

SPECIFICATION


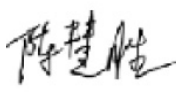
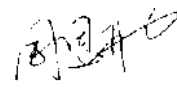
受 控

Customer : QUARTZ-1
Applied To :
Product Name : MIC
Model Name : KPCM-G97H45P-50dB-1066-YELLOW
Drawing No. : KIC1066

Signature of Appronal

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Signature of KEPO

Approved by	Checkde by	Issued by	Date
			



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1. Scope 范围

This specification applies electret condenser microphone.
此规格书适用于电容式麦克风.

2. General 概要

- 2.1 Out-Diameter : 9.7 mm
- 2.1. 外径 : 9.7 mm
- 2.2 Height : 4.5 mm
- 2.2. 高度 : 4.5 mm
- 2.3 Weight : ≤ 1 g
- 2.3 重量 : ≤ 1 g
- 2.4 Operating Temperature range: $-20 \sim +70^{\circ}\text{C}$ without loss of function
- 2.4 工作温度: $-20 \sim +70^{\circ}\text{C}$
- 2.5 Store Temperature range: $-40 \sim +85^{\circ}\text{C}$ without loss of function
- 2.5 储存温度: $-40 \sim +85^{\circ}\text{C}$

3. Electrical and Acoustic Characteristics.电声参数

Test condition : $15 \sim 35^{\circ}\text{C}$, 45 ~ 85% RH, 860 ~ 1060 mbar
测试条件 : $15 \sim 35^{\circ}\text{C}$, 45 ~ 85% RH , 860 ~ 1060 mbar

No	Items	Symbol	Unit	Specification	Condition
1	Directivity 指向性			Omni-directional 全指向性	
2	Sensitivity 灵敏度	S	dB	$-50\text{dB} \pm 3$	$0\text{dB}=1\text{V}/\text{ubar}, 1\text{KHz}$
3	Standard Operation Voltage 标准操作电压	Vs	V.D.C	4.5	
4	Output impedance 输出阻抗	Zout	K Ω	2.2	$f=1\text{KHz}, 1\text{ubar}$
5	Max operating voltage 最大操作电压		V.D.C	10	
6	Sensitivity reduction 减压灵敏度	$\Delta S-Vs$	dB	-3	$f=1\text{KHz}, 1\text{ubar}$ $Vs=4.5-1.5\text{V.D.C}$
7	Frequency 频率	f	Hz	50-16,000	
8	Max. Current Consumption 最大耗电电流	IDss	mA	0.5	$Vs=4.5\text{V}, RL=2.2\text{K}\Omega$
9	Max input Sound Pressure Level 最大入力音压	SPL	dB	120	
10	Signal to noise ration 讯号对比杂音	S/N	dBA	58	$f=1\text{KHz}, 1\text{ubar}$ A weighted
11	Material 材质			AL 铝	
12	Terminal 端子				See appearance drawing 请参照外观尺寸图
13	Environmental Protection Regulations 环保法规			RoHS	

We use "Pascal (Pa)" indication of sensitivity as per the recommendation of I.E.C (International Electro technical Commission). The Sensitivity of "Pa" will increase 20dB comparing with "ubar" indication.
Example : $-60\text{dB}(0\text{dB}=1\text{v}/\text{ubar})=-40\text{dB}(1\text{v}/\text{Pa})$
依I.E.C.(国际电子协会)建议,以"Pa"为灵敏度标示单位比"ubar"灵敏度标示单位增加20dB
例如: $-60\text{dB}(0\text{dB}=1\text{V}/\text{ubar})=-40\text{dB}(1\text{V}/\text{Pa})$

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4.1 Mechanical Characteristics 机械特性

No.	Item	Test Condition	Evaluation standard
1	Vibration 振动试验	To be no interference in operation after vibrations. 10Hz to 50Hz for 1 minrte full amplitude 1.52mm , for 2 hours at three axes 1分钟频率变化从10Hz到50Hz,振幅在1.52mm,在三 个方向测试振动2小时,产品应不受影响	After any tests,the sensitivity to be within $\pm 3\text{dB}$ 测试其灵敏 度须与原测试值的差异不超过 $\pm 3\text{dB}$
2	Drop test 跌落测试	To be no interference in operation after dropped to concrete floor each one time from 1meterheight at three directions in state of packing 以正规包装的三个方向从1米高处自由落到混凝土地 面时, 产品应不受影响	

4.2 Environmental test 环境试验

No.	Item	Test Condition	Evaluation standard
1	High temperature test 高温测试	After being placed in a chamber at $+70\pm 2^\circ\text{C}$ for 96 hours 置于 $+70\pm 2^\circ\text{C}$ 环境中96小时	After any tests,the sensitivity to be within $\pm 3\text{dB}$ of initial sensitivity after 3H of conditioning at $+25^\circ\text{C}$ 经测试 后麦克风,须静置于 $+25^\circ\text{C}$ (室 温)环境中3小时后,测试其灵敏 度须与原测试值的差异不超过 $\pm 3\text{dB}$
2	Low temperature test 低温测试	After being placed in a chamber at $-20\pm 2^\circ\text{C}$ for 96 hours 置于 $-20\pm 2^\circ\text{C}$ 环境中96小时	
3	Humidity Test 相对湿度试验	After being placed in a chamber at $+40^\circ\text{C}$ and 90-95% relative humidity for 96 hours 置于 $+40^\circ\text{C}$,相对湿度90-95%环境中96小时	
4	Temperature Impact Test 温度冲击试验	After being placed in a chamber at $-20\pm 3^\circ\text{C}$ for 30 minutes,and then $70\pm 3^\circ\text{C}$ for 30 minutes,each 10 times 先在 $-20\pm 3^\circ\text{C}$ 环境中放置 30分钟,然后在 $70\pm 3^\circ\text{C}$ 环境中放置30分钟,这样循环 10次	
5	Temperature Cycles Test 温度循环试验	After being placed in a chamber at $-20\pm 2^\circ\text{C}$ for 2H,the temperature rises from $-20\pm 2^\circ\text{C}$ to 25°C gradually,it takes 1 hour.Then being placed in a chamber at 25°C for 2H,temperature rises from 25°C to $70\pm 2^\circ\text{C}$ gradually,it takes 1 hour,then being placed in a chamber at $70\pm 2^\circ\text{C}$ for 2H,the temperature rises from $70\pm 2^\circ\text{C}$ to 25°C gradually,it takes 1 hour.Then being placed in a chamber at 25°C for 2H,the temperature rises from $25\pm 2^\circ\text{C}$ to -20°C gradually Above cycles 10 times 先在 $-20\pm 2^\circ\text{C}$ 的试验箱内放置2H,再经过1H温度上 升到室温($+25^\circ\text{C}$)后在此环境中放置2H,再经过1H温 度上升到 $70\pm 2^\circ\text{C}$ 后在此环境中放置2H,再经过1H 温度下降到室温($+25^\circ\text{C}$)在此环境中放置2H,再经过 1H温度下降到 $-20\pm 2^\circ\text{C}$ 以此为一个循环,经过以上循环10次	

Standard Test Condition: a)Temperature: $+15 \sim +35^\circ\text{C}$ b)Humidity:45 ~ 75% c)Pressure:86 ~ 106kPa

标准测试条件: a)环境温度: $+15 \sim +35^\circ\text{C}$ b)相对湿度:45 ~ 75% c)大气压力:86 ~ 106kPa

Judgement Test Condition: a)Temperature:($20\pm 2^\circ\text{C}$) b)Humidity:60 ~ 70% c)Pressure:86 ~ 106kPa

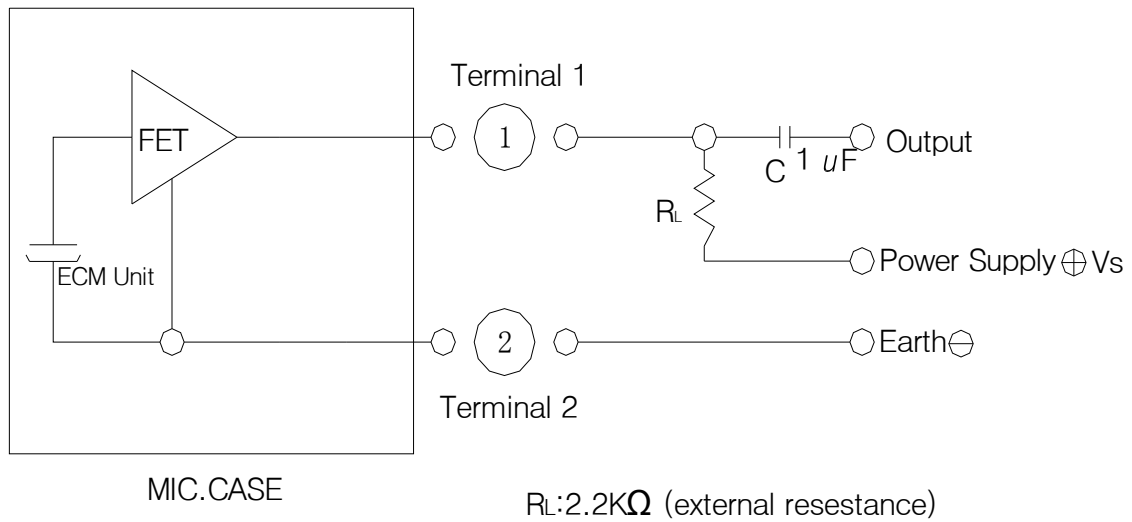
判定测试条件: a)环境温度:($20\pm 2^\circ\text{C}$) b)相对湿度:60 ~ 70% c)大气压力:86 ~ 106kPa

5. Measurement Block Diagram & Response curve

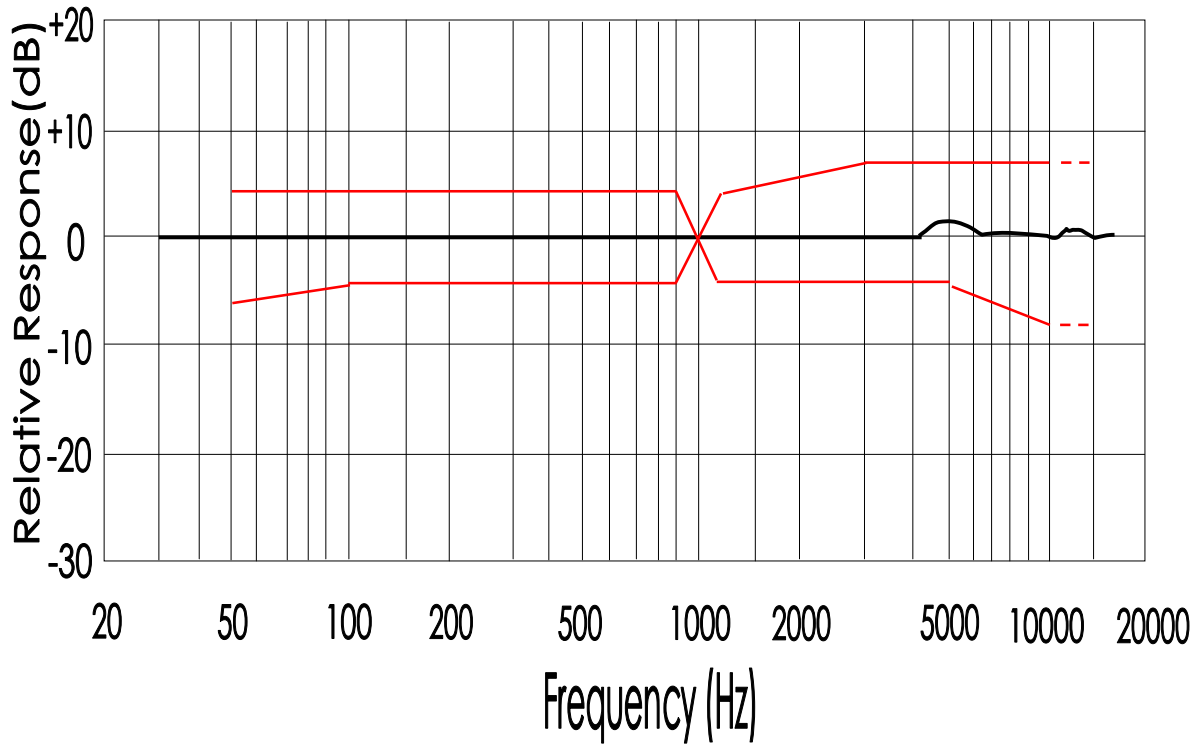
测试图和曲线图

5.1 Measurement Block Diagram 测试图

Schematic Diagram $V_s = 4.5V$; $R_1 = 2.2K\Omega$



5.2 Response curve 曲线图



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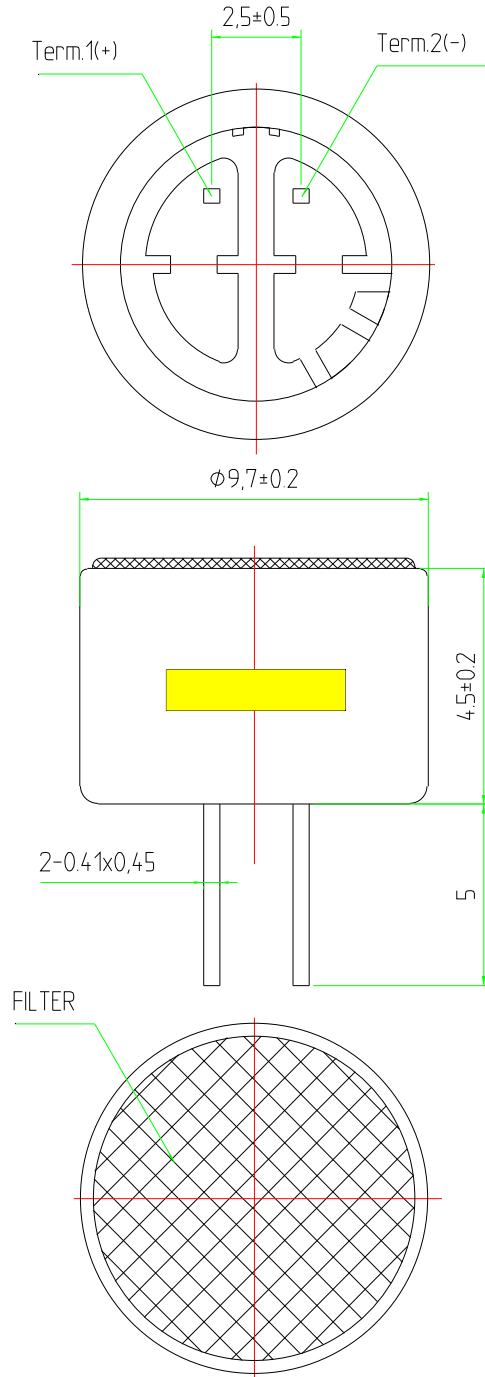
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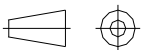
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6. Dimensions 尺寸图



FIRST ANGLE PROJECTION



UNIT : mm

Tolerance : ± 0.2

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7. Packing 包装

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8. Revision 履历

Rev. No.	DATE	PAGE	DESCRIPTION	BOM
1.0	2009.12.01	/	Primary	
1.1	2016.12.01	6	增加黄色标记	