



# 承 认 书

## SPECIFICATION FOR APPROVAL

[ TO: 伟易达 ]

NO:

产品型号: **BY6027BOGL850MMJD4P-C2-FS-U8035**

MODEL NO :

指向性 : 全指向

DIRECTIVITY: OMNI-DIRECTIONAL

CUSTOMER	接收 Prepared	复核 Checked	批准 Approved
	肖文修		
BYDS CHINA	编制 Prepared	复核 Checked	批准 Approved
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## 驻极体电容式传声器规格书

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### 1. SCOPE 范围

This specification shall be applied to electret condenser microphone (ECM)

本规格说明书适用于驻极体传声器

### 2. MODEL NO. 产品型号

**BY6027BOGL850MMJD4P-C2-FS-U8035**

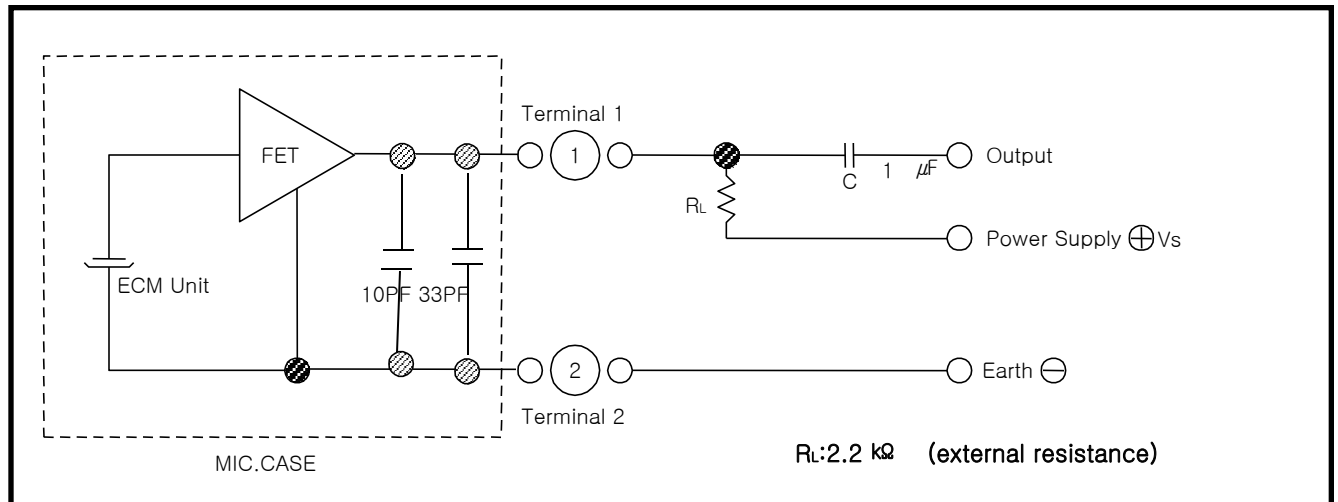
### 3. ELECTRICAL CHARACTERISTICS 电气特性

Temp. =  $25 \pm 5 \text{ }^\circ\text{C}$   
环境温度

Room Humidity =  $65 \pm 5 \%$   
相对湿度

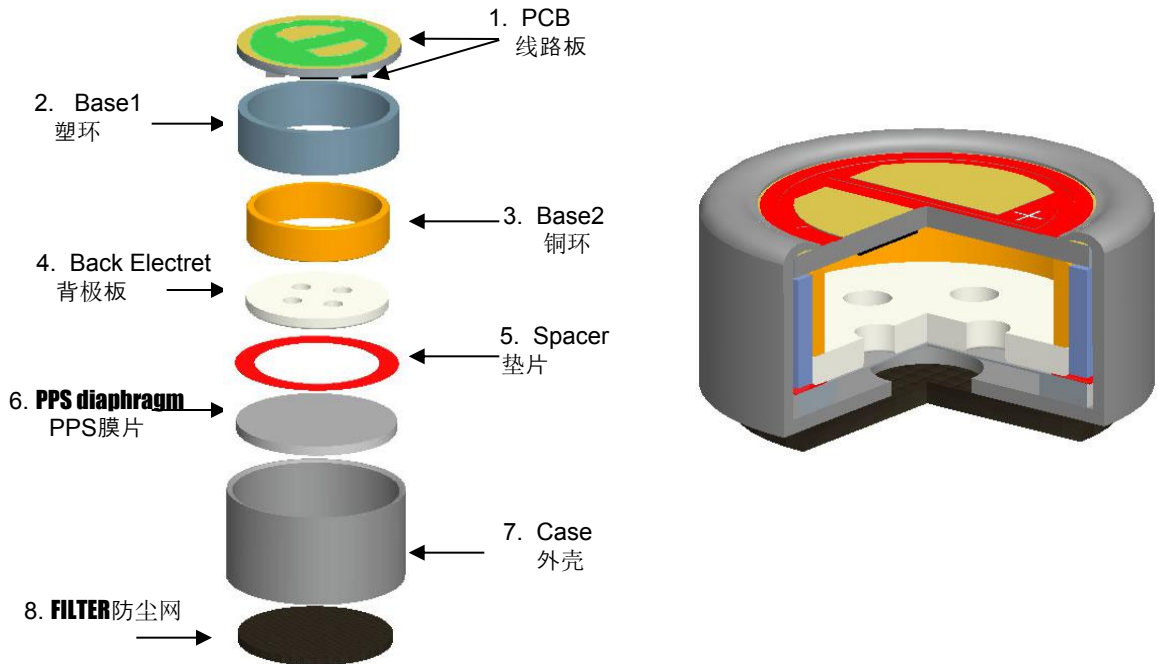
NO. 序号	Parameter 参数	Symbol 符号	Condition 测试条件	Limits 范围			Unit (单位)
				Min. 最小值	Center 中心值	Max. 最大值	
1	Sensitivity 灵敏度	S	$f=1\text{kHz}$ , S.P.L = 1Pa, 0dB=1V/Pa	-35	-32	-29	dB
2	Output impedance 输出阻抗	$Z_{OUT}$	$f=1\text{kHz}$			2.2	$k\Omega$
3	Current Consumption 消耗电流	$I_{DSS}$	$V_{CC}=2.0V$ , $R_L = 2.2k\Omega$	100		500	$\mu A$
4	Signal to Noise Ratio 信噪比	S/N	$f=1\text{kHz}$ , S.P.L = 1Pa (A-Weighted Curve)		70		dB
5	Decreasing Voltage 减电压灵敏度	S-VS	$V_{CC}=2.0V$ to 1.5V			-3	dB
6	Operating Voltage 工作电压			1.5	2	10	V
7	Maximum input S.P.L. 最大输入声压					110	dB

### 4. MEASUREMENT CIRCUIT 测试电路





**5. STRUCTURE OF OMNI-DIRECTIONAL MICROPHONE(全指向性驻极体前极结构)**



ITEM	PART NAME 部件名称	MATERIAL 材料	QTY 数量
1	<b>P.C.B+FET+C+R</b>	<b>FR-4+RJN5123KC+10PF+33PF</b>	<b>1</b>
2	<b>CHAMBER</b> 塑环	<b>POM</b>	<b>1</b>
3	<b>RING</b> 铜环	<b>BRASS</b>	<b>1</b>
4	Back Electret背极板	<b>BRASS</b>	<b>1</b>
5	<b>SPACER</b> 垫片	<b>POLYESTER</b>	<b>1</b>
6	<b>PPS diaphragm</b> PPS膜片	<b>POLYESTER+PPS</b>	<b>1</b>
7	<b>CASE</b> 外壳	<b>ALUMINUM</b>	<b>1</b>
8	<b>FILTER</b> 防尘网	<b>CLOTH</b>	<b>1</b>
9	<b>FET</b> 场效应管	<b>RJN5123KC</b>	<b>1</b>
10	<b>Resistance</b> 电阻	<b>0402 10PF</b>	<b>1</b>
11	<b>CAPACITANCE</b> 电容	<b>0402 33PF</b>	<b>1</b>



## 6. TYPICAL FREQUENCY RESPONSE CURVE ( FAR FIELD ) 频响曲线

**Far Field Measurement Condition** 自由场测试条件

**Temperature** 温度:  $25 \pm 3 \text{ }^\circ\text{C}$

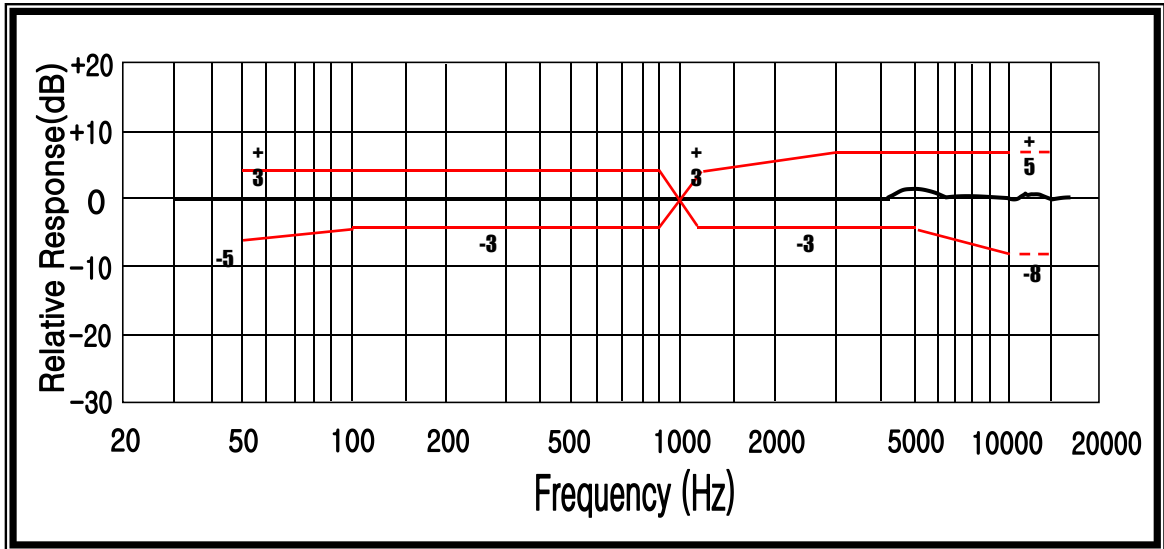
**Bias Voltage** 基准电压: **2.0V** ( with **2.2k $\Omega$**  series resistor **2.2 k $\Omega$**  电阻)

**Acoustic stimulus**: **1Pa** ( **94dB SPL** at **1kHz** ) at **50 cm** from the loud-speaker.

声音条件 **The loud-speaker must be calibrated to make a flat frequency response input signal**  
距离扬声器**50cm**处产生**1pa**声压。扬声器必须先用标准输入信号事先校准。

**Position**: **The frequency response of microphone unit measured at 50 cm from the loud-speaker**

位置: 扬声器距离待测话筒**50cm**。



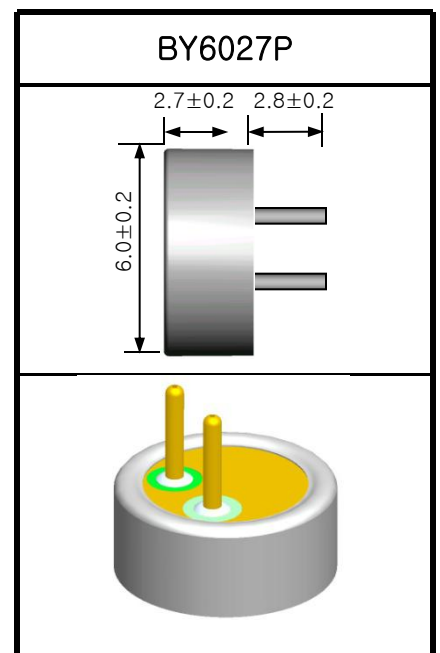
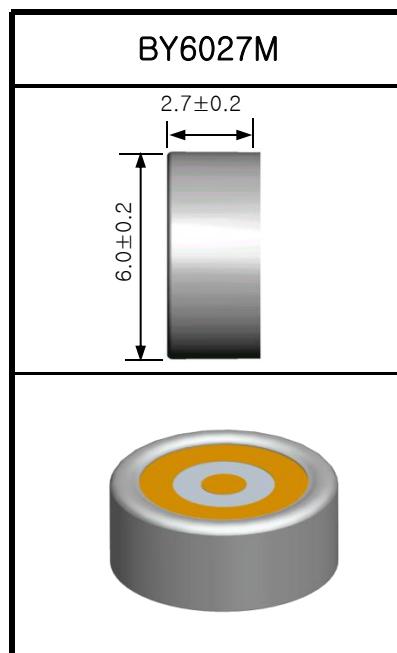
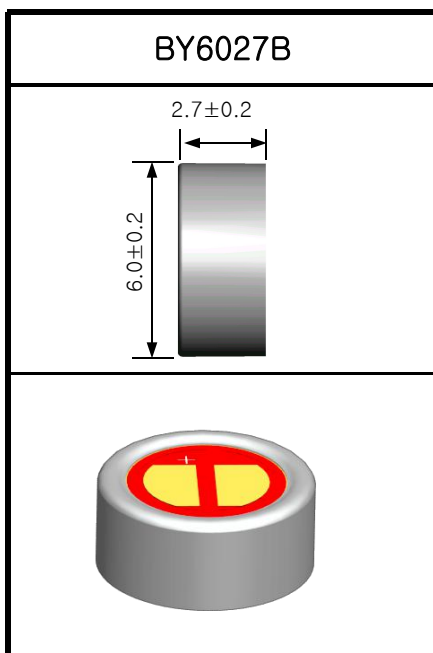
## 7. MECHANICAL CHARACTERISTICS 机械特性

※ PCB design & Pin size can be changed by model No. 线路板和插针尺寸可根据产品型号调整。

**Lead Wire Type** 接线型

**Solderless Type** 压接型

**Pin Type** 插针型





## 8. RELIABILITY TEST 可靠性测试

### 8.1 VIBRATION TEST 振动测试

To be no interference in operation after vibrations. 10Hz to 55Hz for 1 minute 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

### 8.2 DROP TEST 跌落测试

To be no interference in operation after dropped to concrete floor each one time from 1 meter height 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

### 8.3 High temp. test 高温测试

After being placed in a chamber at +80°C for 120 hours, sensitivity to be within  $\pm 3$ dB from initial sensitivity.

在80°C环境中持续120小时, 灵敏度偏离范围在 $\pm 3$ dB.

(The measurement to be done after 2 hours of conditioning at room temperature

测试在室内温度下放2小时后进行)

### 8.4 Low temp. test 低温测试

After being placed in a chamber at -40°C for 120 hours, sensitivity to be within  $\pm 3$ dB from initial sensitivity.

在-40°C环境中持续120小时, 灵敏度偏离范围在 $\pm 3$ dB.

### 8.5 HUMIDITY TEST 湿度测试

After exposure at 60°C and 90 to 95% relative humidity for 120 hours, sensitivity to be within  $\pm 3$ dB from initial sensitivity.

在60°C温度和90-95%相对湿度的环境下持续120小时, 灵敏度偏离范围在 $\pm 3$ dB.

### 8.6 TEMPERATURE CYCLE TEST 温度交变测试

After exposure at -40°C for 30 minutes, at 20°C for 10 minutes, at 80°C for 30 minutes, at 20°C for 10 minutes. 5 cycles, sensitivity to be within  $\pm 3$ dB from initial sensitivity

在-40°C下持续30分钟,在20°C下持续10分钟, 在80°C时持续30分钟, 在20°C时持续10分钟,以上过程循环5次, 灵敏度偏离范围在 $\pm 3$ dB.

(The measurement to be done after 2 hours of conditioning at room temperature )

测试在室内温度下放2小时后进行)

### 8.7 TEMPERATURE SHOCK 温度冲击

Temperature change from -40°C to 80°C for 30 minutes. (changing time : 20 sec.)

After 32 cycles, sensitivity to be within  $\pm 3$ dB from initial sensitivity

在20秒内温度从-40°C变化到80°C,持续30分钟,灵敏度偏离范围在 $\pm 3$ dB.

(The measurement to be done after 2 hours of conditioning at room temperature

测试在室内温度下放2小时后进行)

### 8.8 Salt Spray test 盐雾试验

At the concentration of test solution for 5% 24 hours, the product is not affected

在浓度为5%的试验液中24小时, 产品不受影响

### 8.9 ANTI STATIC 抗静电

Contact discharge:  $\pm 8$ KV 接触性放电:  $\pm 8$ KV

Air discharge:  $\pm 14$ KV 空气放电:  $\pm 14$ KV。

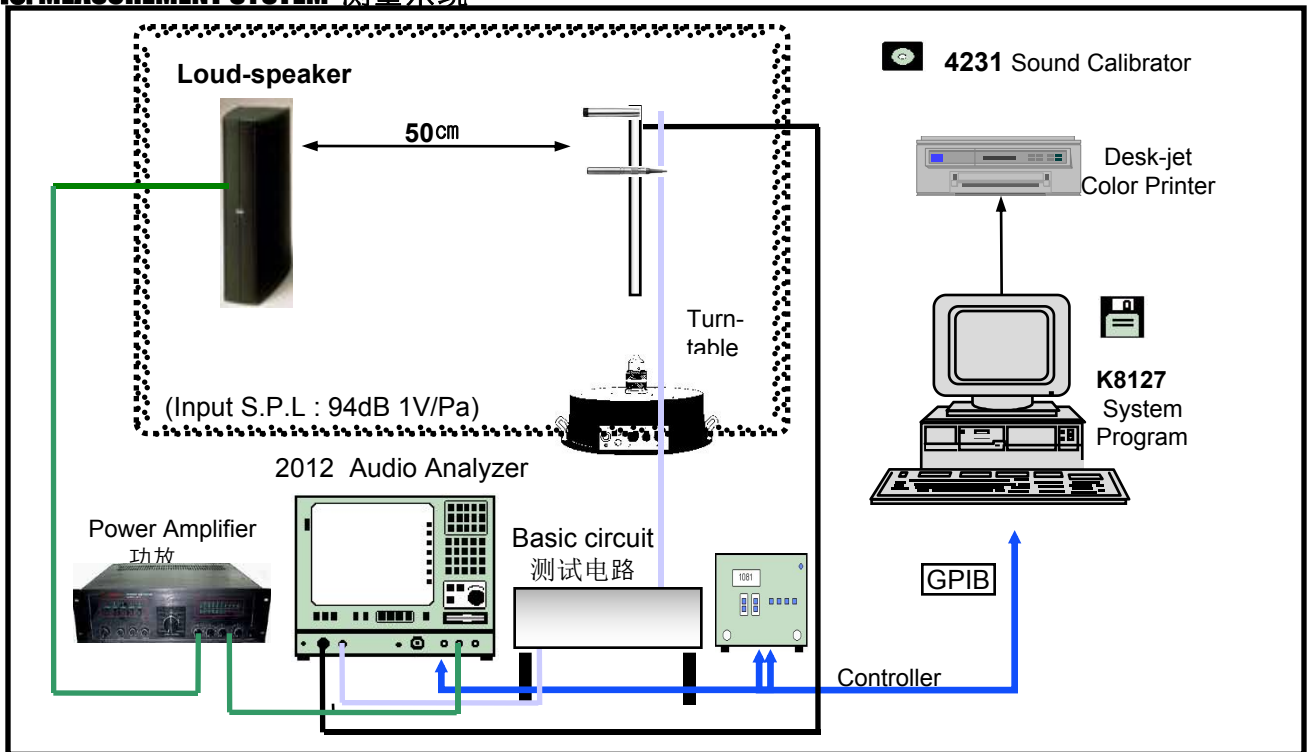
## 9. TEMPERATURE CONDITIONS 温度条件

9.1 STORAGE TEMPERATURE 贮存温度: -40°C ~ +80°C

9.2 OPERATING TEMPERATURE 操作温度: -25°C ~ +70°C



### 10. MEASUREMENT SYSTEM 测量系统



### 11. REGARDING THE SOLDERING OPERATION 焊接注意事项

**Every ECM contains a FET with microphone body. This FET is easy to damageable from excessive heat and electrical shock. Proper attention for the soldering work is required same as followings.**

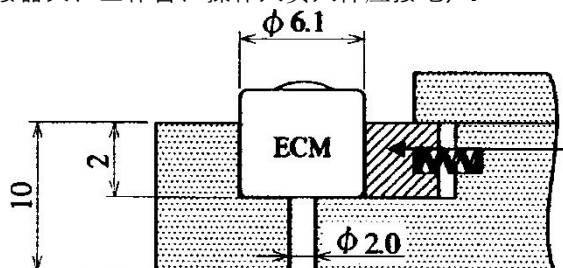
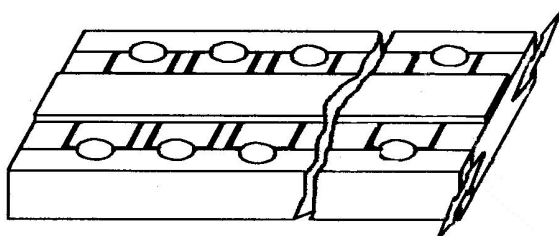
每个ECM都包含有一个FET.FET在过热和电流冲击下容易损坏。应遵循以下焊接操作规程：

- **Recommend to use 15W ~ 17W ceramic soldering iron and apply  $360 \pm 10^{\circ}\text{C}$  temperature range**  
推荐使用功率在15W-17W，温度变化范围在 $360 \pm 10^{\circ}\text{C}$ 的陶瓷电烙铁。
- **Soldering should be accomplished within 2 seconds at each terminal so as not to be overheated.**  
为防止过热，焊接应在2秒内完成。
- **ECM shall be soldered fixed on the metal block (heat sink) which has the higher radiation effects. Heat sink shall contact with each of ECM.**

应把驻极体传声器固定在散热良好的金属装置（散热板）上进行焊接。

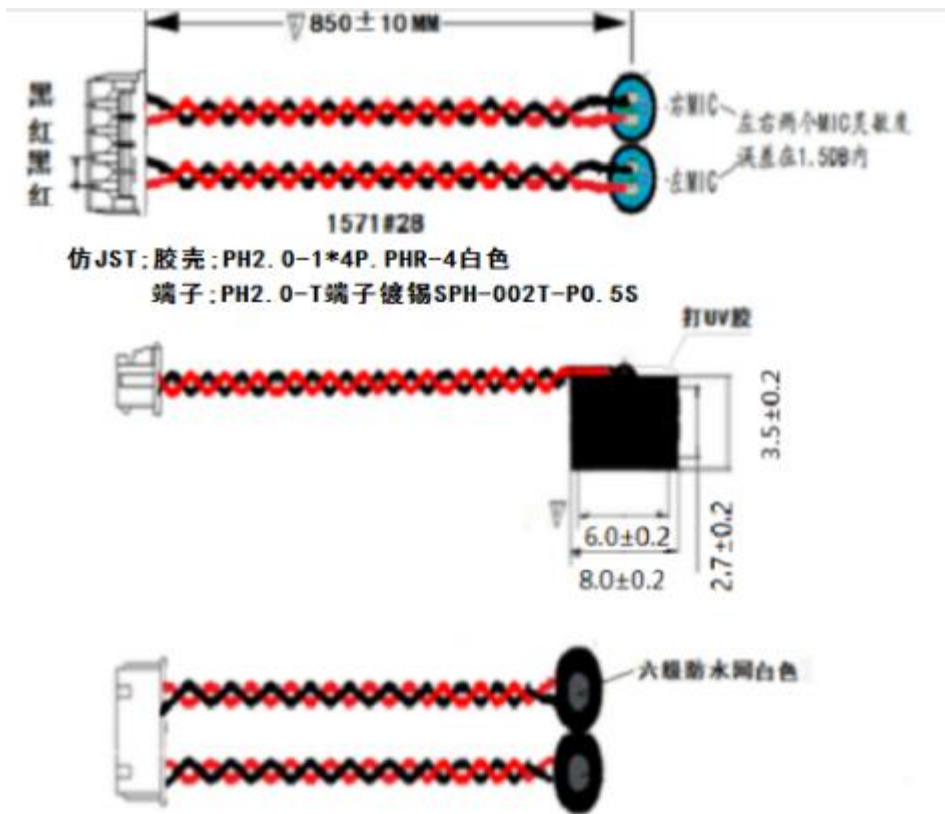
- **The pin hole soldering shall be avoided.**  
焊接后，各焊点不应出现砂眼【焊锡小孔】现象。
- **ECM may easily destroyed by the static electricity, and the countermeasure for eliminating the static electricity (the ground for soldering copper, for worktable and for human body) shall be executed.**

驻极体传声器容易受静电破坏，应采取防静电措施（焊接器具、工作台、操作人员人体应接地）。





12. DIMENSIONAL DRAWING 外形图







13. PACKAGE 包装图

