

APPROVAL SHEET

CUSTOMER:

MODEL NO.: 4013B+ (5C)

DATE:

Customer	CHECKER	APPROVER
Chun Yu	CHECKER	APPROVER

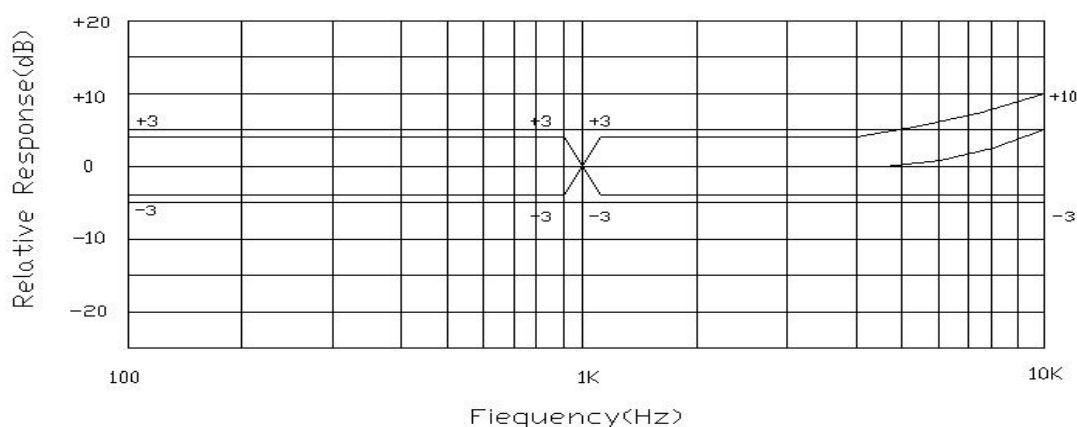
驻极体传声器

ELECTRET CONDENSER MICROPHONE

型号 MODEL: 4013B+ (5C)

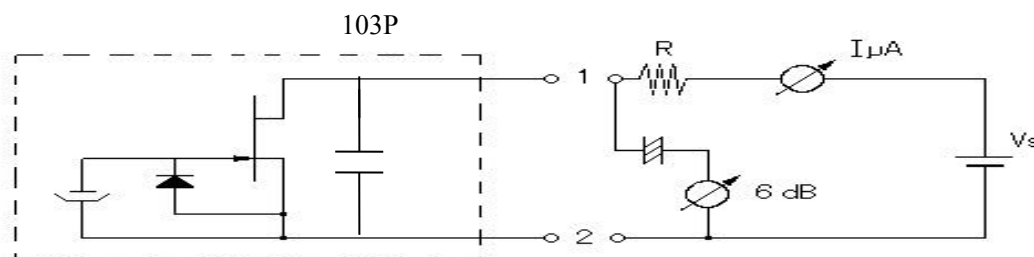
一、主要技术特性 Specifications

- | | | |
|----------|-----------------------------|---|
| 1、灵敏度 | Sensitivity: | $-42 \pm 3\text{dB}(0\text{dB}=1\text{V}/\text{Pa}, 1\text{KHz})$ |
| 2、指向性 | Directivity: | Omni-directional |
| 3、输出阻抗 | Output Impedance: | $0.9\text{-}2.2\text{K} \Omega \pm 10\%$ |
| 4、标准工作电压 | Standard Operating Voltage: | 2.5~3V |
| 5、工作电压 | Operating Voltage: | 1V~10V(at+1V within $\pm 3\text{dB}$) |
| 6、工作电流 | Current Consumption: | 250~380 μA |
| 7、信噪比 | S/N Ratio: | $\geq 50\text{dB}$ |
| 8、频响曲线 | Frequency Response Curve | |



9、电路示意图 Schematic Circuit

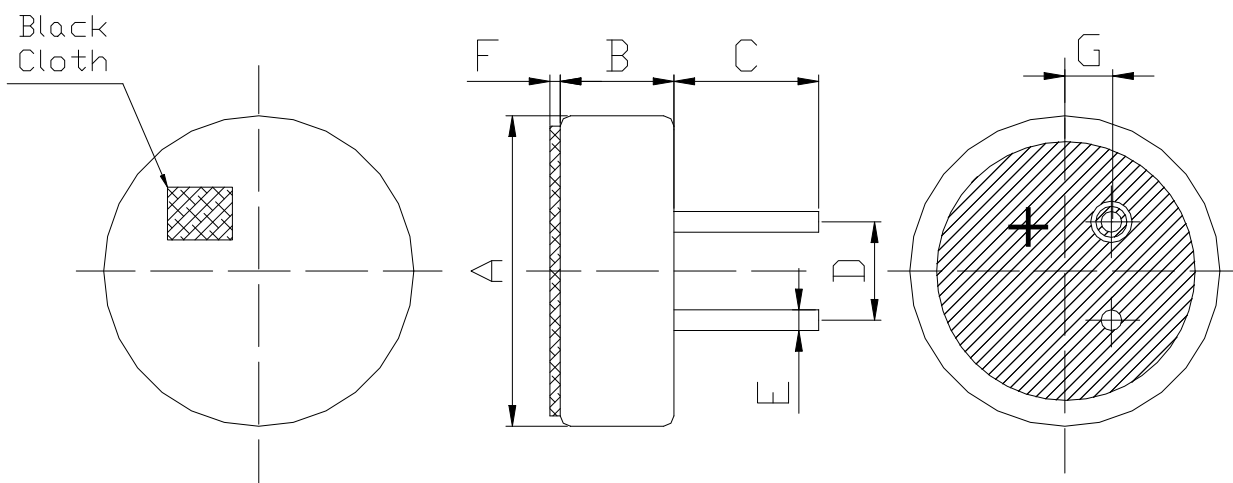
Measurement Circuit



二、机械性能 Mechanical Characteristics

1.重量 Weight : <0.3g

2.外形尺寸 Dimensions: (Unit: mm)



Part	Min.	Standard	Max.	REMARK
A	$\phi 3.9$	$\phi 4.0$	$\phi 4.1$	
B	1.2	1.3	1.4	
C	1.3	1.4	1.5	
D	/	1.6	/	
E	/	0.4	/	
F	0.1	0.2	0.3	
G	/	0.4	/	

3.温度 Temperature

A) 储藏温度范围 Storage Temperature: -40~+65°C

B) 使用温度范围 Operating temperature: $-20\sim+50^{\circ}\text{C}$

4.焊接热冲击 Soldering Heat Shock

经过 $265\pm 5^{\circ}\text{C}$ 焊接，灵敏度变化在 $\pm 3\text{dB}$ 变化范围内。

After soldering heat shock at $265\pm 5^{\circ}\text{C}$, sensitivity change within $\pm 3\text{dB}$ relative to initial value.

三、可靠性试验 Reliability Test

1.振动试验 Vibration Test

在振动台上，话筒经过三个方向的振动，振幅 1.52mm，振动频率由 10Hz 到 50Hz 循环，每分钟一次，振动 2 小时，其灵敏度变化在 $+3\text{dB}$ 范围内。

After Vibration cycle of 10 to 50Hz/1min, for 2 hours, full Amplitude 1.52mm, in 3 directions, Sensitivity change within $\pm 3\text{dB}$ relative to initial value.

2.跌落试验 Dropping Test

将试验话筒装入包装盒内，分三个不同的侧面，每次从 1 米高度跌落在地板上，其灵敏度变化在 $\pm 3\text{dB}$ 之内。

With package ,dropping to concrete floor 1m height in the directions of three different edges, sensitivity change within $\pm 3\text{dB}$ relative to initial value.

3.温度试验 Temperature Test

A)高温试验 High Temperature Test

将测试话筒放在 $+80\pm 2^{\circ}\text{C}$ 的烘箱内，经过 200 小时，在 20°C 室温内放置 2 小时之后测量，其灵敏度变化在 $\pm 3\text{dB}$ 之内。

After exposure at $+80\pm 2^{\circ}\text{C}$ for 200 hours, and recovering in 20°C for 2 hours ,sensitivity change within $\pm 3\text{dB}$ relative to initial value.

B)低温试验 Low Temperature Test

将试验话筒放在 $-25\pm 2^{\circ}\text{C}$ 的低温箱内，经过 200 小时，在 20°C 室温内放置 2 小时之后测量，其灵敏度变化在 $\pm 3\text{dB}$ 之内。

After exposure at $-25 \pm 2^\circ\text{C}$ for 200 hours, and recovering in 20°C for 2 hours, sensitivity change within $\pm 3\text{dB}$ relative to initial value.

4. 潮湿试验 Humidity Test

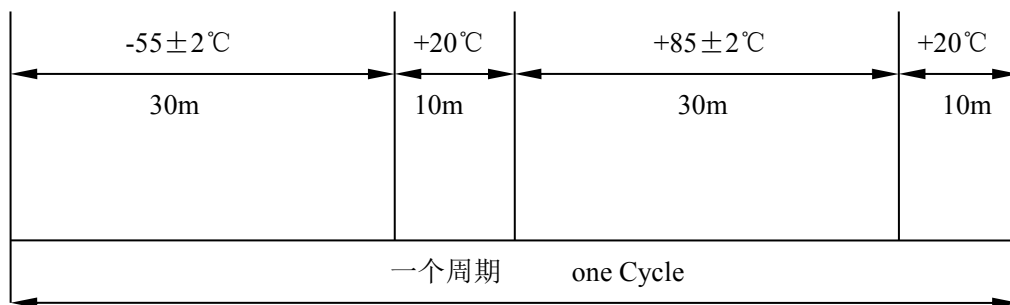
将话筒放置在 $+60 \pm 2^\circ\text{C}$ 和相对湿度在 $90 \pm 5\%$ 的潮湿箱内 200 小时，取出后防在 20°C 室温内 2 小时之后测试，灵敏度变化在 $\pm 3\text{dB}$ 之内。

After exposure at $+60 \pm 2^\circ\text{C}$ and relative humidity $90 \pm 5\%$ for 200 hours, and recovering in 20°C for 2 hours, sensitivity change within $\pm 3\text{dB}$ relative to initial value.

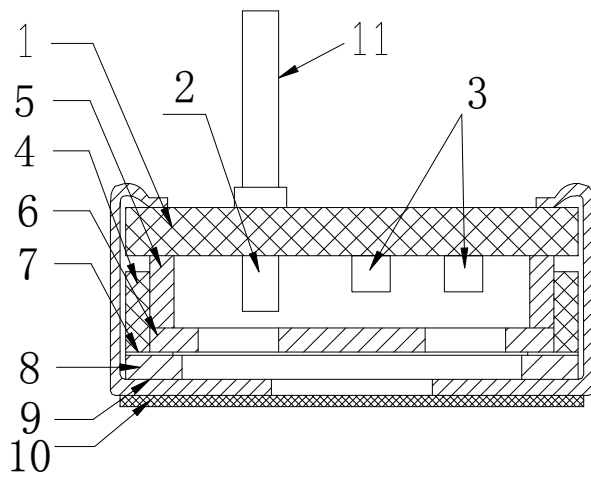
5. 温循试验 Temperature Cycle Test

将试验话筒放在 $-55 \pm 2^\circ\text{C}$ 的低温箱内 30 分钟，取出在室温 20°C 内 10 分钟自然恢复后，放入温度为 $+85 \pm 2^\circ\text{C}$ 的烘箱内 30 分钟，取出放在室温 20°C 内 10 分钟，此为一个温循过程。经过 5 次循环，在室温 20°C 自然恢复 2 小时后测试，其灵敏度变化在 $\pm 3\text{dB}$ 之内。

After exposure at 5 times of the following cycles, and recovering in 20 for 2 hours, Sensitivity change within 3dB relative to initial value.



四、 microphone Material Table



NO	PARTS	MODEL	MANUFACTURER
1	线路板 PCB		ShenZhen Flying
2	场效应管 FET		6C
3	电容 Capacitor		YuYang103PF
4	塑环 Holder		ZheJiangLongZhan
5	铜环 Connector		ZheJiangLongZhan
6	振膜 Membrane		DONGLI Japan
7	垫片 Spacer		Hebei HengSheng
9	外壳 Outer most shell		Hebei HengSheng
10	防尘网 Protection fleece		Shenzheng HongQiang
11	电阻		YuYang390R
12	插针 Pin		1.4mm

关于焊接操作

Regarding the soldering operation

每个驻极体传声器中都有一个场效应晶体管，半导体很容易在过热电压过高而受到损害。

Each Con. Mic. contains a FET within its case. Generally, semiconductors are easily weakened by over-heating, over-charge of voltage.

正常焊接的注意事项:

Special caution is needed for proper soldering as follows:

1.用 15W-20W 控温烙铁, 温度控制在 260°C-280°C 进行焊接。

Use 15W-20W soldering iron and maintain 260°C-280°C in operation.

2.焊接时间在每个焊点上控制在 2 秒钟以内, 不允许时间过长。

Soldering should be accomplished within two seconds at each terminal so as not to be overheated.

3.焊接时间过长, 或焊接温度过高, 不但会引起场效应管发生变化, 并且话筒里面的塑料腔体和膜片也会变形或脱落。

Do not make a cavity at the surface of lead on the pattern plate.

(A cavity may change the characteristics of Con.Mic.)

防静电包装盒 Anti-electrostatic Plastics Packing Box

