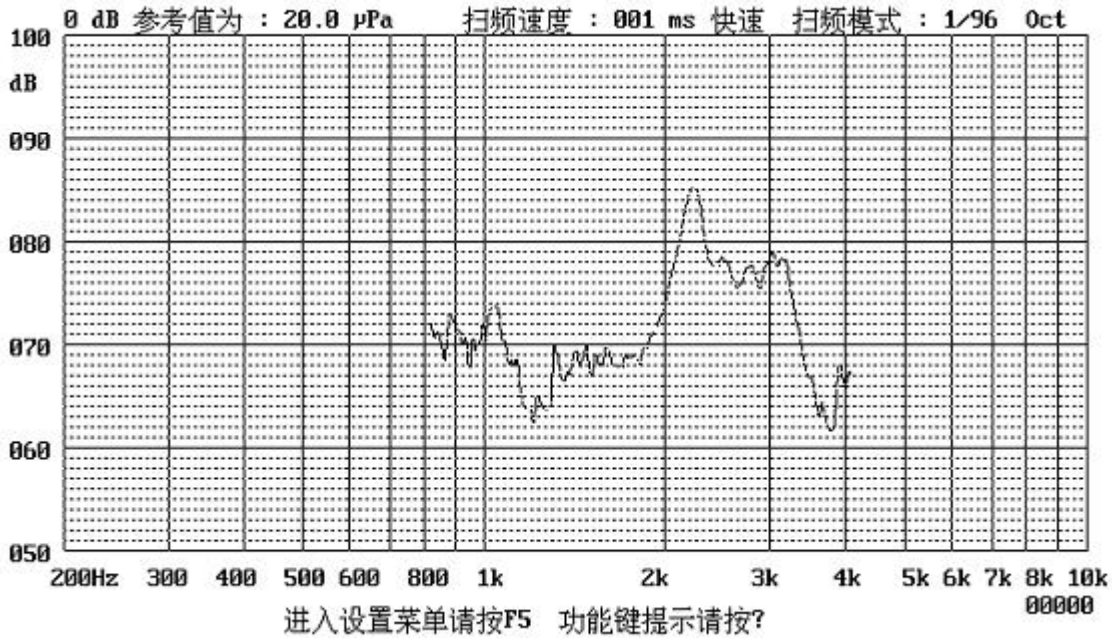
*Terminal plate: 2 soldering pads, tin Plating Brass

3. Electrical And Acoustical Measuring Condition

Recommended Setting



4. Frequency Response

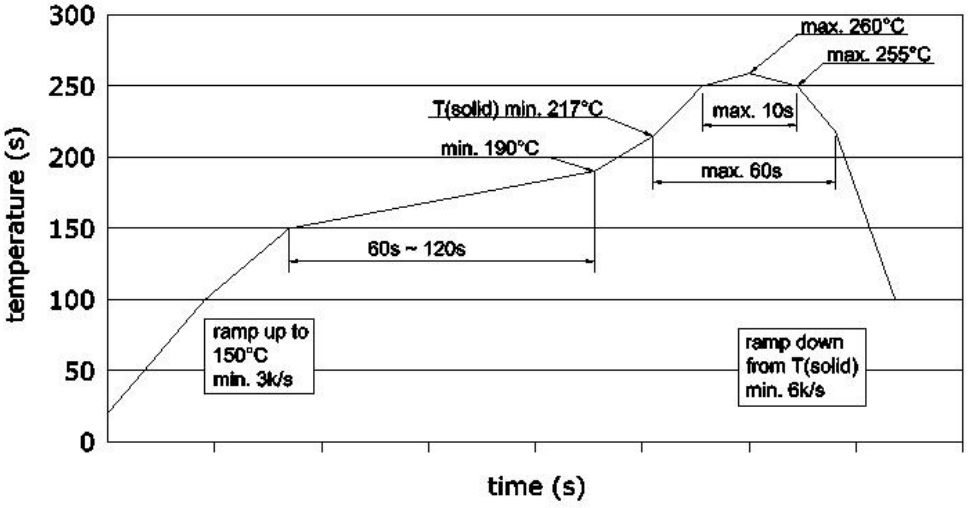


3Vp-p 50% duty Square wave,10cm

5. Surface mounting condition

5.1 Reflow soldering

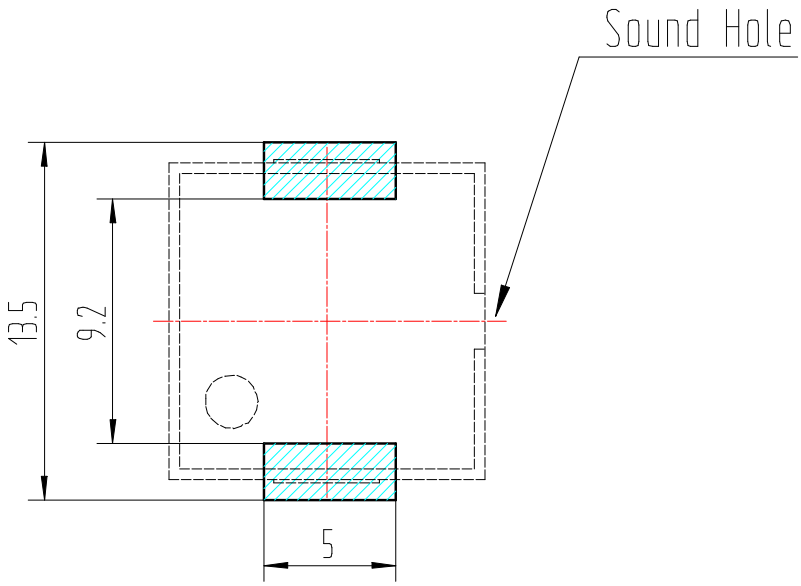
Recommendable reflow soldering condition is as follows.



Recommended reflow oven temperature profile

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.

5.2 Soldering pattern



6. 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

6.1 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.

6.2 High Temperature Test

The part shall be capable of with standing a storage temperature of +80℃ for 96 hours.

6.3 Low Temperature Test

The part shall be capable of with standing a storage temperature of -30℃ for 96 hours.

6.4 Humidity Test

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

6.5 Temperature Shock Test

Temperature:60℃ /1hour→ 25℃/3hours→-20℃/1hour→ 25℃/3hours (1cycle)
Total cycle: 10 cycles

6.6 Drop Test

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

6.7 Vibration Test

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

6.8 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

7. Packing

1000pcs for one reel
8000pcs for one carton
outsize of carton:35×32×36cm