MESSRS.

SPECIFICATION FOR APPROVAL
承 认 书

Product	**ELECTRET CONDENSER MICROPHONE**
Part No.	**HMB-O60F36-CWH4 (RoHS)**
Customer Part No.	
Customer Approval	

Approved By	Checked By	Made By
王台平 JAN-04-2025	曹丽萍 JAN-04-2025	LILY JAN-04-2025

常 州 华 龙 电 子 有 限 公 司
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EDITION:1.1

1. 变更记录（History change record）

Change Items	Date	Note	Drawn by	Checked by
	2024-09-05	Frist Issue	Lily	王台平 2024-09-05
咪套改为螺纹	2024-11-18	Second Issue	Lily	王台平 2024-11-18
引线改为 69±2	2025-01-04	Third Issue	Lily	王台平 2025-01-04
咪套改回平纹	2025-02-15	Fourth Issue	Lily	王台平 2025-02-15

2. 储藏与判断条件 (Storage And Judgement Conditions)

	Temperature Range(°C)	Rel. Humidity(%)	Static Pressure(kPa)
Judgement	-15~+35	25~75	86~106
Storage	-20~70		
Operating	-20~70		

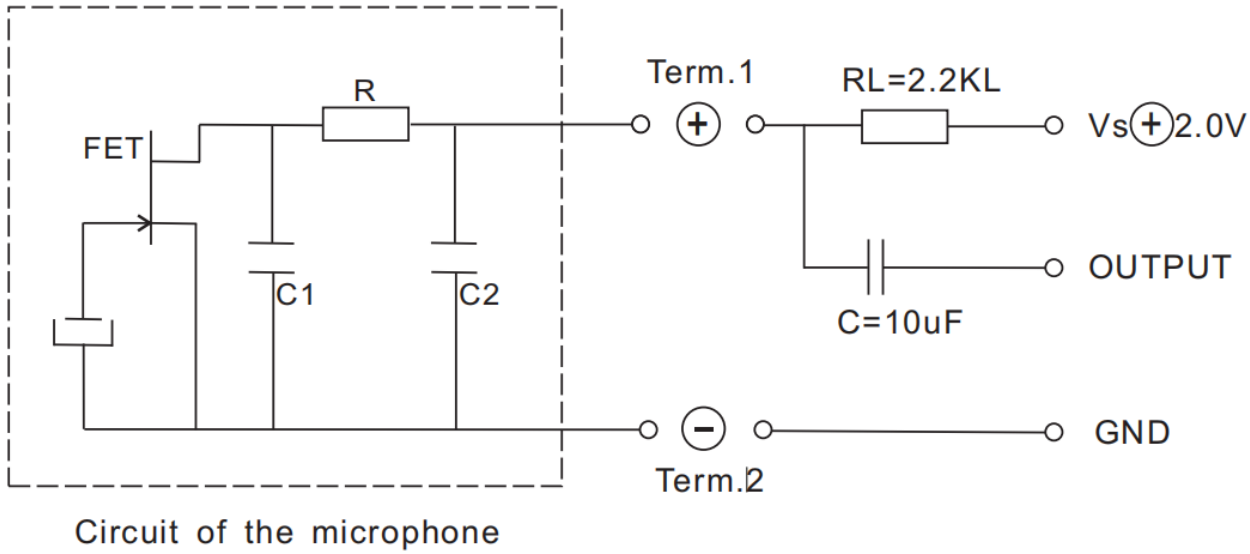
3. 规格 (Specifications)

Test conditions(V_S=2.0V R_L=2.2kΩ Temp=20±2℃ R.H=60±5%)

Item	Symbol	Test Conditions	Min	Standard	Max	Unit
灵敏度 Sensitivity	S	f=1kHz,Pin=1Pa	-39	-36	-33	dB (0dB=1V/Pa)
阻抗 Impedance	Z	f=1kHz,Pin=1Pa			2.2	kΩ
指向性 Directivity	Omni-directional					
消耗电流 Current Consumption	I				500	μA
工作电压 Operation Voltage Range	U		1.0	2.0	10	V
信噪比 S/N Ratio	S/N(A)	f=1kHz,Pin=1Pa A Curve		64		dB
降压特性 Decreasing Voltage Characteristic	ΔS	f=1kHz,Pin=1Pa V_S=2.0-1.5V			-3	dB
失真 Distortion	THD	f=1kHz Pin=1Pa			1	%

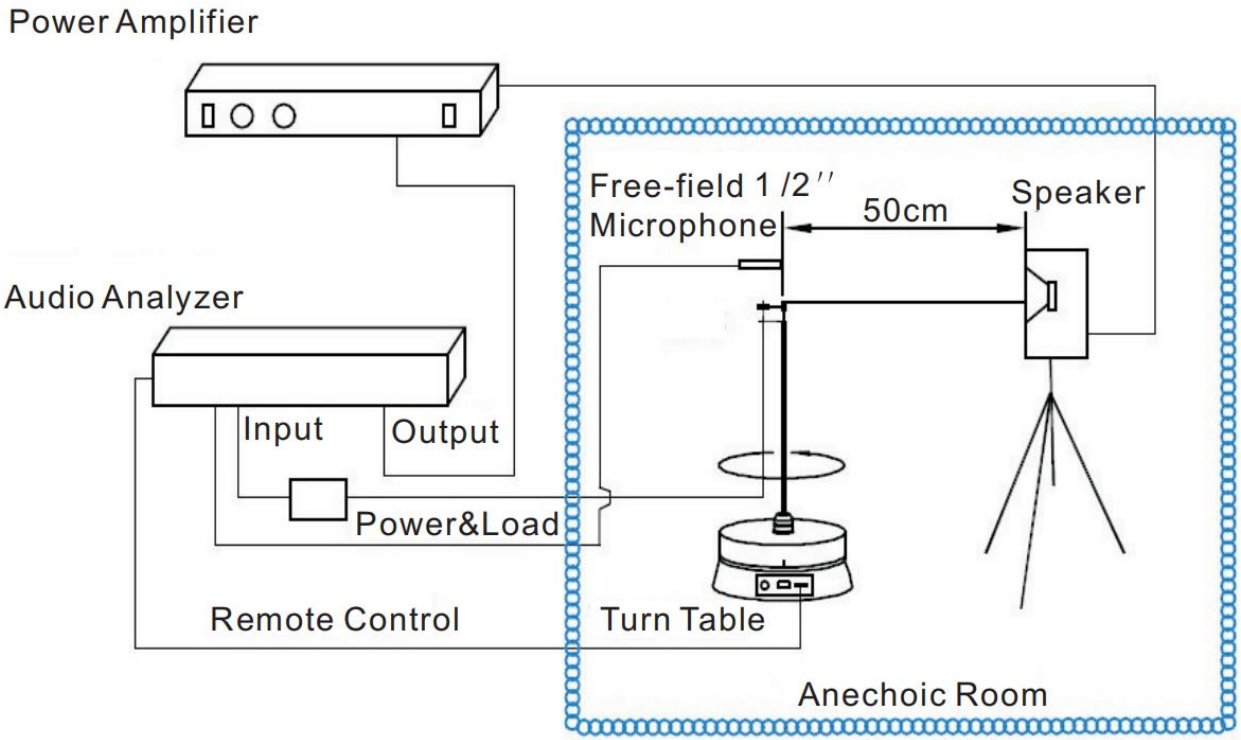
4. 测试电路（Standard Test Circuit）

Vs=2.0V RL=2.2kΩ Te=20℃ R.H.=60%

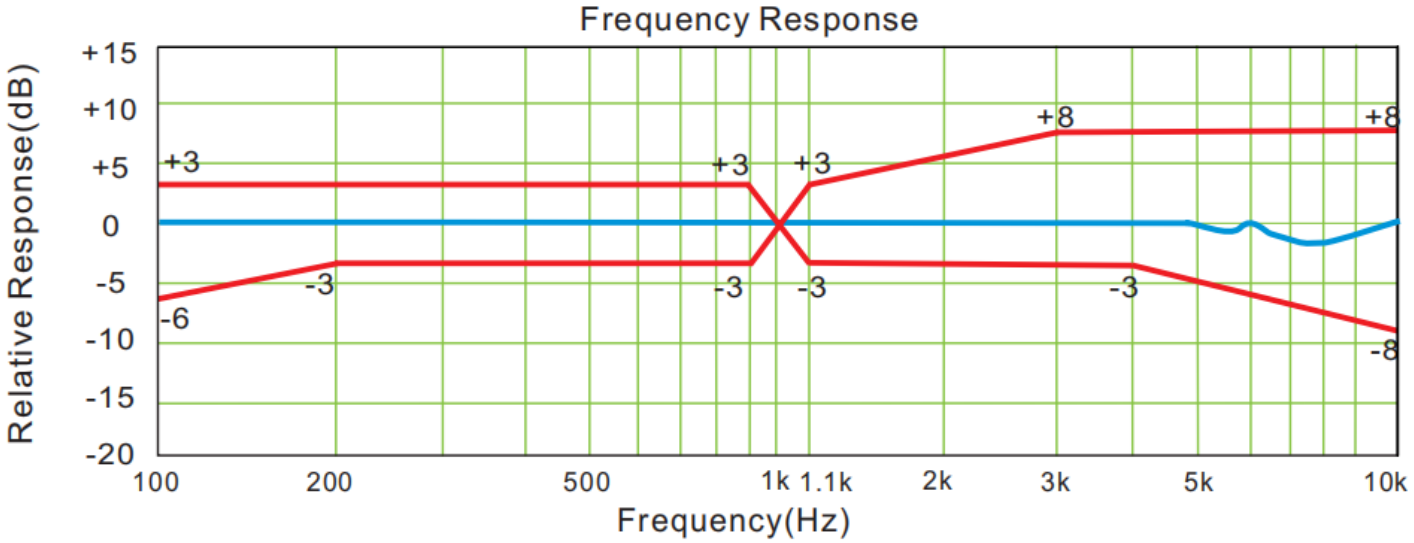


Circuit of the microphone

5. 测试装备图（Standard Test Fixture）



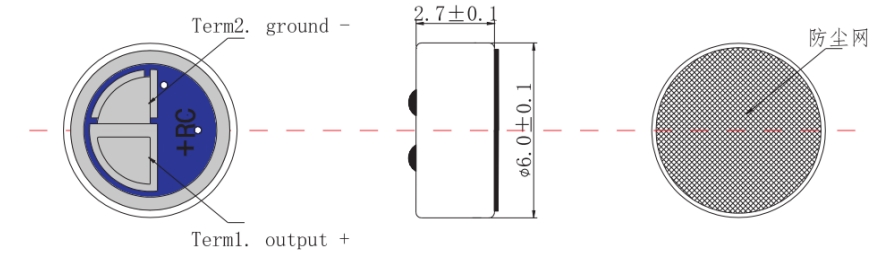
6 频响曲线（Frequency Response Curve）

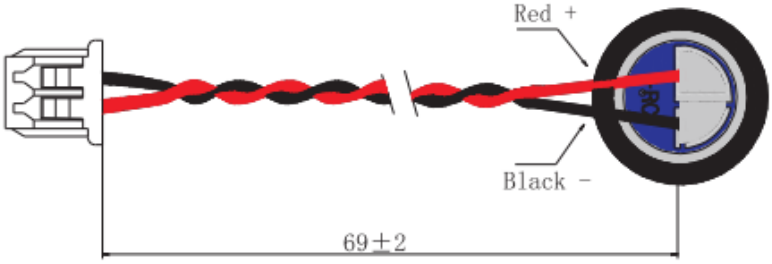


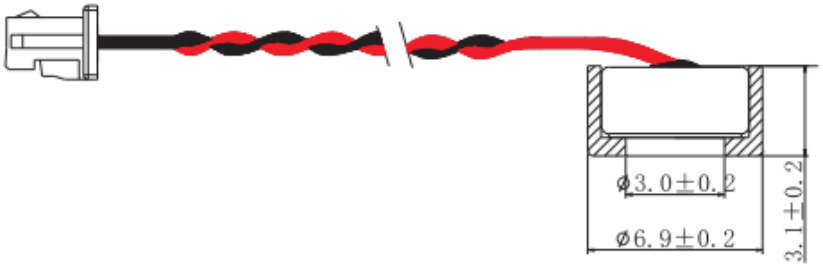
频率（Hz）	100	200	900	1.0K	1.1K	3K	4K	10K
上上限值（dB）	+3	+3	+3	0	+3	+8	+8	+8
下限值（dB）	-6	-3	-3	0	-3	-3	-3	-8

7,外观图（Appearance Drawing）

REV NO.	REVISION NOTE	APPROVAL	DATE







Housing:PITCH=1.25mm
线材 :UL1571 30# OD:0.7

TITLE:	MICROPHONE		DRAWN: Lily 2024/09/05	SCALE: 1/1	SHEET: 1 : 1
PART NO.	HMB-060F36-CWH4	1	DESIGNED: R & D OF D.S.	UNITS: mm	
DWG NO.	DTM-7957	REV	CHECKED: Emily	TOLERANCE ±0.2	
			APPROVAL: Eric	UNLESS OTHERWISE SPECIFIED: ONE PLACE DECIMAL ±*** TWO PLACE DECIMAL ±*** THREE PLACE DECIMAL ±***	
			MATERIAL: *****		

DS Changzhou Dragon State Electronic Co., Ltd

8.可靠性试验 (Reliability Test)

在下列试验完成后,在温度为 20℃,相对湿度为 65%的条件下恢复 3 小时后进行测试,灵敏度与初始灵敏度相差在±3dB 以内.

(All tests should be done after 3 hours of conditioning at 20℃, R.H65%, while the sensitivity is to be within ±3dB,from the initial sensitivity after the following experiments.)

8.1 高温试验 (HIGH TEMPERATURE TEST)

温度(High temperature): +70℃

放置时间(Duration): 72hours

8.2 低温试验 (LOW TEMPERATURE TEST)

温度(Low temperature): -20℃

放置时间(Duration): 72 hours

8.3 温度循环试验(如图 1) (TEMPERATURE CYCLE TEST)(See in Fig.1)

低温(Low temperature): -20℃

高温(High temperature): +70℃

转化时间(Changeover time): 30min

放置时间(Duration): 60min

次数(Cycle): 10

8.4 湿度 (STATICAL HUMIDITY TEST)

温度(Temperature): +40℃

相对湿度(Relative humidity): 90～95%

放置时间(Duration): 240hours

8.5 振动试验 (VIBRATION TEST)

振幅(Amplitude): 1.52mm

持续时间(Duration): 1 分钟/面(minutes/plane)

频度范围(Freq.range): 10 ~ 55Hz

试验时间(Total time): 2 小时(hour)

8.6 跌落试验 (DROP TEST)

不带包装的跌落到 20mm 厚的地板上(Drop a unit unpacked onto a board of 20mm thick)

高度(Height): 1 m

次数(Cycle): 6 (1 each plane)

9. 焊接要求 (Regarding the Soldering operation)

每个驻极体电容传声器在其麦克风上都有一个 FET,这种 FET 在过热和电流撞击时易损坏，所以对于焊接应遵循以下操作：

- 要求使用 25W-35W 烙铁，并保持 350±10℃的温度范围．

- 在每一个端的焊接应在 2 秒内完成，以防过热．

- 禁止单体麦克风焊接．(否则会影响驻极体电容传声器的灵敏度)

- 最理想的散热装置按以下设计.

Every ECM contains a FET with microphone body.

This FET easy to damageable from excessive heat and electrical shock. Proper attention for the soldering work is

required same as followings.

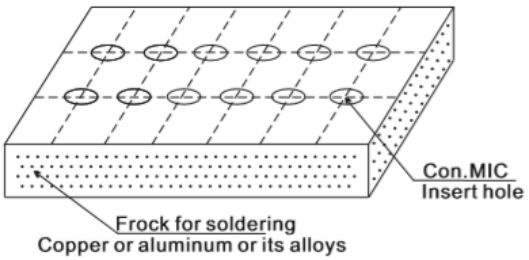
- Recommend to use 25W-35W ceramic soldering iron and apply 350±10℃ temperature range

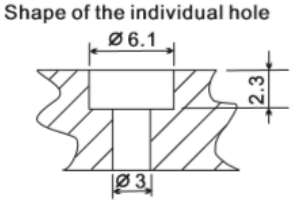
- Soldering should be accomplished within 2 seconds at each terminal so as not to be overheated.

- Do not make a cavity at the surface of lead lump on the PCB. wiring board.

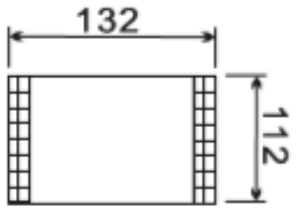
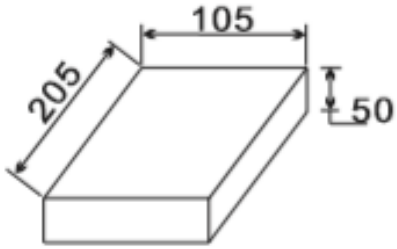
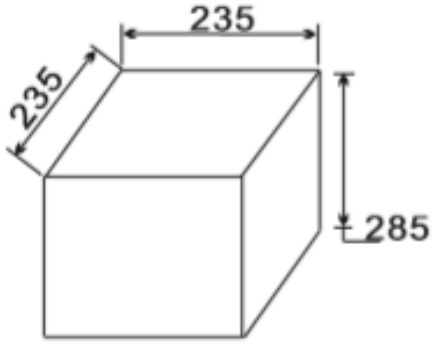
(Opened cavity will influence to the sensitivity of ECM)

- Optimal design for heat sink pad is same as below.





11.包装规格 (Packing Specifications)

	Drawing(Unit:mm)	Qty(pcs.)	Material	Marking
Packing		100	ESD Bag	Particular for 9.2.1
Middle Box		1000	Paper	Particular for Customer s P.O
Outer Box		10000	Paper	Particular for Customer s P.O