Magnetic SMD Buzzer

5×5×2.0mm

With side sound hole

FHS05MP020M12-4000

Revision

Date	Version	Status	Changes	Approver
2023/11/22	V0.1	Draft	First release	AX
2023/12/7	V0.2	Draft	Update outline tolerances & print code	AX

SPECIFICATIONS

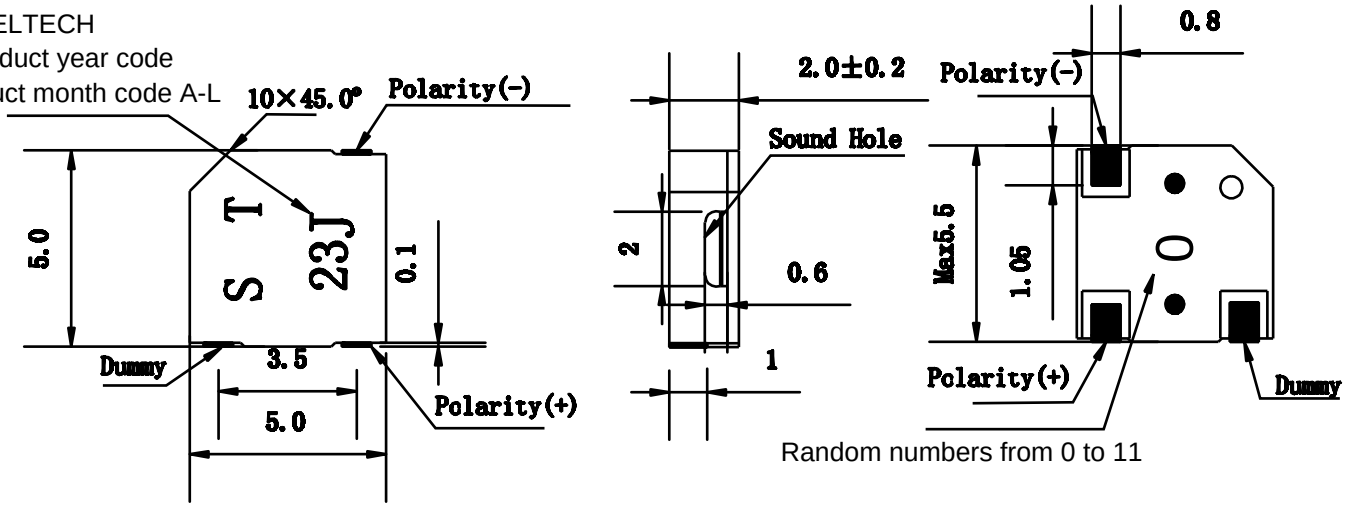
Parameter	Conditions/Description	Values	Units
Oscillation Frequency		4000	Hz
Operating Voltage		2~4	V_{p-p}
Rated Voltage		3.0	V_{o-p}
Current Consumption	at Rated Voltage	MAX.100	mA
Sound Pressure Level	at 10cm at Rated Voltage	MIN.78	dB
Coil Resistance		12±3	Ω
Tone Nature		Constant	
Operating Temperature		-30~ +70	℃
Storage Temperature		-40 ~ +85	℃
Dimension	See appearance drawing	5.0*5.0*2H	mm
Housing Material		LCP(Black)	
Leading Pin	See appearance drawing	Tin Plated Brass(Sn)	
Environmental Protection Regulation		RoHS	

Notes: All specifications measured at 15~35°C, humidity at 25~75%, under 86~106 kPa pressure, unless otherwise noted.

MECHANICAL DRAWING

Units: mm
Tolerances:±0.3mm except specified

Print code
S T: SELTECH
23: product year code
J:product month code A-L



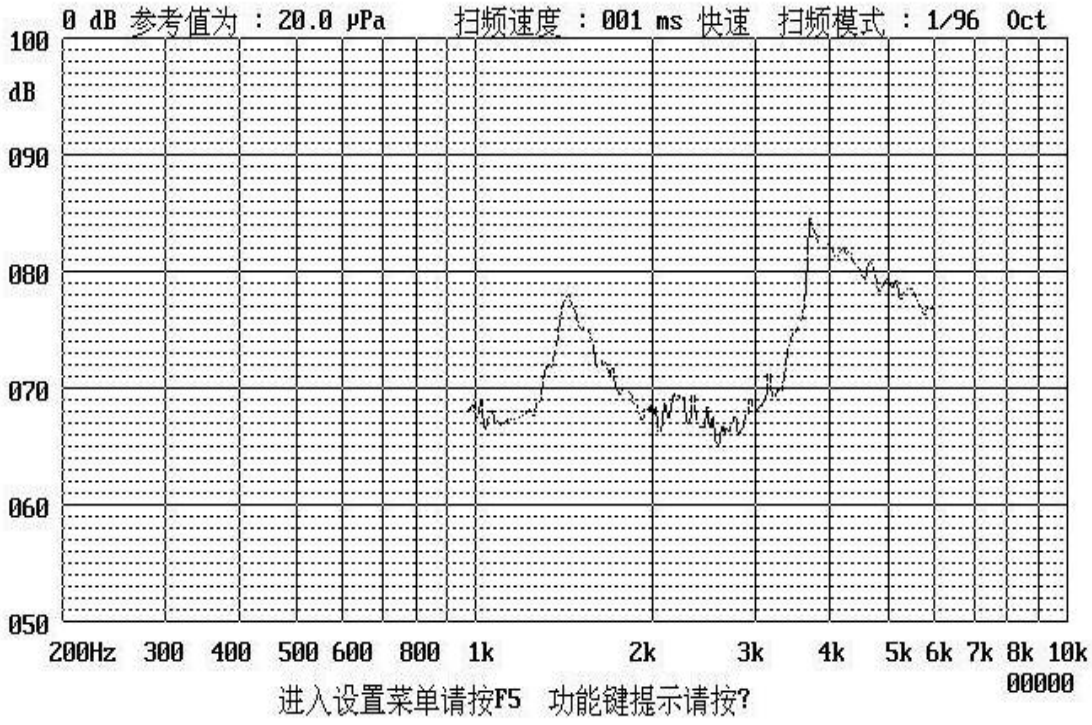
Random numbers from 0 to 11

RESPONSE CURVES

Frequency Response Curve

Test condition:

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



RELIABLITY 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

A. 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.

B. High Temperature Test

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

C. Low Temperature Test

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

D. Humidity Test

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

E. Temperature Shock Test

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

F. Drop Test

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

G. **Vibration Test**

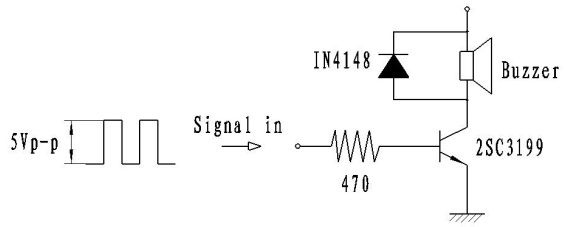
Vibration:1000cycles /min. Amplitude:1.5mm, Duration: 1 hour in each 3 axes

H. 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

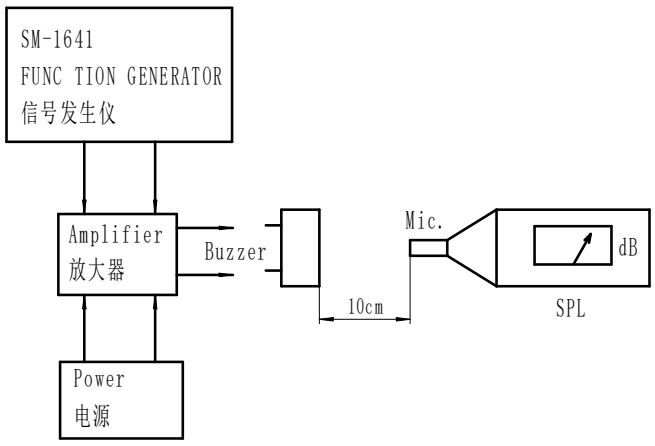
MEASURING METHOD

Recommended Driving Circuit



Resonant frequency, 1/2 duty cycle. Square wave. Signal amplitude should be large enough tosaturate the transistor.

Recommended Setting

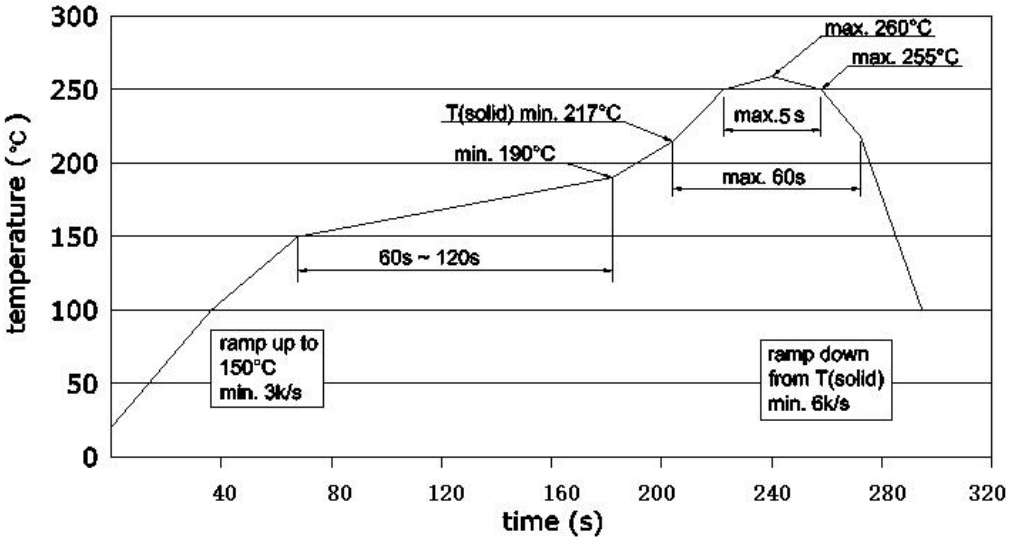


测试示意图

Soldering Condition

A. Reflow soldering

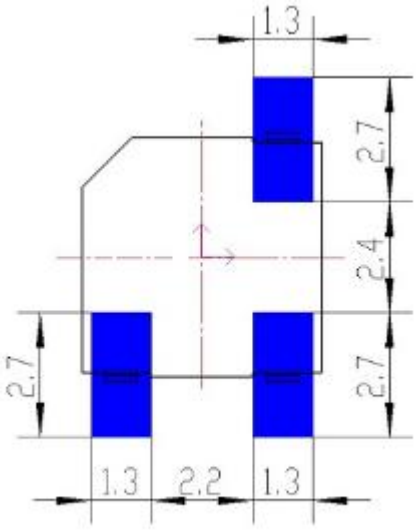
Recommendable reflow soldering condition is as follows.



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.

B. Recommended Soldering pattern



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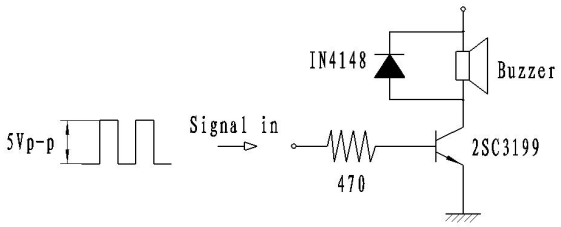

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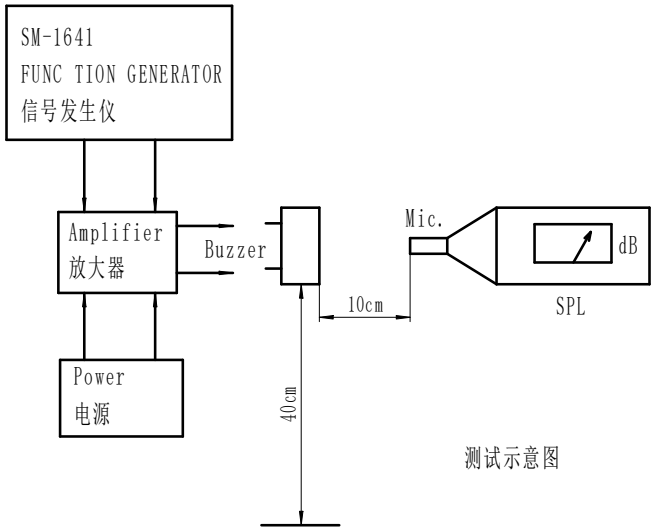
Recommended Setting



测试示意图

PACKAGING

TBD