

Specification for Microphone	Page	2/7
	Revision No.	1.4
	Drawing No.	KIC10001
Model No. : 10001 MIC module		

CONTENTS

1. Scope
1.范围
2. General
2.概要
3. Electrical and Acoustic Characteristics.
3.电声参数
4. Mechanical characteristics and environmental test
4.机械特性和环境试验
5. Circuit Diagram & Response curve
5.测试图和曲线图
6. Dimensions
6.尺寸图
7. Packing
7.包装
8. Revision
8.履历表

Specification for Microphone	Page	3/8
	Revision No.	1.4
	Drawing No.	KIC10001

Model No. : 10001 MIC module

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 : $\phi 9.3 \times 21$ mm
2.1. 外径 : $\phi 9.3 \times 21$ mm
- 2.2 Height : 15 mm
2.2. 高度 : 15 mm
- 2.3 Weight : ≤ 8 g
2.3 重量 : ≤ 8 g
- 2.4 Operating Temperature range: $-30 \sim +75^{\circ}\text{C}$ without loss of function
2.4 工作温度: $-30 \sim +75^{\circ}\text{C}$
- 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 : $15 \sim 35^{\circ}\text{C}$, $45 \sim 85\% \text{RH}$, $860 \sim 1060 \text{mbar}$
测试条件 : $15 \sim 35^{\circ}\text{C}$, $45 \sim 85\% \text{RH}$, $860 \sim 1060 \text{mbar}$

No	Items	Symbol	Unit	Specification	Condition
1	Directivity 指向性			unidirectional 单指向性	
2	Sensitivity 灵敏度	S	dB	$-10.5 \pm 3 \text{dB}$	$0 \text{dB} = 1 \text{V/Pa}, 1 \text{KHz}$
3	Standard Operation Voltage 标准操作电压	Vs	V.D.C	$8 \pm 10\%$	
4	Max. Current Consumption 最大耗电流	I _{ss}	mA	≤ 9	
5	distortion 失真度			$\leq 1\%$	$300 \text{Hz} - 4 \text{KHz}, 94 \text{DB SPL}, 1 \text{m}$
6	Max input Sound Pressure Level 最大入力音压	SPL	dB	106	$\leq 3\%$ at $1 \text{KHz}, 94 \text{DB SPL}, 1 \text{m}$
7	Material 材质			ABS+PC	
8	Max Self_noise 最大自噪声			$\leq -72 \text{dBV}$	
9	Environmental Protection Regulations 环保法规			Compliance with RoHS 符合ROHS指令	

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 : $-60 \text{dB} (0 \text{dB} = 1 \text{v/ubar}) = -40 \text{dB} (1 \text{v/Pa})$

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: $-60 \text{dB} (0 \text{dB} = 1 \text{v/ubar}) = -40 \text{dB} (1 \text{v/Pa})$

Specification for Microphone	Page	4/8
	Revision No.	1.4
	Drawing No.	KIC10001

Model No. : 10001 MIC module

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 $+85\pm 2^\circ\text{C}$ for 96 hours 置于 $+85\pm 2^\circ\text{C}$ 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 低温试验	After being placed in a chamber at $-40\pm 2^\circ\text{C}$ for 96 hours 置于 $-40\pm 2^\circ\text{C}$ 环境中96小时	
3	Humidity Test 相对湿度试验	After being placed in a chamber at $+45^\circ\text{C}$ and 90-95% relative humidity for 96 hours 置于 $+45^\circ\text{C}$,相对湿度90-95%环境中96小时	
4	Temperature Impact Test 温度冲击试验	$-40\pm 3^\circ\text{C}$ for 30 minutes,and then $85\pm 3^\circ\text{C}$ for 30 minutes,each 10 times 在 $-40\pm 3^\circ\text{C}$ 环境中放置30 分钟,然后在 $85\pm 3^\circ\text{C}$ 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 $-40\pm 2^\circ\text{C}$ for 2H,the temperature rises from $-40\pm 2^\circ\text{C}$ 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 $85\pm 2^\circ\text{C}$ gradually,it takes 1 hour,then being placed in a chamber at $85\pm 2^\circ\text{C}$ for 2H,the temperature rises from $85\pm 2^\circ\text{C}$ 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 -40°C gradually. Above cycles 10 times 先在 $-40\pm 2^\circ\text{C}$ 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 $85\pm 2^\circ\text{C}$ 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 $-40\pm 2^\circ\text{C}$ 以此为一个循环,经过以上循环10次	

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

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

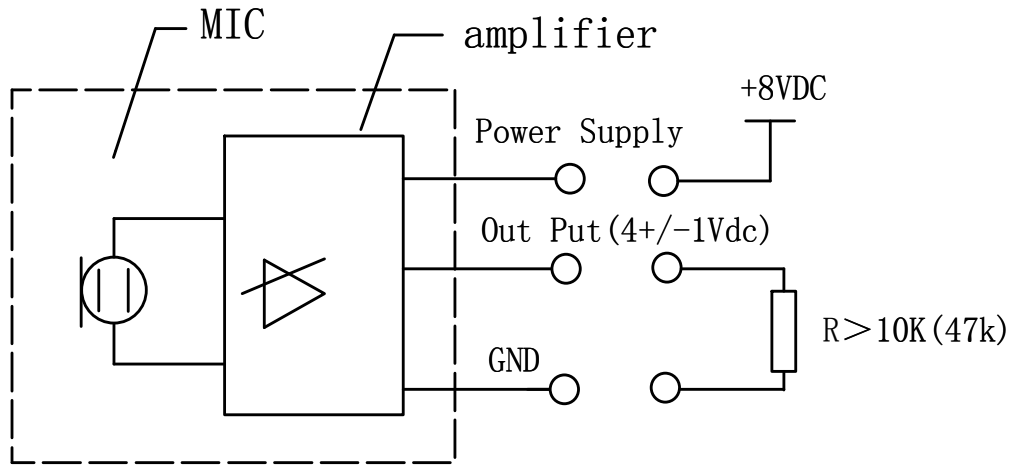
Judgement Test Condition: a) Temperature:($20\pm 2^\circ\text{C}$) b) Humidity:60%-70% c) Pressure:86 kPa -106kPa

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 kPa -106kPa

5. Circuit Diagram & Response curve

测试图和曲线图

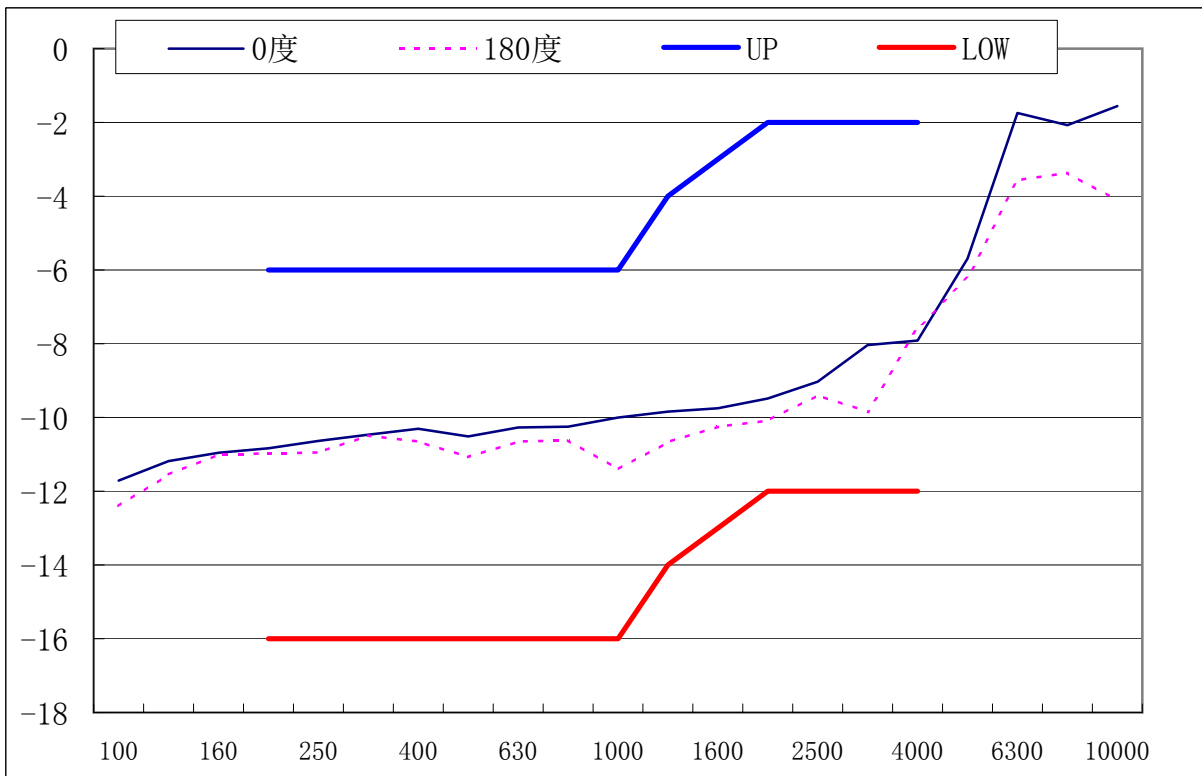
5.1 Circuit Diagram 测试图



MIC ASSY

PIN脚最高允许输入电压
12VDC

5.2 Response curve 曲线图



Specification for Microphone

Page

6/8

Revision No.

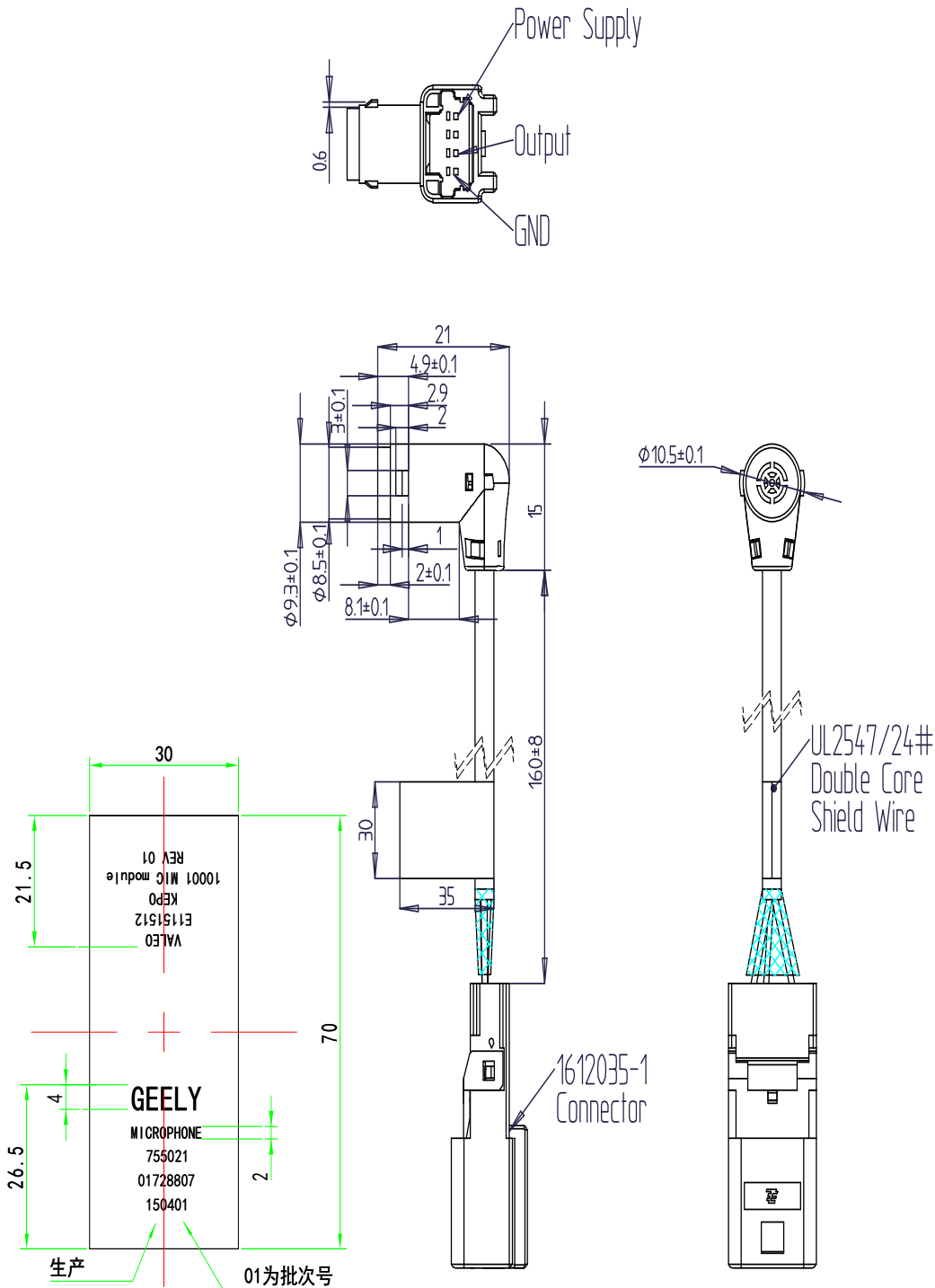
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Model No. : 10001 MIC module

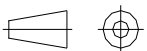
Drawing No.

KIC10001

6. Dimensions 尺寸图



FIRST ANGLE PROJECTION



UNIT : mm

Tolerance : ±0.2

Specification for Microphone

Page

7/8

Revision No.

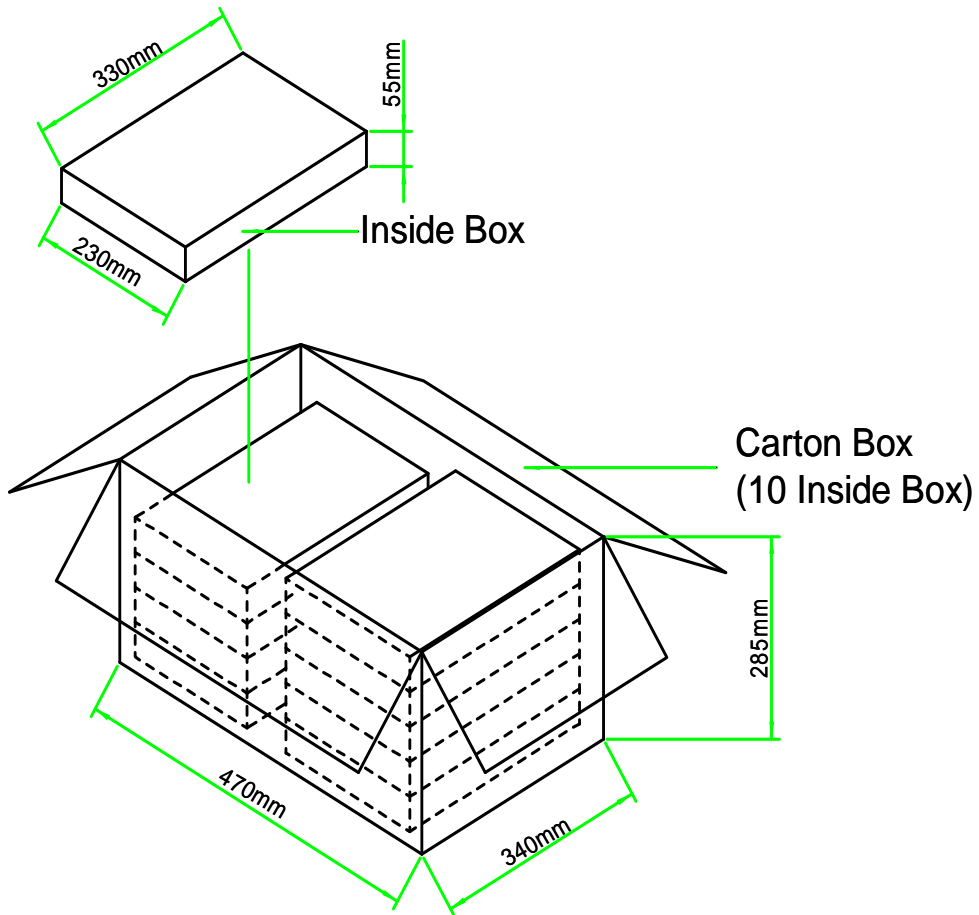
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7.Packing包装



Inside Box	330mmx230mmx55mm	5x10PCS=50PCS
Carton Box	470mmx340mmx285mm	10x50PCS=500PCS

