

# SPECIFICATION

CUSTOMER :

PRODUCT NAME : Piezoelectric Diaphragm

CUSTOMER MODEL NO. :

KEPO MODEL NO. : MFT-50T-3.0A1

DRAWING: KP3.840.763

COMPLIANCE WITH RoHS

Signature of Approval

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Signature of KEPO

Approved by	Check by	Issued by	Date



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## 1. Scope

This product specification is applied to the piezoelectric element used for sounder in alarm systems. Please contact us when using this product for any other applications than described in the above.

该规格书适用于报警提醒装置中的蜂鸣片产品，若有其他用途，请和我们联系。

## 2. Model No. : MFT-50T-3.0A1

## 3. Test Conditions

Product shall be measured under a condition (Temperature :+15 to +35°C, Humidity :45 to 85%R.H., Atmosphere:86~106kPa) unless the standard condition (Temperature :+25 ± 3°C, Humidity :60 ± 10%R.H., Atmosphere:86~106kPa) is regulated measure.

除了在标准条件下（温度：25±3° C，湿度：60±10%R.H，气压：86-106Kpa）可以进行常规测试，其他应在（温度：+15-35° C，湿度：45-85%R.H，气压：86-106Kpa）条件下测试。

## 4. Maximum Rating

	Item	Specification
4.1	Maximum Input Voltage 最大输入电压	30 Vp-p /Max.
4.2	Operating Temperature Range 工作温度范围	-20 ~ +50 °C
4.3	Storage Temperature Range 储藏温度范围	-20 ~ +70 °C

## 5. Electrical Characteristics

	Item	Specification
5.1	Resonant Frequency 谐振频率	3.0± 0.5kHz
5.2	Resonant Impedance 谐振阻抗	500 Ω /Max
5.3	Electrostatic Capacity (at 100Hz) 静电电容	30000 ± 30% pF

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## 6. Measuring Method

### 6.1 Resonant Frequency / Resonant Impedance

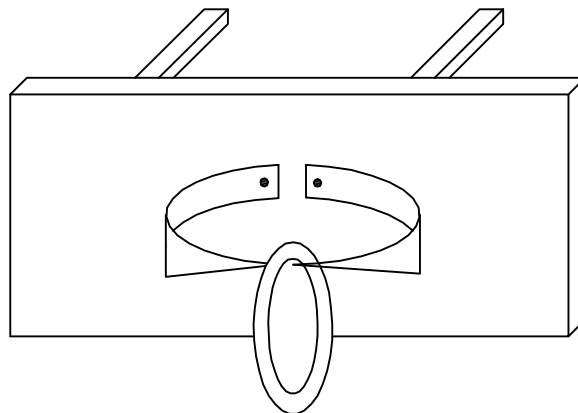
谐振频率/ 谐振阻抗

Piezoelectric diaphragm shall be clamped at a node point as shown in following figure to be free from any mechanical stress, and measured its resonant frequency and resonant impedance by using vector impedance analyzer or equivalent.

压电蜂鸣片被放置在夹具中，（如下图所示）以便在夹具中自由振动，并且用专业的阻抗仪器进行测量。

When the input frequency is swept within 3 to 12 kHz, the resonant frequency is defined the frequency where the impedance shows minimum value, and this impedance shall be the resonant impedance.

当输入扫描频率3-12KHz时，显示最小谐振阻抗的点就是谐振频率，这点显示的值就是谐振阻抗。



### 6.2 Electrostatic Capacitance

A electrostatic capacity capacitance shall be measured at 100Hz by using L.C.R.meter, ex. HP4192A(H.P.), or equivalent. The part shall be clamped in the same way as the measurement of resonant frwquency / resonant impedance mentioned in the above.

用L.C.R.电桥100Hz频率下，和阻抗测试一样的方式进行测试。

### 6.3 Insulation resistance

An insulation resistance shall be measured by using an insulation resistance meter.

用绝缘阻抗测试仪来进行测试。

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## 7. Environmental Characteristics

	Item	Test Condition	Specification
7.1	高温放置 Leave test in high temperature	放置于温度 $+70\pm 2^{\circ}\text{C}$ 的烘箱内240小时, 然后取出, 在常温下放置4小时后, 测试蜂鸣片。试验后符合表1要求。 After being placed in a chamber with $+70\pm 2^{\circ}\text{C}$ for 240 hours and then being placed in natural condition for 4 hours, Buzzer shall be measured.	Specification The measured value shall meet Table 1.
7.2	低温放置 Leave test in low temperature	放置于温度 $-20\pm 2^{\circ}\text{C}$ 的制冷箱内240小时, 然后取出, 在常温下放置4小时后, 测试蜂鸣片。试验后符合表1要求。 After being placed in a chamber with $-20\pm 2^{\circ}\text{C}$ for 240 hours and then being placed in natural condition for 4 hours, Buzzer shall be measured.	Specification The measured value shall meet Table 1.
7.3	湿中放置 Leave test in humidity	放置于 90%~95% R.H., 温度 $+40\pm 2^{\circ}\text{C}$ 的环境试验箱内 240小时, 然后取出, 在常温下放置4小时后, 测试蜂鸣片。试验后符合表1要求。 After being placed in a chamber with 90%~95% R.H. at $+40\pm 2^{\circ}\text{C}$ for 240 hours and then being placed in natural condition for 4 hours, Buzzer shall be measured.	The measured value shall meet Table 1.
7.4	温度循环 Cycle test for temperature	先放置于温度 $-20\pm 2^{\circ}\text{C}$ 的试验箱内30分钟后放置于室温( $+20^{\circ}\text{C}$ )15分钟后, 放置于 $+70\pm 2^{\circ}\text{C}$ 的烘箱内30分钟, 再放置于室温( $+20^{\circ}\text{C}$ )15分钟.经过以上循环5次,在常温下放置4小时后, 测试蜂鸣片。试验后符合表1要求。 After being placed in a chamber at $-20\pm 2^{\circ}\text{C}$ for 30 minutes, Buzzer shall be placed at room temperature( $+20^{\circ}\text{C}$ ).After 15 minutes at this temperature ,Buzzer shall be placed in a chamber at $+70\pm 2^{\circ}\text{C}$ . After 30 minutes at this temperature, Buzzer shall be returned to room temperature ( $+20^{\circ}\text{C}$ ) for 15 minutes. After 5 above cycles, Buzzer shall be measured after being placed in natural condition for 4 hours.	The measured value shall meet Table 1.

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## 8. Physical Characteristics

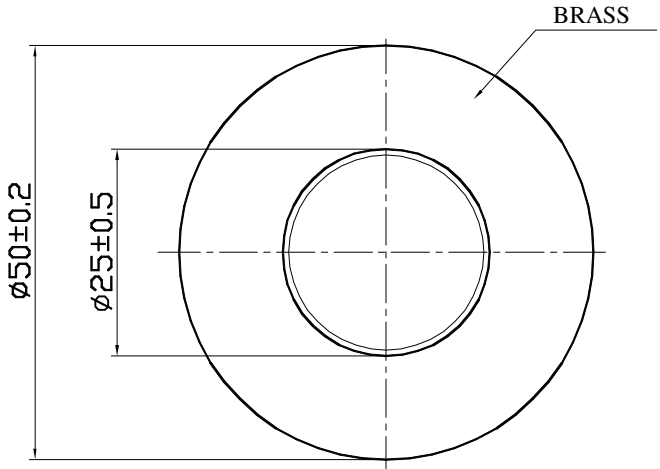
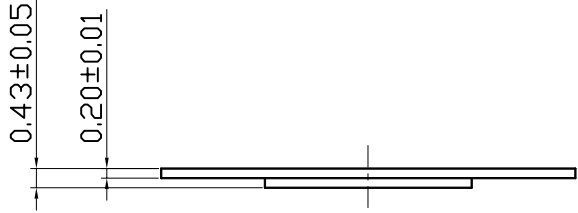
	Item	Test Condition	Specification
8.1	耐冲击性 Shock test	100G正弦波, XYZ三个方向各3次冲击实验 后,测试蜂鸣片.试验后符合表1要求. 100G sine wave 3 times to each direction(X.Y.Z).The measured value shall meet Table 1.	
8.2	耐振动性 Vibration test	振动频率10~55Hz,1.5mm全振幅,XYZ 三个方向各4小时试验后,测试蜂鸣片.试验后符合表1要求. Buzzer shall be measured after being applied vibration of amplitude of 1.5mm with 10 to55Hz band of vibration frequency to each of 3 perpendicular directions for 4hours.The measured value shall meet Table 1.	

Table 1.


	Item	Specification after test
1	Resonant Frequency 谐振频率	Initial Value $\pm$ 15% 初始值 $\pm$ 15%
2	Resonant Impedance 谐振阻抗	500 $\Omega$ /max
3	Electrostatic Capacity 静电容量	Initial Value $\pm$ 30% 初始值 $\pm$ 30%

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### 9. Dimensions



FIRST ANGLE PROJECTION



UNIT : mm

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## 10. Packing

Each minimum package unit of products shall be in a carton box and it shall be clearly marked with Part Number, quantity and outgoing inspection number. There shall be no mechanical damage on products during transportation and/or in storage.

把小包装放入大包装内，必须清楚的标记产品型号、数量、生产批号等，外箱不能有机械损伤。



