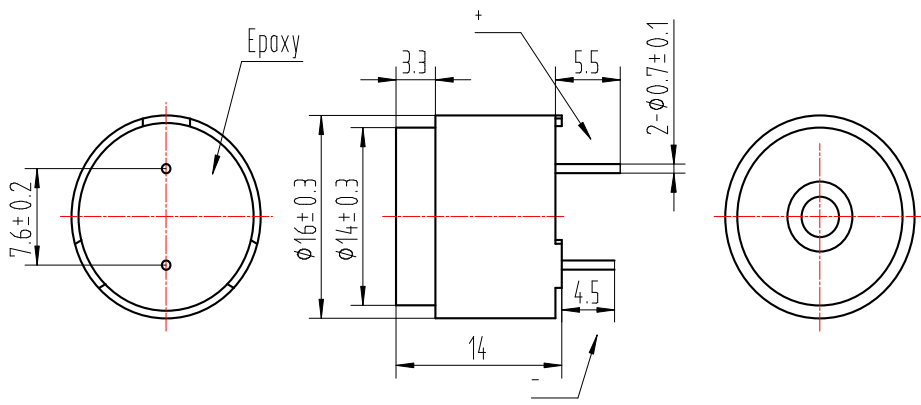


Electro-Magnetic Buzzer (Pin type)

2-3	HCM1606A
4-5	HCM1612A
6-7	HCM1201A
8-9	HCM1203A
10-11	HCM1205F
12-13	HCM1206A
14-15	HCM1212A
16-17	KSE-09-5TAE
18-19	HC0901A
20-21	HC0903F/1325
22-23	HC0903A
24-25	HC0905F
26-27	HC0905A

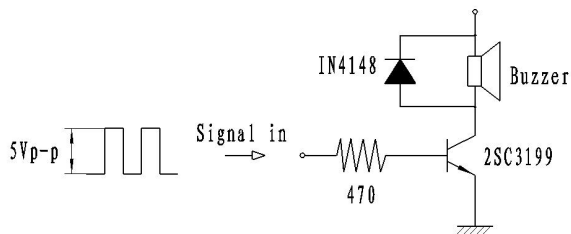
1. Product type: Electro-Magnetic Buzzer (Pin Type)

2. 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	Rated Voltage	6Vo-p
2	Operating Voltage	4-8Vo-p
3	Rated Current	Max.50mA ,at 2048Hz 50% duty Square Wave 6Vo-p
4	Sound Output at 10cm	Min. 85dB,at 2048Hz 50% duty Square Wave 6Vo-p
5	Coil Resistance	50±5Ω
6	Resonant Frequency	2048Hz
7	Operating Temperature	-30℃ ~ 85℃
8	Store Temperature	-40℃ ~ 85℃
9	Net Weight	Approx 4.6g
10	RoHS	Yes

3. Dimensions		Unit: mm
		
*Unit: mm; Tolerance: ±0.5mm Except Specified *Housing Material: Black PPO		

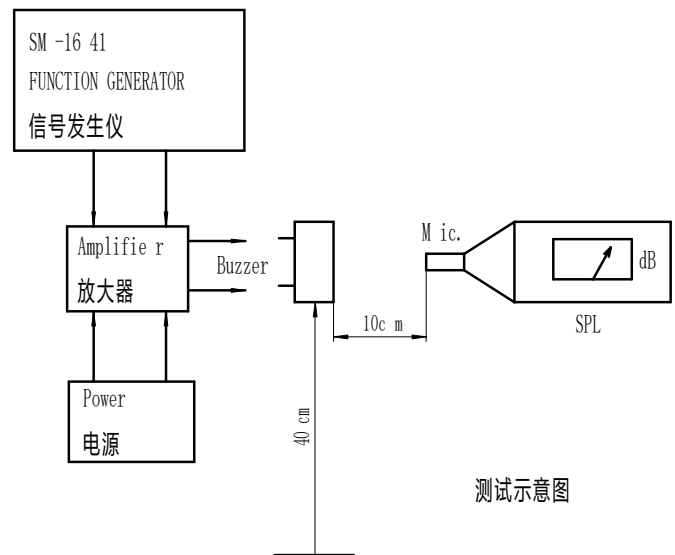
4. Electrical And Acoustical Measuring Condition

Recommended Driving Circuit

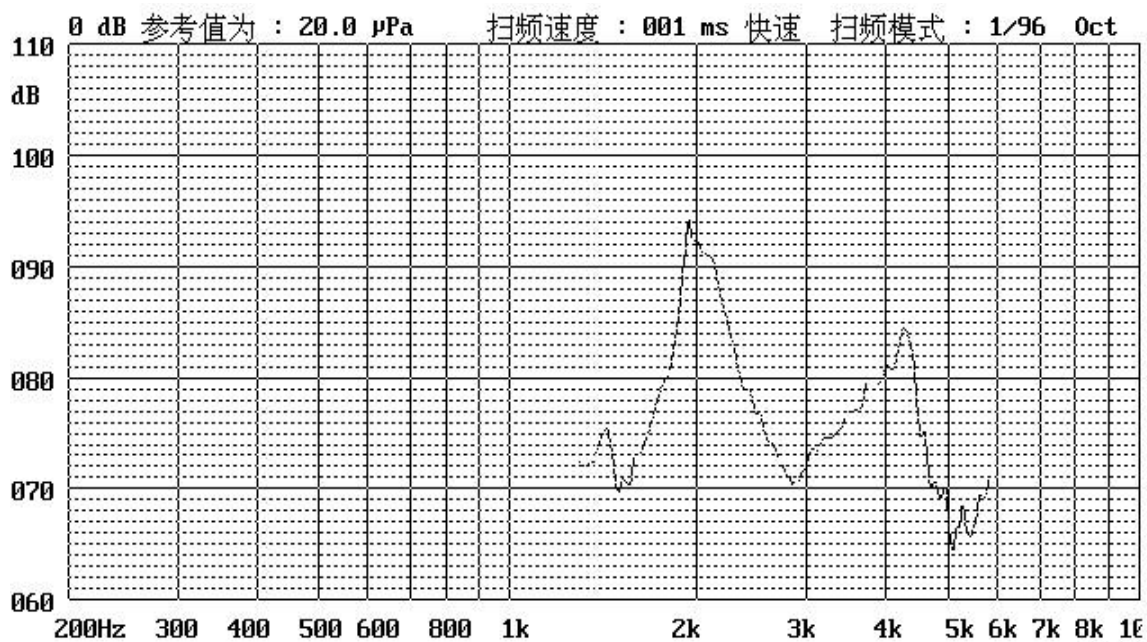


Resonant frequency, 1/2 duty cycle. Square wave.
Signal amplitude should be large enough to saturate the transistor.

Recommended Setting



5. Frequency Response



6Vo-p 50% duty Square wave, 10cm

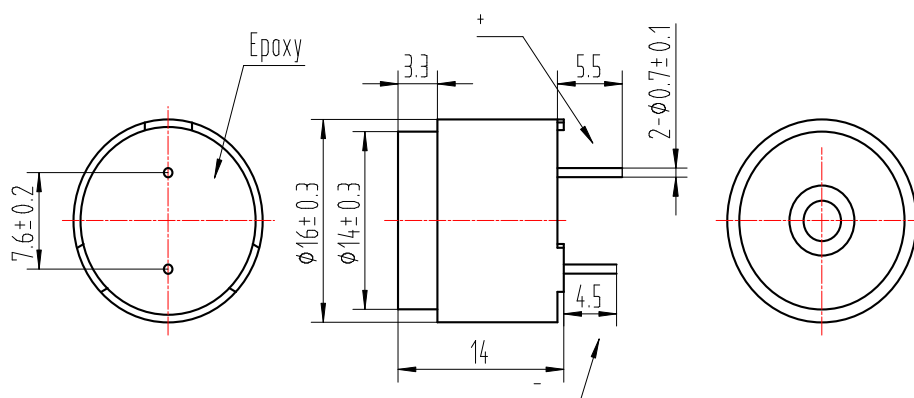
1. Product type: Electro-Magnetic Buzzer (Pin Type)
2. Technical Parameter
Measuring condition

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	Rated Voltage	12Vo-p
2	Operating Voltage	9-15Vo-p
3	Rated Current	Max.50mA ,at 2048Hz 50% duty Square Wave 12Vo-p
4	Sound Output at 10cm	Min. 85dB,at 2048Hz 50% duty Square Wave 12Vo-p
5	Coil Resistance	115±12Ω
6	Resonant Frequency	2048Hz
7	Operating Temperature	-30°C ~85°C
8	Store Temperature	-40°C ~85°C
9	Net Weight	Approx 4.6g
10	RoHS	Yes

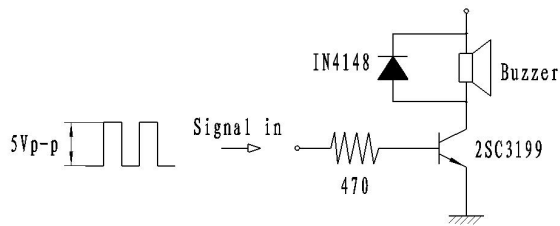
3. Dimensions

Unit: mm

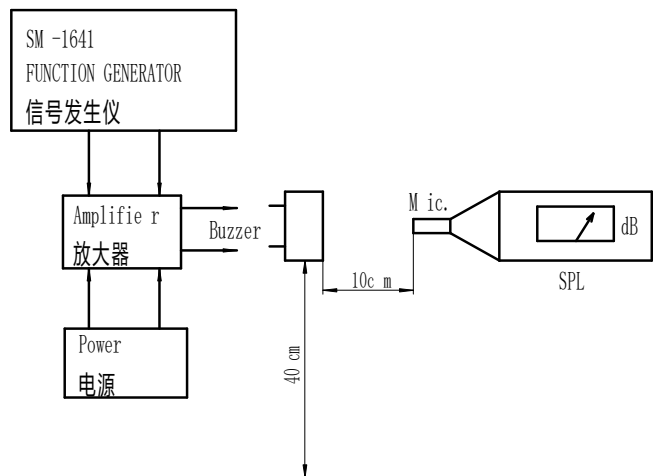
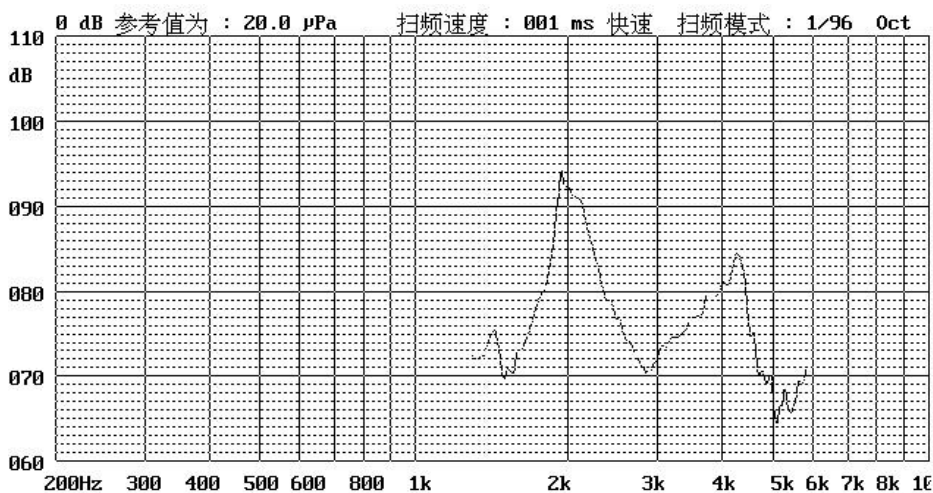


*Unit: mm; Tolerance: ±0.5mm Except Specified

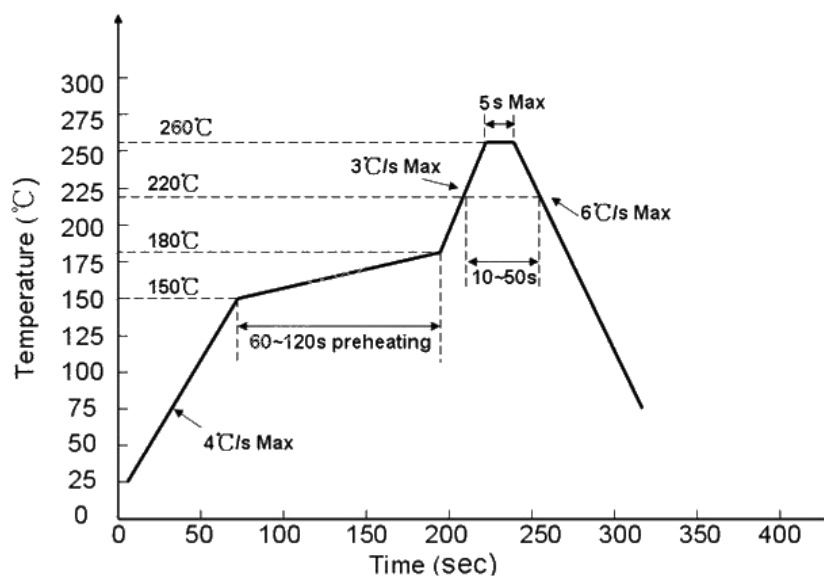
*Housing Material: Black PPO

Electro-Magnetic Buzzer
4. 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

5. Frequency Response


12Vo-p 50% duty Square wave, 10cm

6. Recommended wave soldering temperature


1. Product type: Electro-Magnetic Buzzer (Pin Type)
2. Technical Parameter
Measuring condition

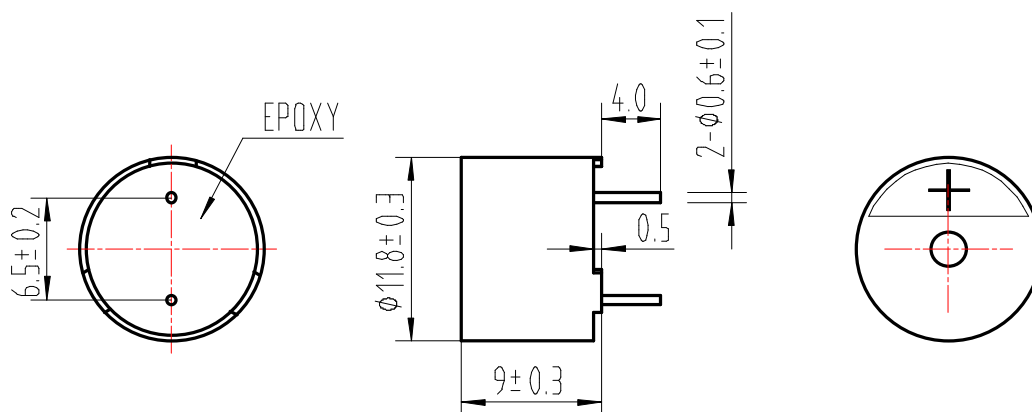
Part shall be measured under a condition (Temperature: 5 ~ 35℃, Humidity: 45% ~ 85%R.H., Atmospheric pressure: 860 ~ 1060hPa) unless the standard condition (Temperature: 25±3℃, Humidity: 60±10%R.H. Atmospheric pressure: 860 ~ 1060hPa) is regulated to measure.



1	Rated Voltage	1.5Vo-p
2	Operating Voltage	1-2Vo-p
3	Rated Current	Max.70mA ,at 2400Hz 50% duty Square Wave 1.5Vo-p
4	Sound Output at 10cm	Min. 80dB,at 2400Hz 50% duty Square Wave 1.5Vo-p
5	Coil Resistance	6.5±1Ω
6	Resonant Frequency	2400Hz
7	Operating Temperature	-40℃ ~+85℃
8	Store Temperature	-40℃ ~+85℃
9	Net Weight	Approx 1.6g
10	RoHS	Yes

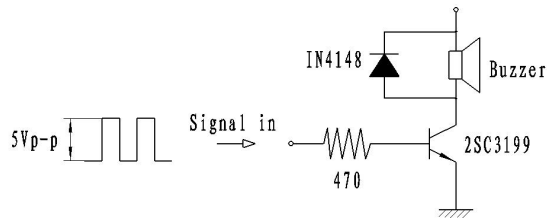
3. Dimensions

Unit: mm

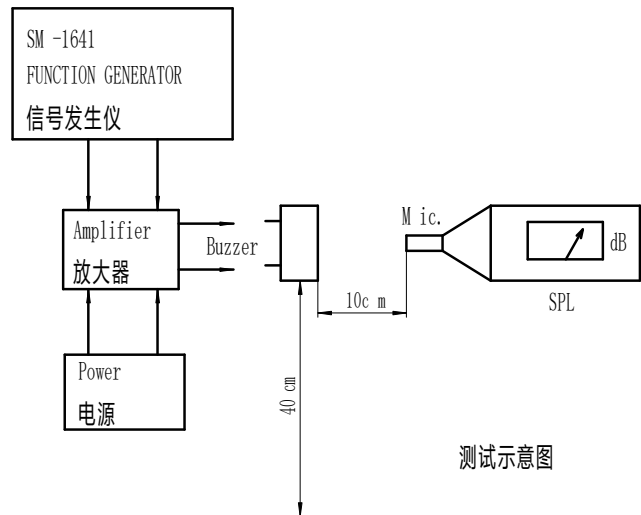


*Unit: mm; Tolerance: ±0.5mm Except Specified

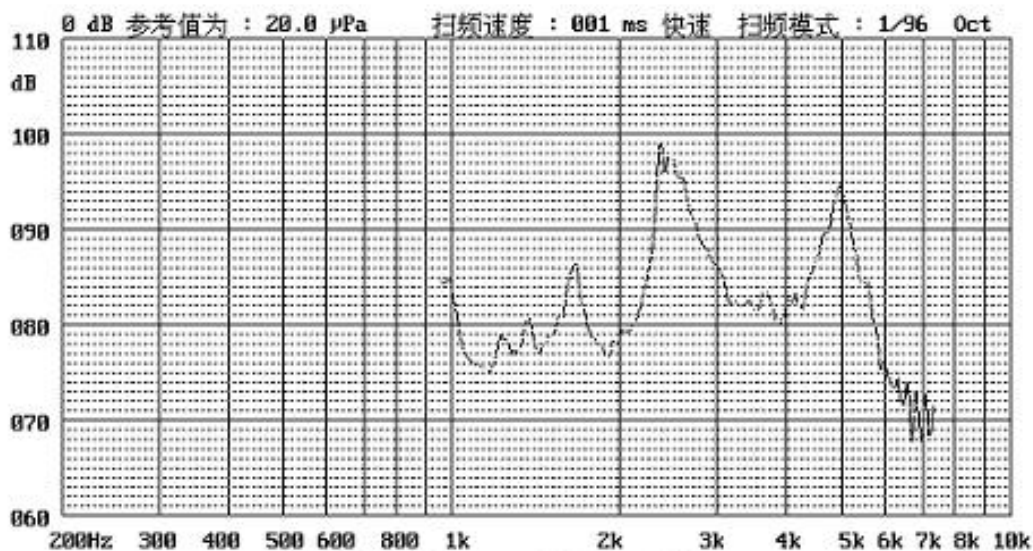
*Housing Material: Black PBT

Electro-Magnetic Buzzer
4. Electrical And Acoustical Measuring Condition
Recommended Driving Circuit


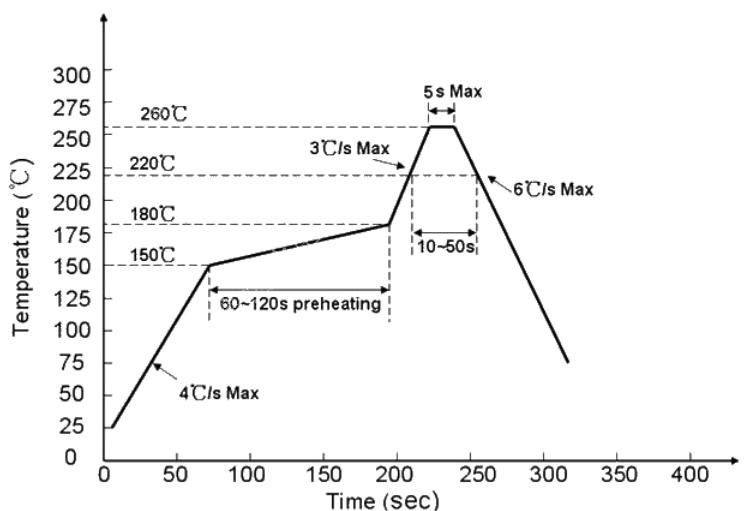
Resonant frequency, 1/2 duty cycle. Square wave.
Signal amplitude should be large enough to saturate the transistor.

Recommended Setting


测试示意图

5. Frequency Response


1.5Vo-p 50% duty Square wave, 10cm

6. Recommended wave soldering temperature


1. Product type: Electro-Magnetic Buzzer (Pin Type)

2. Technical Parameter
Measuring condition

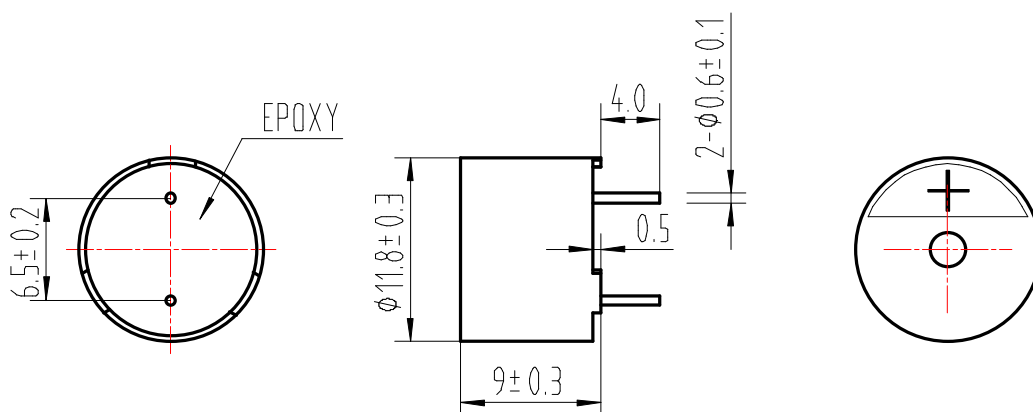
Part shall be measured under a condition (Temperature: 5 ~ 35°C, Humidity: 45% ~ 85%R.H., Atmospheric pressure: 860 ~ 1060hPa) unless the standard condition (Temperature: 25±3°C, Humidity: 60±10%R.H. Atmospheric pressure: 860 ~ 1060hPa) is regulated to measure.



1	Rated Voltage	3Vo-p
2	Operating Voltage	2-5Vo-p
3	Rated Current	Max.70mA ,at 2400Hz 50% duty Square Wave 3Vo-p
4	Sound Output at 10cm	Min. 85dB,at 2400Hz 50% duty Square Wave 3Vo-p
5	Coil Resistance	25±4Ω
6	Resonant Frequency	2400Hz
7	Operating Temperature	-40°C ~+85°C
8	Store Temperature	-40°C ~+85°C
9	Net Weight	Approx 1.6g
10	RoHS	Yes

3. Dimensions

Unit: mm

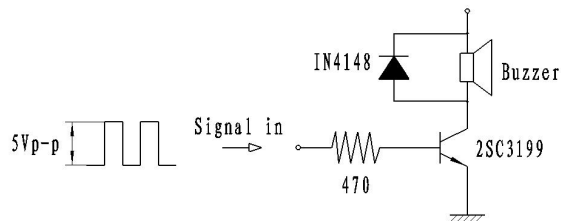


*Unit: mm; Tolerance: ±0.5mm Except Specified

*Housing Material: Black PBT

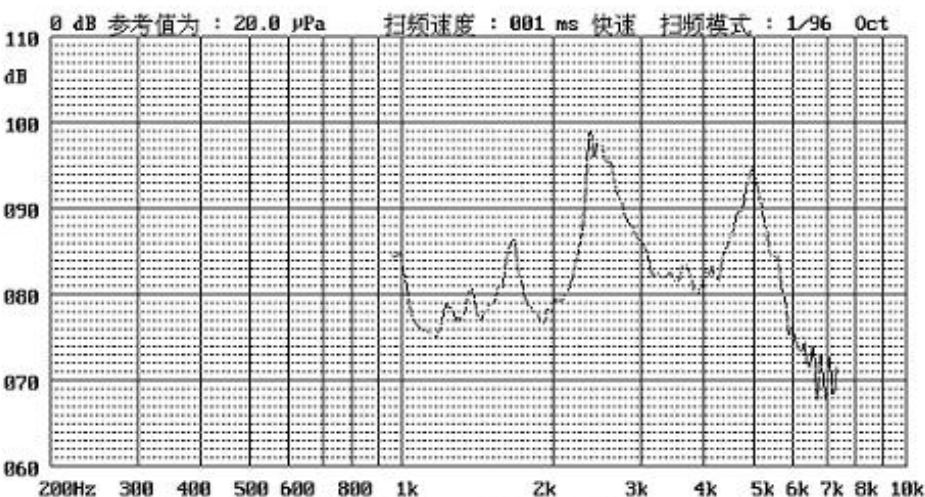
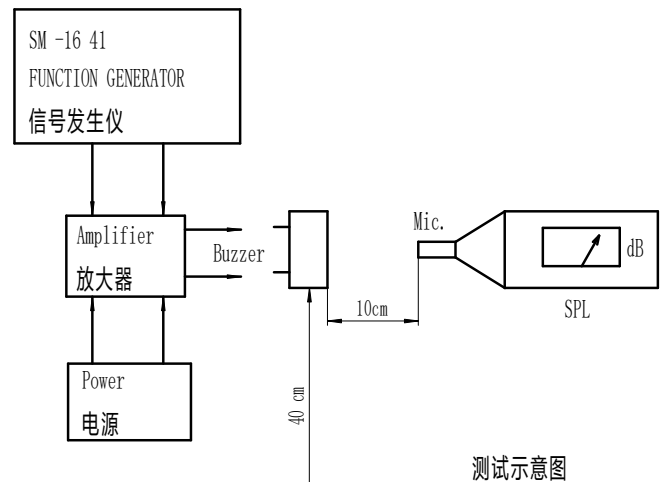
4. Electrical And Acoustical Measuring Condition

Recommended Driving Circuit

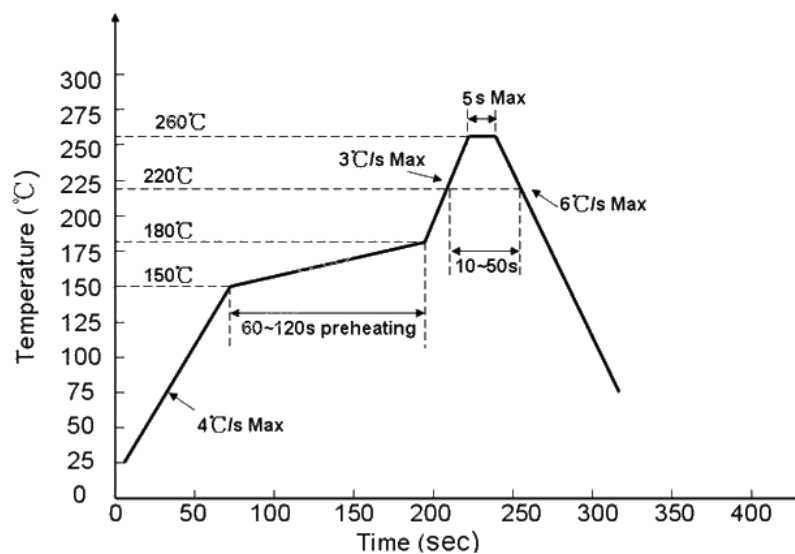


Resonant frequency, 1/2 duty cycle. Square wave.
Signal amplitude should be large enough to saturate the transistor.

Recommended Setting



6. Recommended wave soldering temperature



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

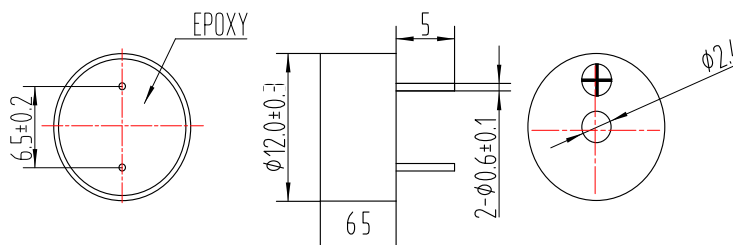
Electro-Magnetic Buzzer
1. Product type: Electro-Magnetic Buzzer (Pin Type)

2. 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.

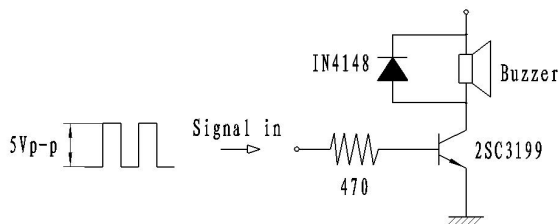


1	Rated Voltage	5Vo-p
2	Operating Voltage	4-8Vo-p
3	Rated Current	Max.60mA ,at 2400Hz 50% duty Square Wave 5Vo-p
4	Sound Output at 10cm	Min. 85dB,at 2400Hz 50% duty Square Wave 5Vo-p
5	Coil Resistance	45±4Ω
6	Resonant Frequency	2400Hz
7	Operating Temperature	-20°C ~+60°C
8	Store Temperature	-30°C ~+70°C
9	Net Weight	Approx 1.5g
10	RoHS	Yes

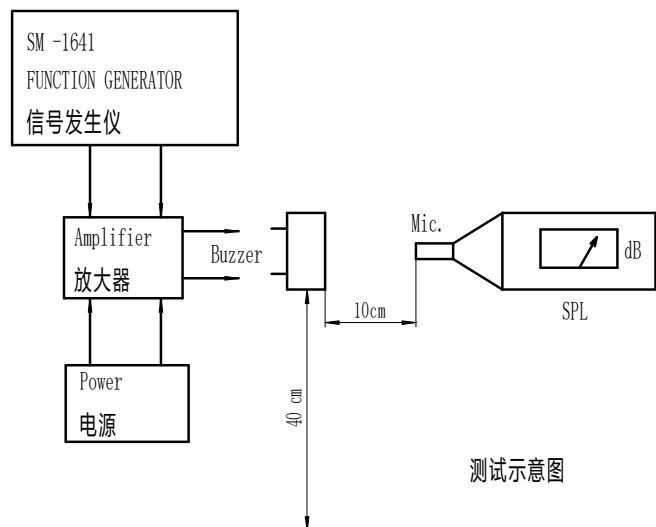
3. Dimensions


*Unit: mm; Tolerance: ±0.5mm Except Specified

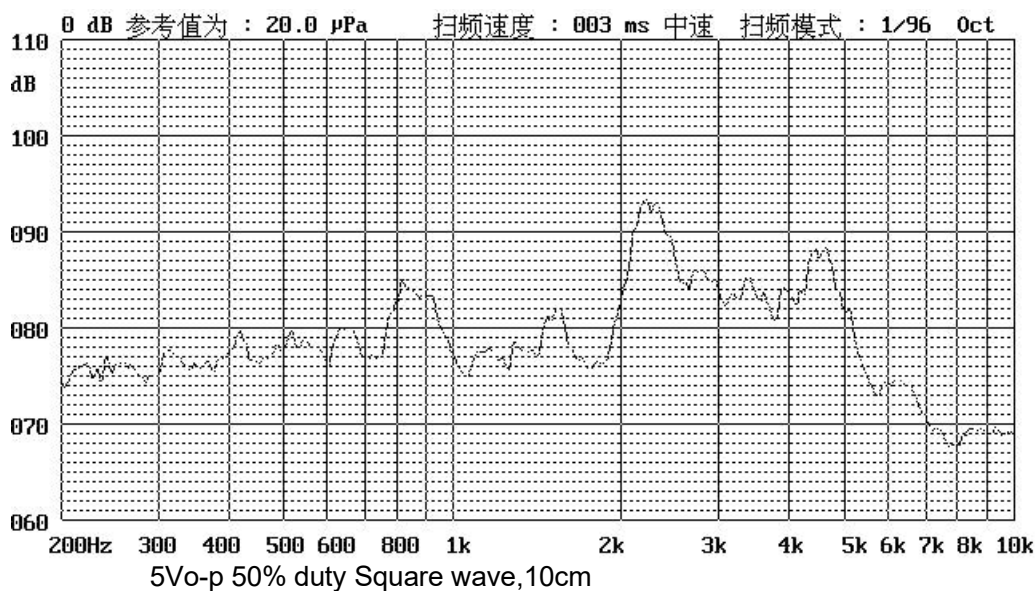
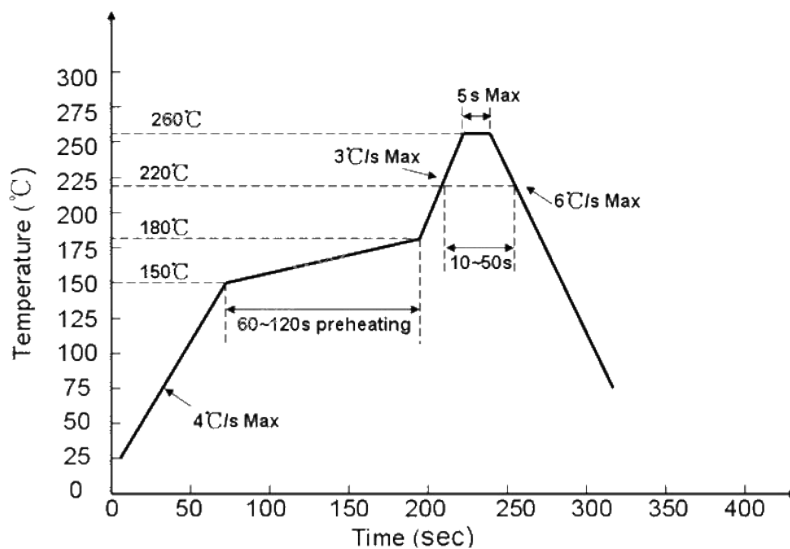
*Housing Material: Black PBT

Electro-Magnetic Buzzer
4. 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

5. Frequency Response

6. Recommended wave soldering temperature


1. Product type: Electro-Magnetic Buzzer (Pin Type)
2. Technical Parameter
Measuring condition

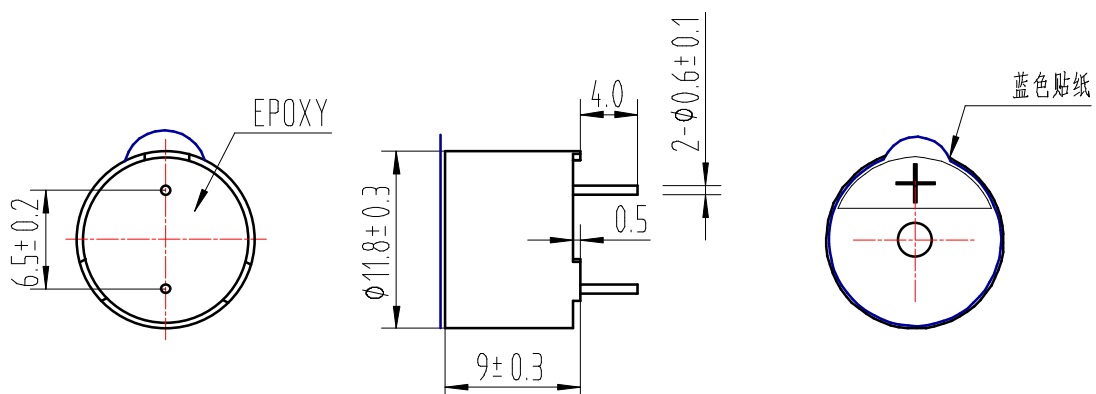
Part shall be measured under a condition (Temperature: 5 ~ 35℃, Humidity: 45% ~ 85%R.H., Atmospheric pressure: 860 ~ 1060hPa) unless the standard condition (Temperature: 25±3℃, Humidity: 60±10%R.H. Atmospheric pressure: 860 ~ 1060hPa) is regulated to measure.



1	Rated Voltage	6Vo-p
2	Operating Voltage	4-8Vo-p
3	Rated Current	Max.80mA ,at 2400Hz 50% duty Square Wave 6Vo-p
4	Sound Output at 10cm	Min. 85dB,at 2400Hz 50% duty Square Wave 6Vo-p
5	Coil Resistance	45±5Ω
6	Resonant Frequency	2400Hz
7	Operating Temperature	-20℃ ~70℃
8	Store Temperature	-30℃ ~80℃
9	Net Weight	Approx 1.6g
10	RoHS	Yes

3. Dimensions

Unit: mm



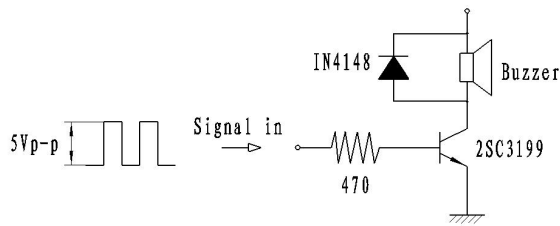
*Unit: mm; Tolerance: ±0.5mm Except Specified

*Housing Material: Black PBT

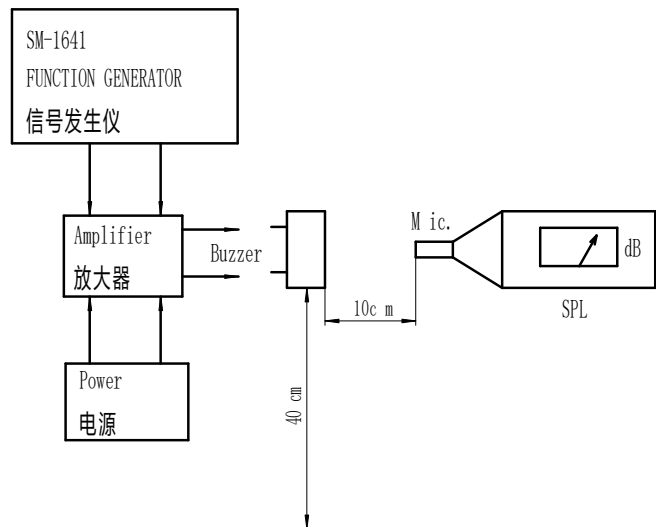
4. Electrical And Acoustical Measuring Condition

Electro-Magnetic Buzzer

Recommended Driving Circuit

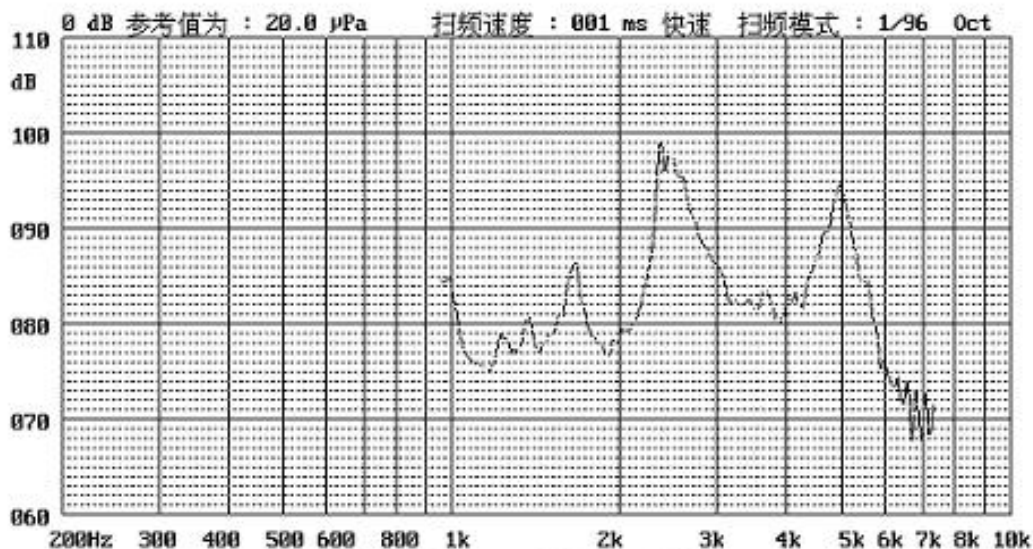


Recommended Setting



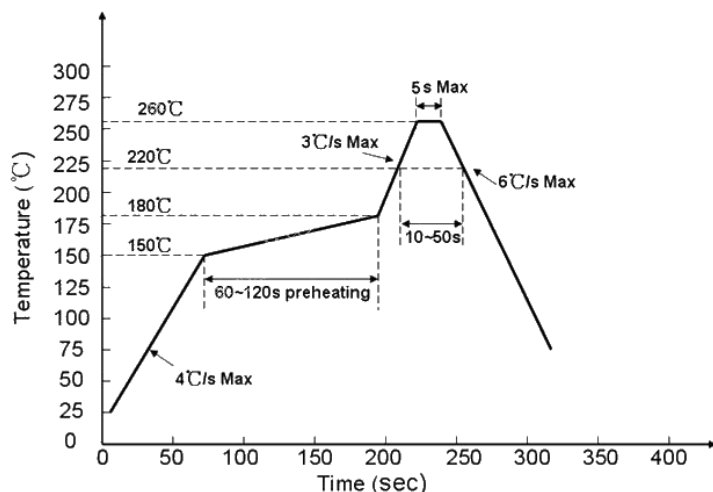
Resonant frequency, 1/2 duty cycle. Square wave.
Signal amplitude should be large enough to saturate the transistor.

5. Frequency Response



6Vo-p 50% duty Square wave, 10cm

6. Recommended wave soldering temperature



1. Product type: Electro-Magnetic Buzzer (Pin Type)

2. Technical Parameter
Measuring condition

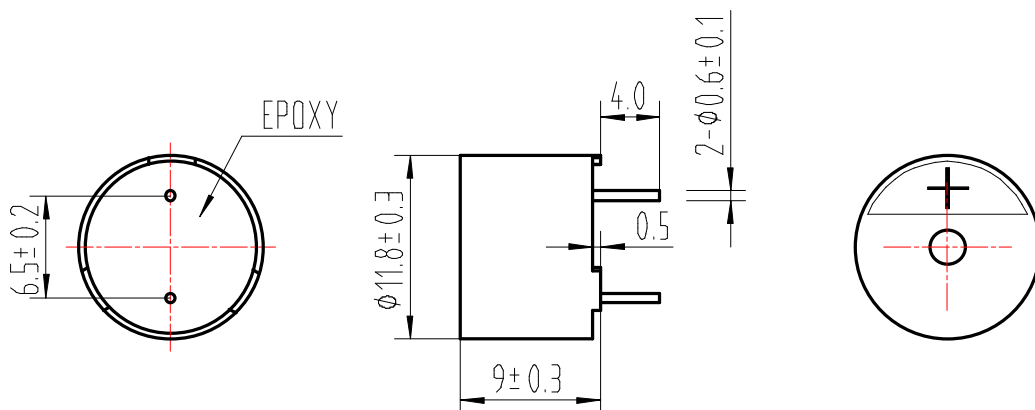
Part shall be measured under a condition (Temperature: 5 ~ 35℃, Humidity: 45% ~ 85%R.H., Atmospheric pressure: 860 ~ 1060hPa) unless the standard condition (Temperature: 25±3℃, Humidity: 60±10%R.H. Atmospheric pressure: 860 ~ 1060hPa) is regulated to measure.



1	Rated Voltage	12Vo-p
2	Operating Voltage	7-16Vo-p
3	Rated Current	Max.60mA ,at 2400Hz 50% duty Square Wave 12Vo-p
4	Sound Output at 10cm	Min. 85dB,at 2400Hz 50% duty Square Wave 12Vo-p
5	Coil Resistance	140±14Ω
6	Resonant Frequency	2400Hz
7	Operating Temperature	-40℃ ~+85℃
8	Store Temperature	-40℃ ~+85℃
9	Net Weight	Approx 1.6g
10	RoHS	Yes

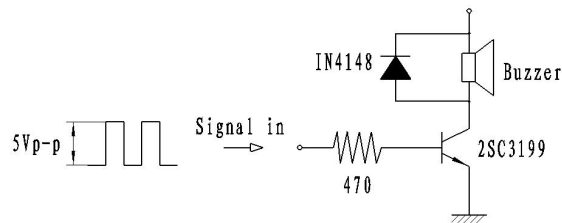
3. Dimensions

Unit: mm

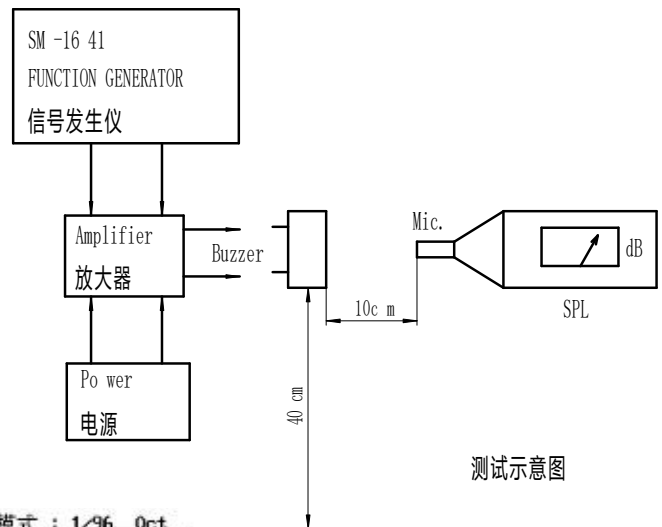


*Unit: mm; Tolerance: ±0.5mm Except Specified

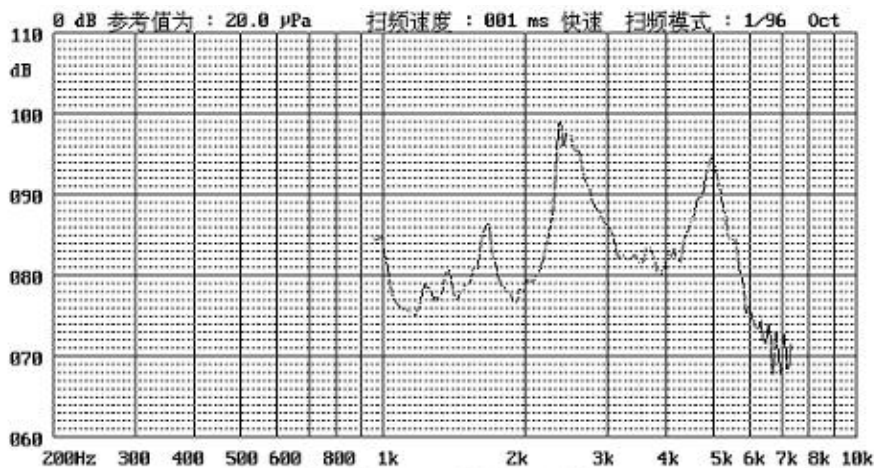
*Housing Material: Black PBT

Electro-Magnetic Buzzer
4. Electrical And Acoustical Measuring Condition
Recommended Driving Circuit


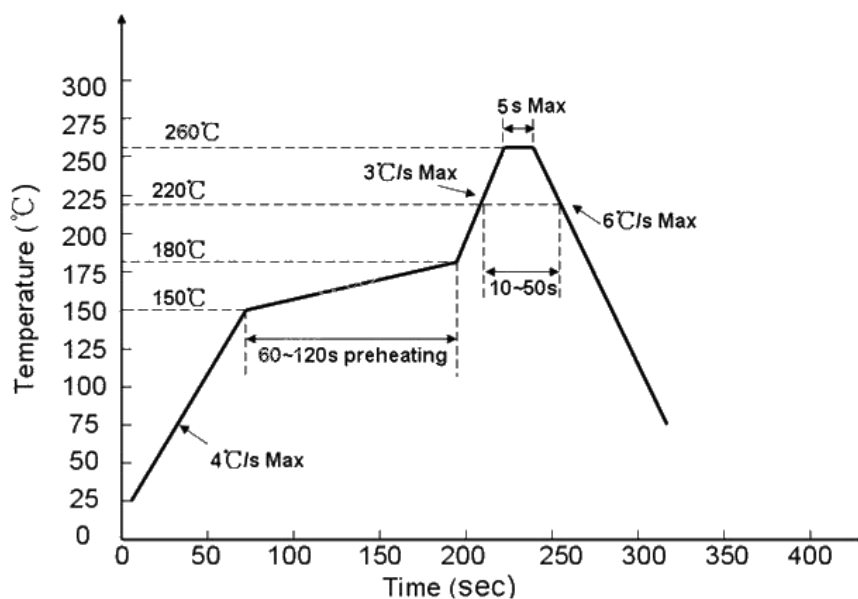
Resonant frequency, 1/2 duty cycle. Square wave.
Signal amplitude should be large enough to saturate the transistor.

Recommended Setting


测试示意图

5. Frequency Response


12Vo-p 50% duty Square wave, 10cm

6. Recommended wave soldering temperature


1. Product type: Electro-Magnetic Buzzer (Pin Type)

2. Technical Parameter Measuring condition

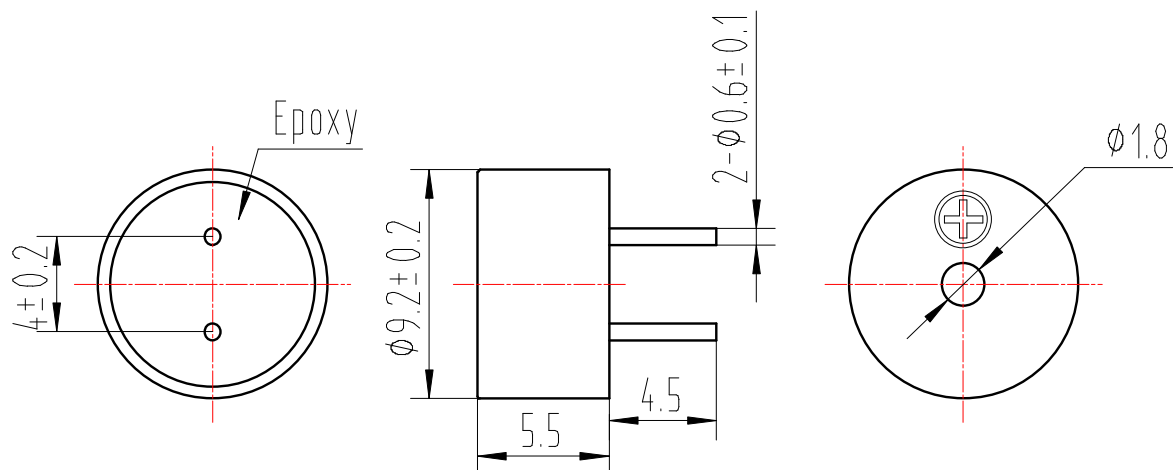
Part shall be measured under a condition (Temperature: 5 ~ 35°C, Humidity: 45% ~ 85%R.H., Atmospheric pressure: 860 ~ 1060hPa) unless the standard condition (Temperature: 25±3°C, Humidity: 60±10%R.H. Atmospheric pressure: 860 ~ 1060hPa) is regulated to measure.



1	Rated Voltage	3Vo-p
2	Operating Voltage	2 ~ 4Vo-p
3	Rated Current	Max.60mA ,at 2731Hz 50% duty Square Wave 3Vo-p
4	Sound Output at 10cm	Min. 85dB,at 2731Hz 50% duty Square Wave 3Vo-p
5	Coil Resistance	25±3Ω
6	Resonant Frequency	2731Hz
7	Operating Temperature	-20°C ~+70°C
8	Store Temperature	-30°C ~+80°C
9	Net Weight	Approx 0.8g
10	RoHS	Yes

3. Dimensions

Unit: mm

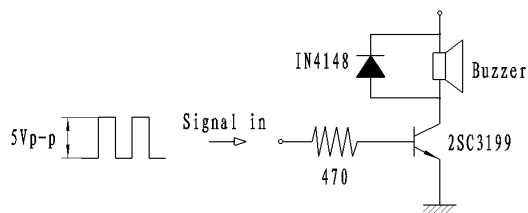


*Unit: mm; Tolerance: ± 0.5mm Except Specified

*Housing Material: Black PBT

4. Electrical And Acoustical Measuring Condition

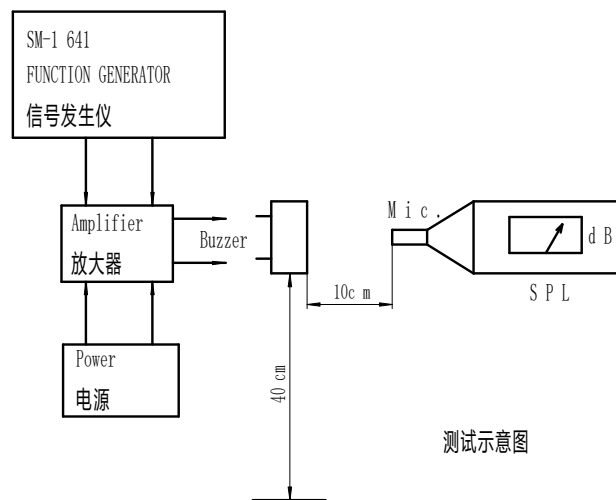
Recommended Driving Circuit



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

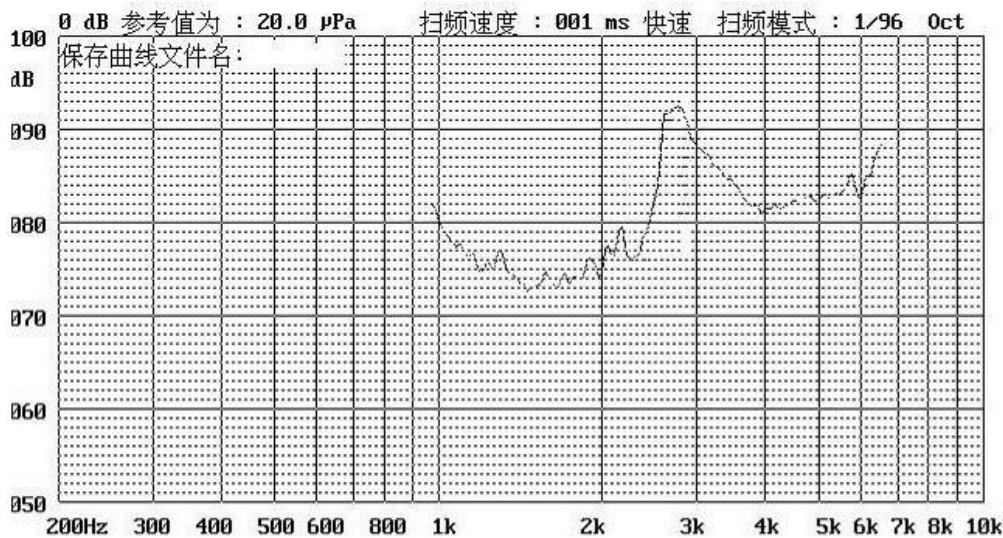
Signal amplitude should be large enough to saturate the transistor.

Recommended Setting



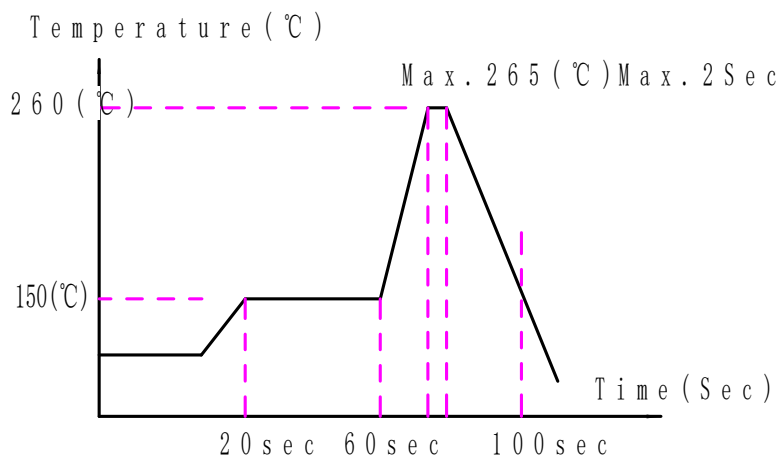
测试示意图

5. Frequency Response



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

6. Recommended wave soldering temperature



Electro-Magnetic Buzzer
1. Product type: Electro-Magnetic Buzzer (Pin Type)
2. Technical Parameter
Measuring condition

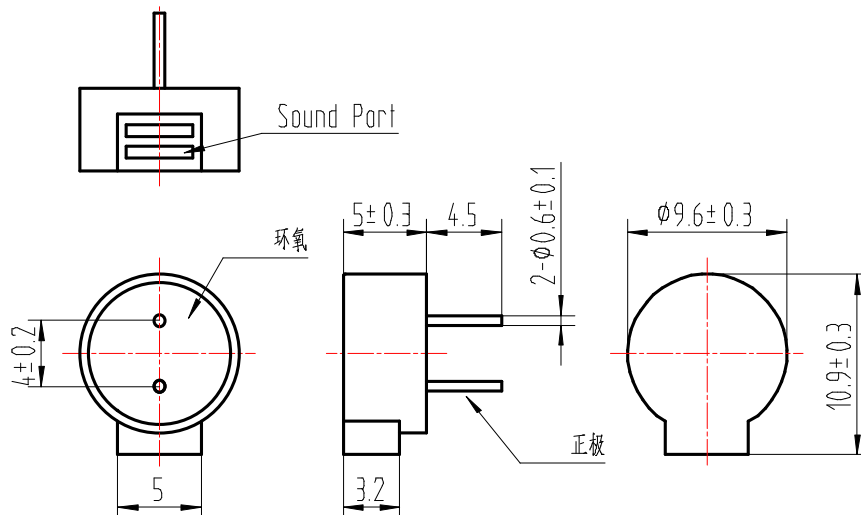
Part shall be measured under a condition (Temperature: 5 ~ 35℃, Humidity: 45% ~ 85%R.H., Atmospheric pressure: 860 ~ 1060hPa) unless the standard condition (Temperature: 25±3℃, Humidity: 60±10%R.H. Atmospheric pressure: 860 ~ 1060hPa) is regulated to measure.



1	Rated Voltage	1.5Vo-p
2	Operating Voltage	1-2Vo-p
3	Rated Current	Max.80mA ,at 3200Hz 50% duty Square Wave 1.5Vo-p
4	Sound Output at 10cm	Min. 80dB,at 3200Hz 50% duty Square Wave 1.5Vo-p
5	Coil Resistance	5.5±1Ω
6	Resonant Frequency	3200Hz
7	Operating Temperature	-20℃ ~+60℃
8	Store Temperature	-30℃ ~+70℃
9	Net Weight	Approx 0.7g
10	RoHS	Yes

3. Dimensions

Unit: mm



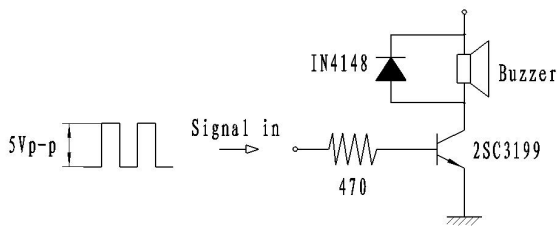
*Unit: mm; Tolerance: ±0.5mm Except Specified

*Housing Material: Black PPO

4. Electrical And Acoustical Measuring Condition

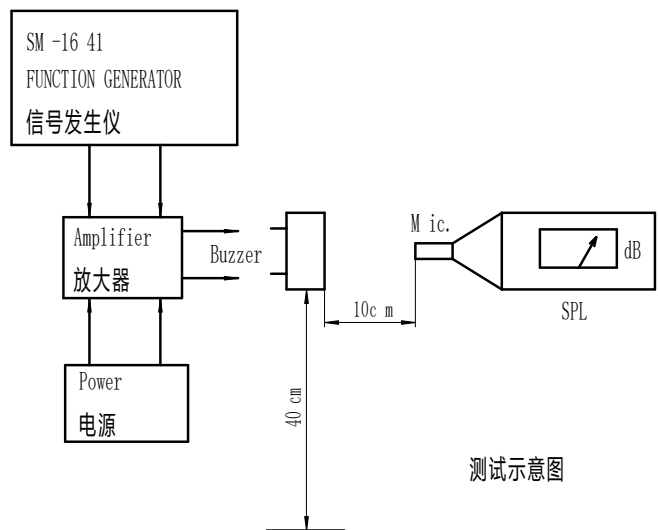
Electro-Magnetic Buzzer

Recommended Driving Circuit



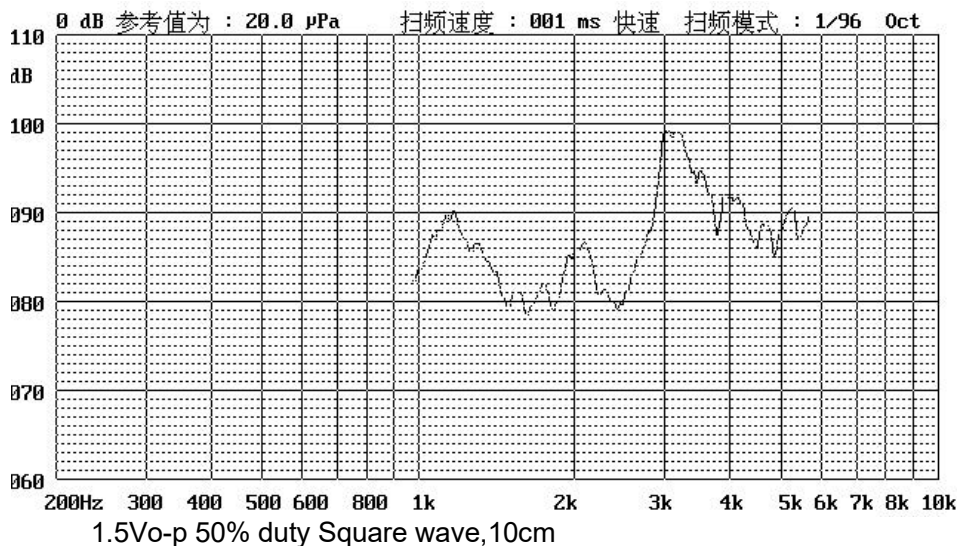
Resonant frequency, 1/2 duty cycle. Square wave.
Signal amplitude should be large enough to saturate the transistor.

Recommended Setting

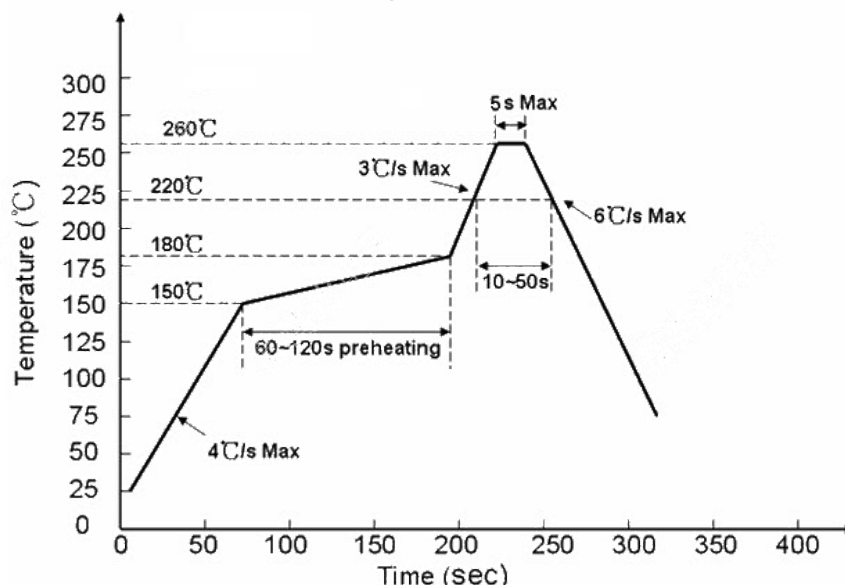


测试示意图

5. Frequency Response



6. Recommended wave soldering temperature



1. Product type: Electro-Magnetic Buzzer (Pin Type)
2. Technical Parameter
Measuring condition

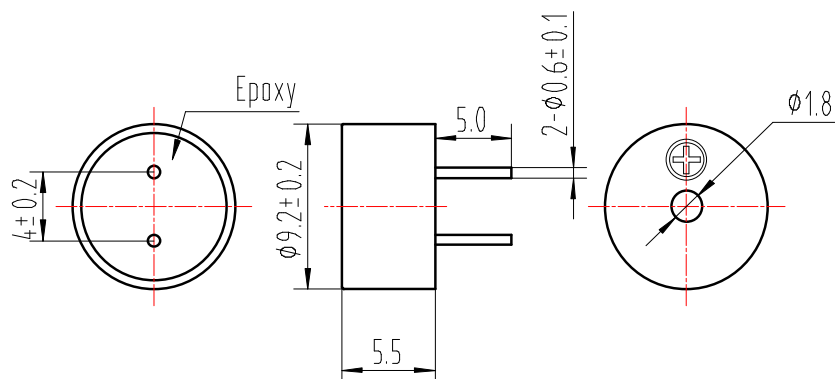
Part shall be measured under a condition (Temperature: 5 ~ 35°C, Humidity: 45% ~ 85%R.H., Atmospheric pressure: 860 ~ 1060hPa) unless the standard condition (Temperature: 25±3°C, Humidity: 60±10%R.H. Atmospheric pressure: 860 ~ 1060hPa) is regulated to measure.



1	Rated Voltage	3Vo-p
2	Operating Voltage	2 ~ 5 Vo-p
3	Rated Current	Max.80mA ,at 3200Hz 50% duty Square Wave 3Vo-p
4	Sound Output at 10cm	Min. 85dB,at 3200Hz 50% duty Square Wave 3Vo-p
5	Coil Resistance	25±4Ω
6	Resonant Frequency	3200Hz
7	Operating Temperature	-20°C ~+60°C
8	Store Temperature	-30°C ~+70°C
9	Net Weight	Approx 0.8g
10	RoHS	Yes

3. Dimensions

Unit: mm



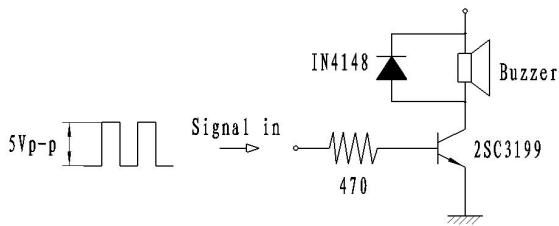
*Unit: mm; Tolerance: ±0.5mm Except Specified

*Housing Material: Black PBT

4. Electrical And Acoustical Measuring Condition

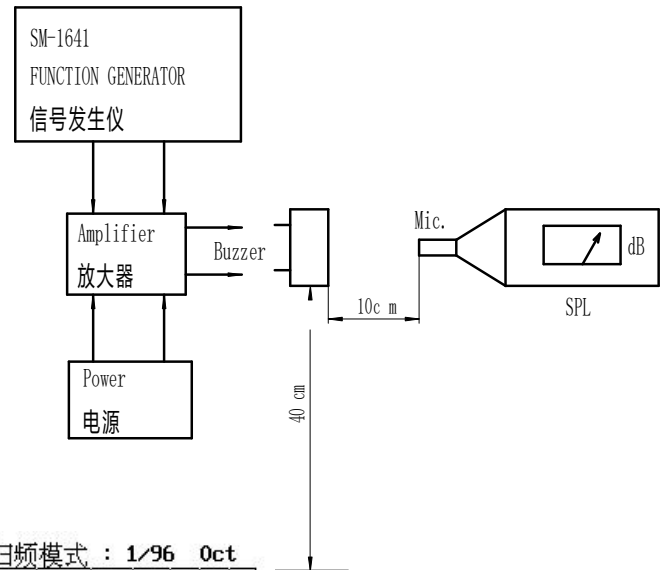
Electro-Magnetic Buzzer

Recommended Driving Circuit

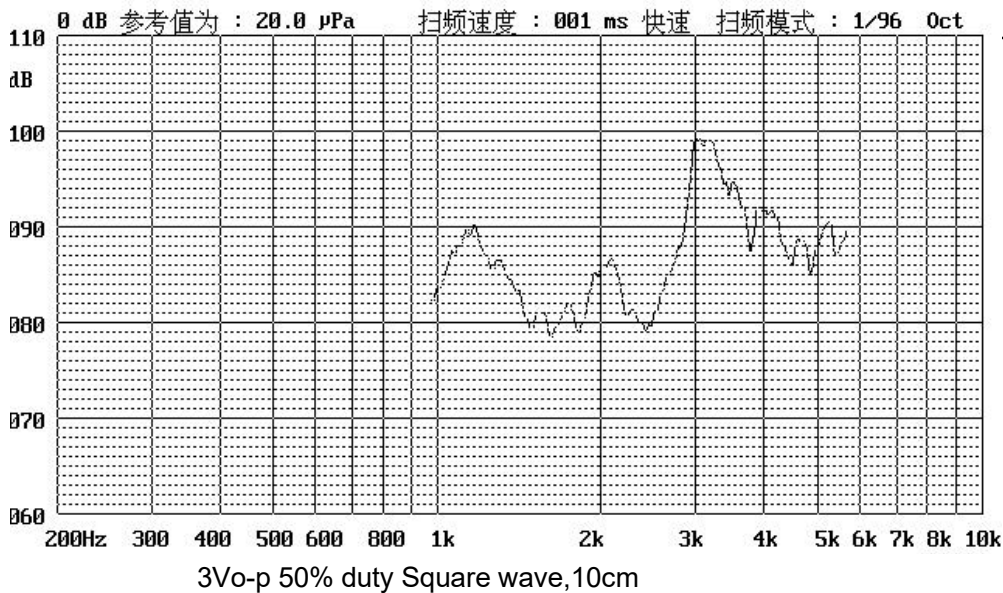


Resonant frequency, 1/2 duty cycle. Square wave.
Signal amplitude should be large enough to saturate the transistor.

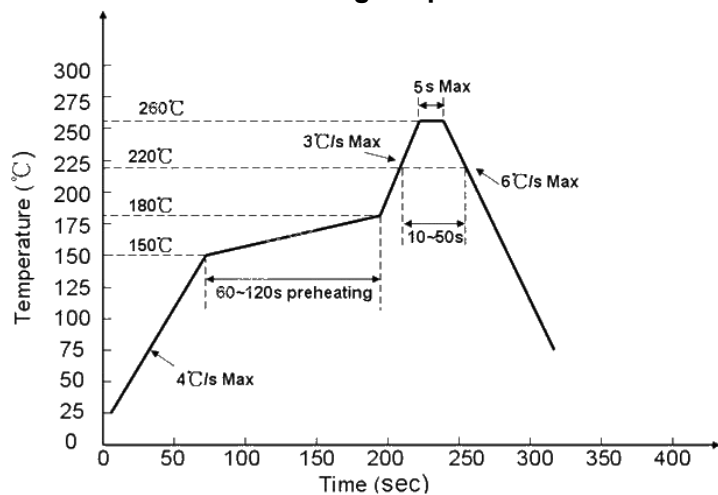
Recommended Setting



5. Frequency Response



6. Recommended wave soldering temperature



1. Product type: Electro-Magnetic Buzzer (Pin Type)
2. Technical Parameter
Measuring condition

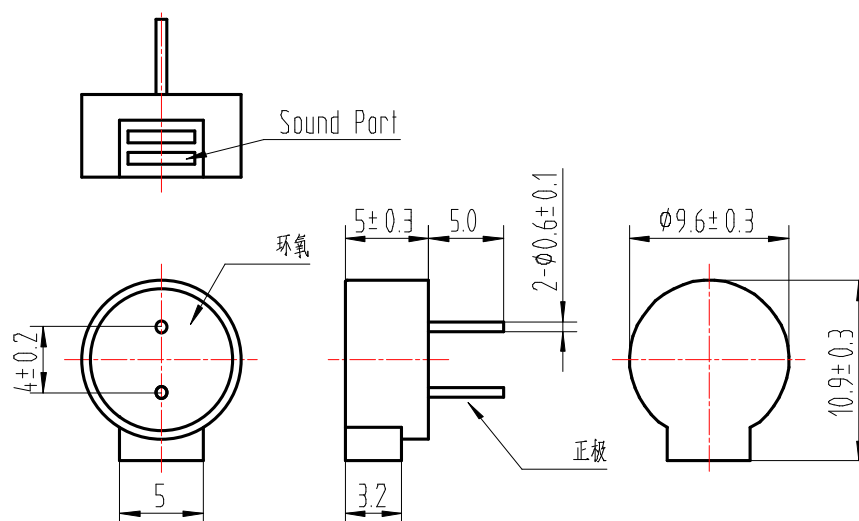
Part shall be measured under a condition (Temperature: 5 ~ 35℃, Humidity: 45% ~ 85%R.H., Atmospheric pressure: 860 ~ 1060hPa) unless the standard condition (Temperature: 25±3℃, Humidity: 60±10%R.H. Atmospheric pressure: 860 ~ 1060hPa) is regulated to measure.



1	Rated Voltage	3Vo-p
2	Operating Voltage	2-5Vo-p
3	Rated Current	Max.80mA ,at 3200Hz 50% duty Square Wave 3Vo-p
4	Sound Output at 10cm	Min. 85dB,at 3200Hz 50% duty Square Wave 3Vo-p
5	Coil Resistance	25±3Ω
6	Resonant Frequency	3200Hz
7	Operating Temperature	-20℃ ~ 70℃
8	Store Temperature	-30℃ ~ 80℃
9	Net Weight	Approx 0.7g
10	RoHS	Yes

3. Dimensions

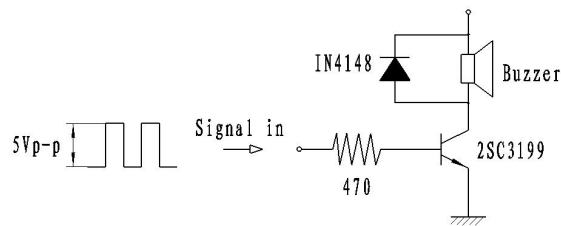
Unit: mm


*Unit: mm; Tolerance: ± 0.5 mm Except Specified

*Housing Material: PBT

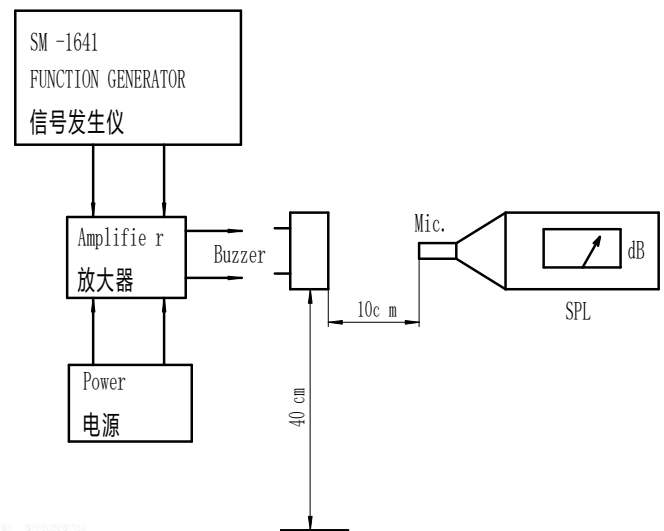
4. Electrical And Acoustical Measuring Condition

Recommended Driving Circuit

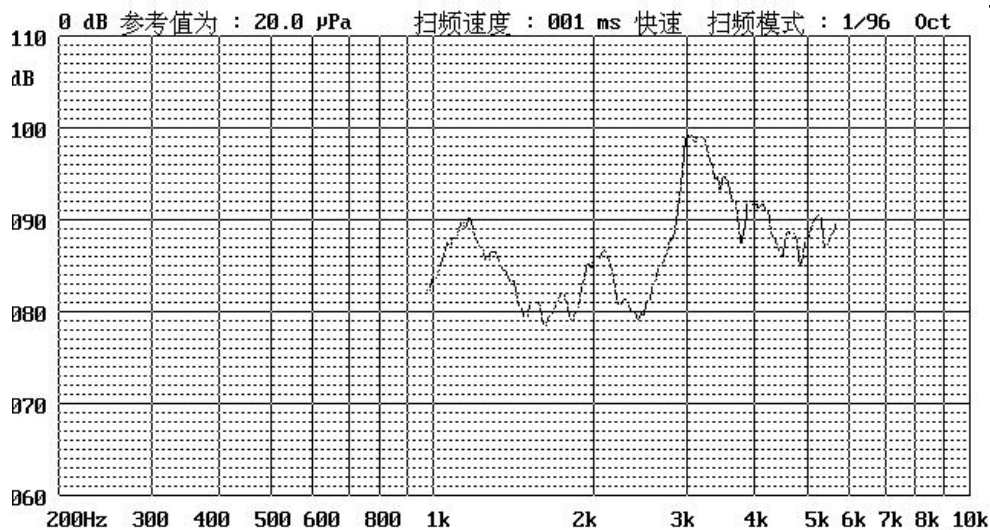


Resonant frequency, 1/2 duty cycle. Square wave.
Signal amplitude should be large enough to saturate the transistor.

Recommended Setting

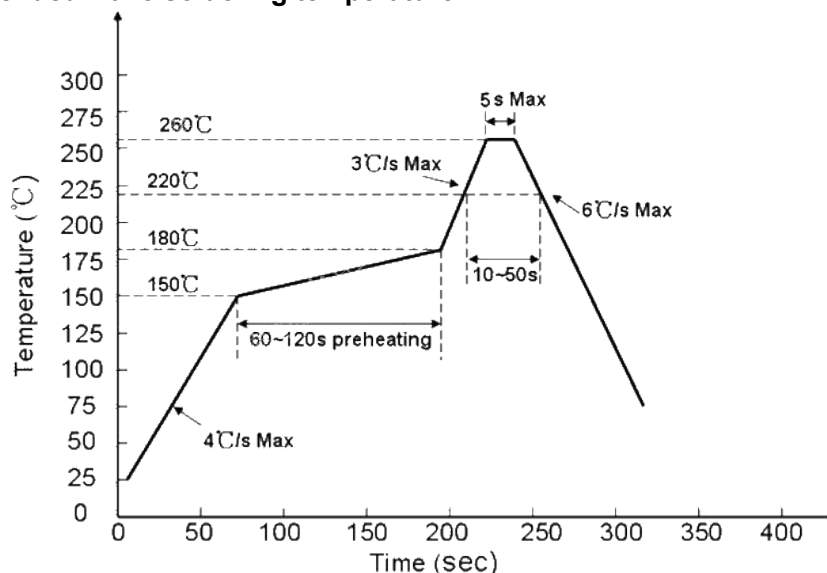


5. Frequency Response



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

6. Recommended wave soldering temperature



1. Product type: Electro-Magnetic Buzzer (Pin Type)

2. Technical Parameter Measuring condition

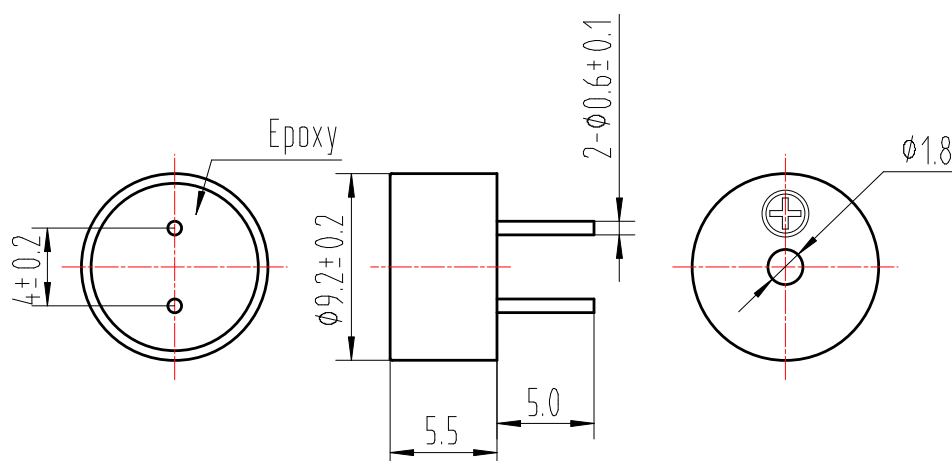
Part shall be measured under a condition (Temperature: 5 ~ 35°C, Humidity: 45% ~ 85%R.H., Atmospheric pressure: 860 ~ 1060hPa) unless the standard condition (Temperature: 25±3°C, Humidity: 60±10%R.H. Atmospheric pressure: 860 ~ 1060hPa) is regulated to measure.



1	Rated Voltage	5Vo-p
2	Operating Voltage	4 ~ 6Vo-p
3	Rated Current	Max.80mA ,at 3200Hz 50% duty Square Wave 5Vo-p
4	Sound Output at 10cm	Min. 85dB,at 3200Hz 50% duty Square Wave 5Vo-p
5	Coil Resistance	40 ± 4Ω
6	Resonant Frequency	3200Hz
7	Operating Temperature	-20°C ~ 70°C
8	Store Temperature	-30°C ~ 80°C
9	Net Weight	Approx 0.8g
10	RoHS	Yes

3. Dimensions

Unit: mm



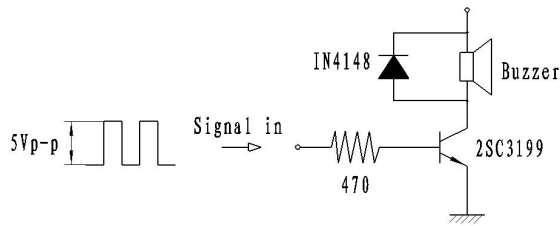
*Unit: mm; Tolerance: ±0.5mm Except Specified

*Housing Material: Black PBT

4. Electrical And Acoustical Measuring Condition

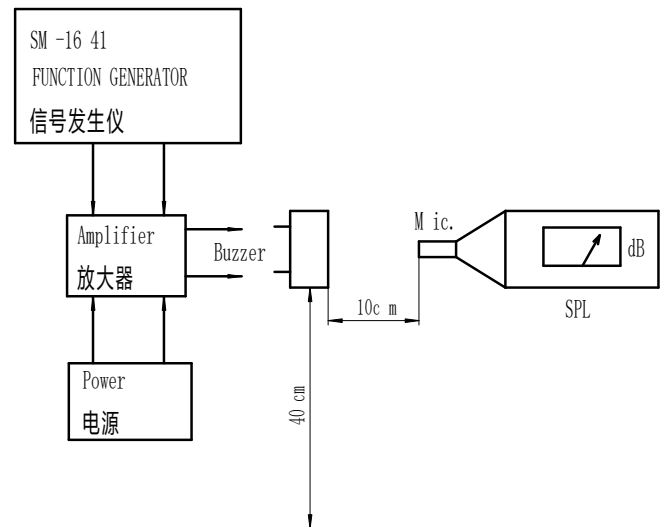
Electro-Magnetic Buzzer

Recommended Driving Circuit

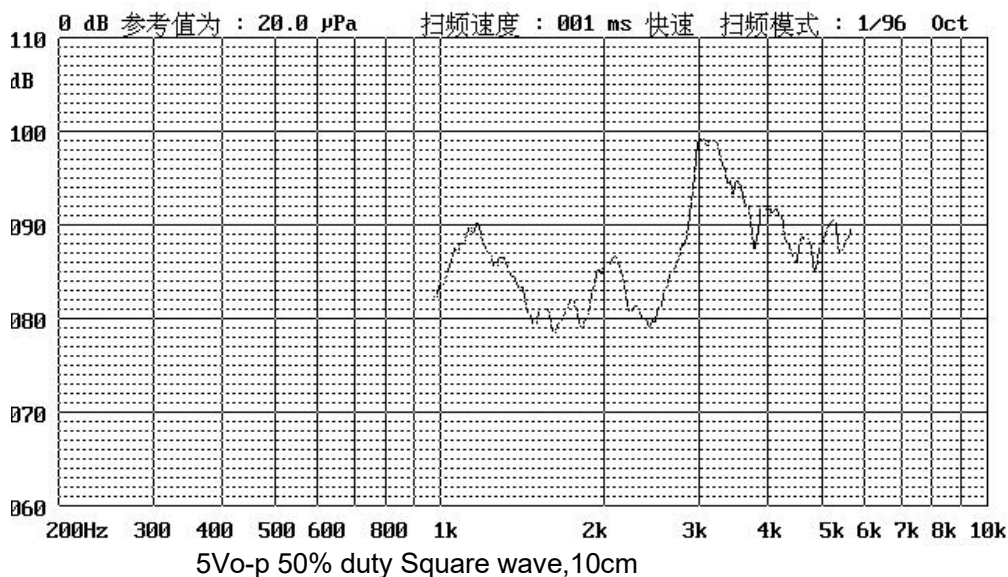


Resonant frequency, 1/2 duty cycle. Square wave.
Signal amplitude should be large enough to saturate the transistor.

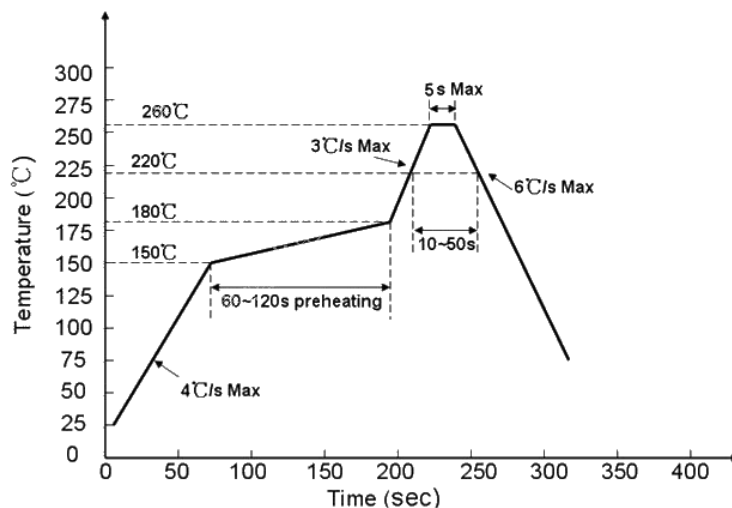
Recommended Setting



5. Frequency Response



6. Recommended wave soldering temperature



1. Product type: Electro-Magnetic Buzzer (Pin Type)
2. Technical Parameter
Measuring condition

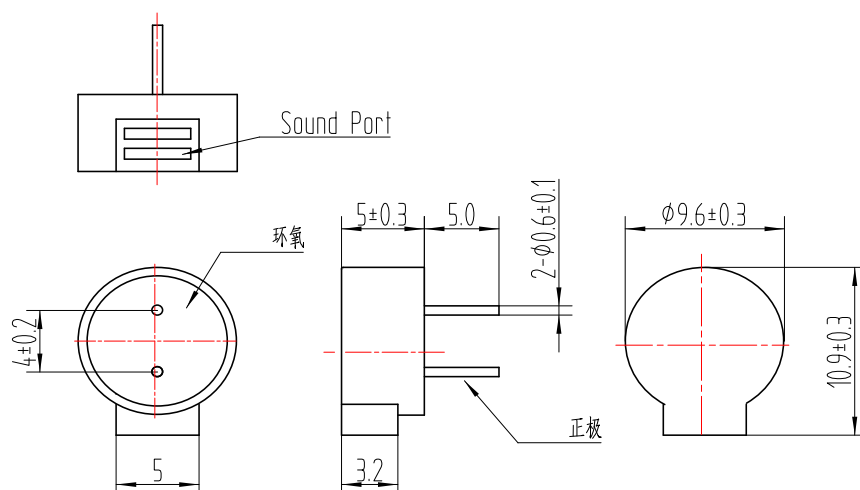
Part shall be measured under a condition (Temperature: 5 ~ 35℃, Humidity: 45% ~ 85%R.H., Atmospheric pressure: 860 ~ 1060hPa) unless the standard condition (Temperature: 25±3℃, Humidity: 60±10%R.H. Atmospheric pressure: 860 ~ 1060hPa) is regulated to measure.



1	Rated Voltage	5Vo-p
2	Operating Voltage	4-7Vo-p
3	Rated Current	Max.80mA ,at 3200Hz 50% duty Square Wave 5Vo-p
4	Sound Output at 10cm	Min. 85dB,at 3200Hz 50% duty Square Wave 5Vo-p
5	Coil Resistance	40±4Ω
6	Resonant Frequency	3200Hz
7	Operating Temperature	-20℃ ~+60℃
8	Store Temperature	-30℃ ~+70℃
9	Net Weight	Approx 0.7g
10	RoHS	Yes

3. Dimensions

Unit: mm

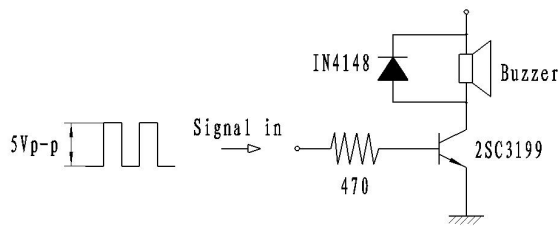


*Unit: mm; Tolerance: ± 0.5mm Except Specified

*Housing Material: PBT

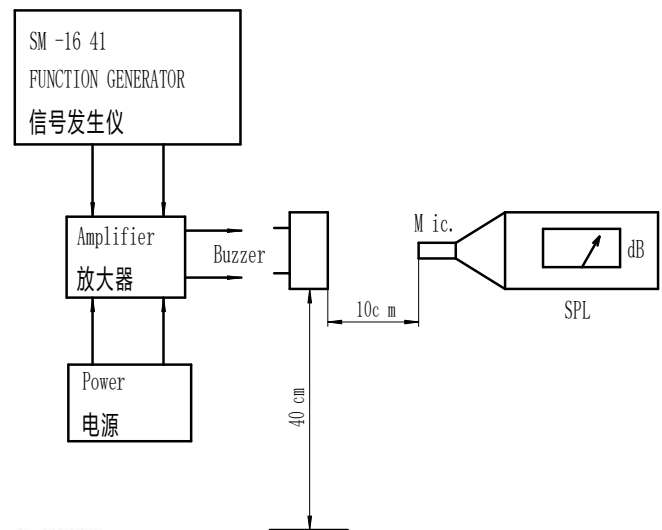
4. Electrical And Acoustical Measuring Condition

Recommended Driving Circuit

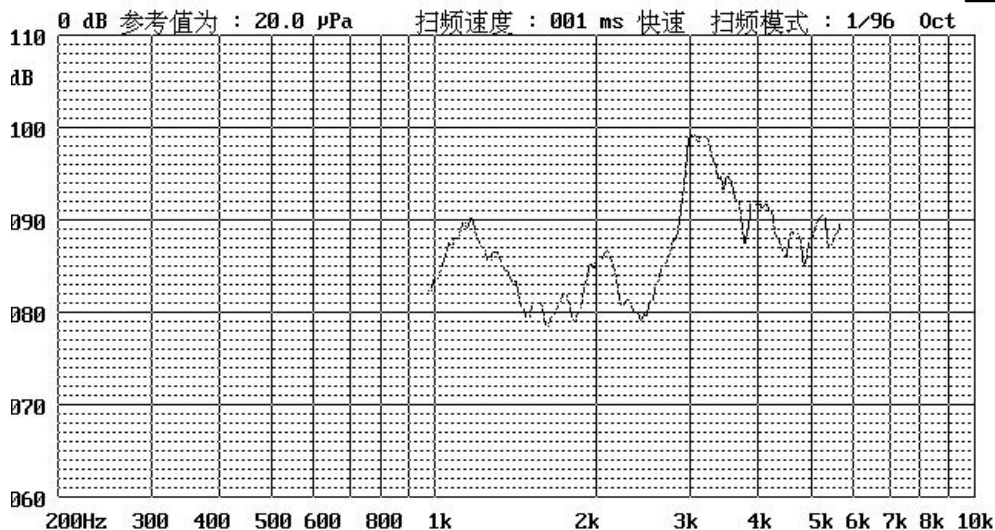


Resonant frequency, 1/2 duty cycle. Square wave.
Signal amplitude should be large enough to saturate the transistor.

Recommended Setting



5. Frequency Response



5Vo-p 50% duty Square wave, 10cm

6. Recommended wave soldering temperature

