

MESSRS.**SPECIFICATION FOR APPROVAL****承 認 书**

Product	ELECTRET CONDENSER MICROPHONE
Part No.	HMB-O40J36-CWH1 (RoHS)
Customer Part No.	
Customer Approval	

Approved By	Checked By	Made By
王台平 MAY-30-2023	曹丽萍 MAY-30-2023	 LILY MAY-30-2023

常 州 华 龙 电 子 有 限 公 司
DRAGONSTATE ELECTRONIC CORPORATION

中国江苏省常州市新区电子园新四路 36 号

Tel: +86-519-85110078, 86-519-85106698, Fax: +86-519-85101081

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EDITION:1.1

1. 变更记录 (History change record)

Change Items	Date	Note	Drawn by	Checked by
	2023-05-30	First Issue	Lily	王台平 2023-05-30

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

	Temperature Range(°C)	Rel. Humidity(%)	Static Pressure(kPa)
Judgement	22~24	63~67	86~106
Storage	-40~80		
Operating	-25~70		

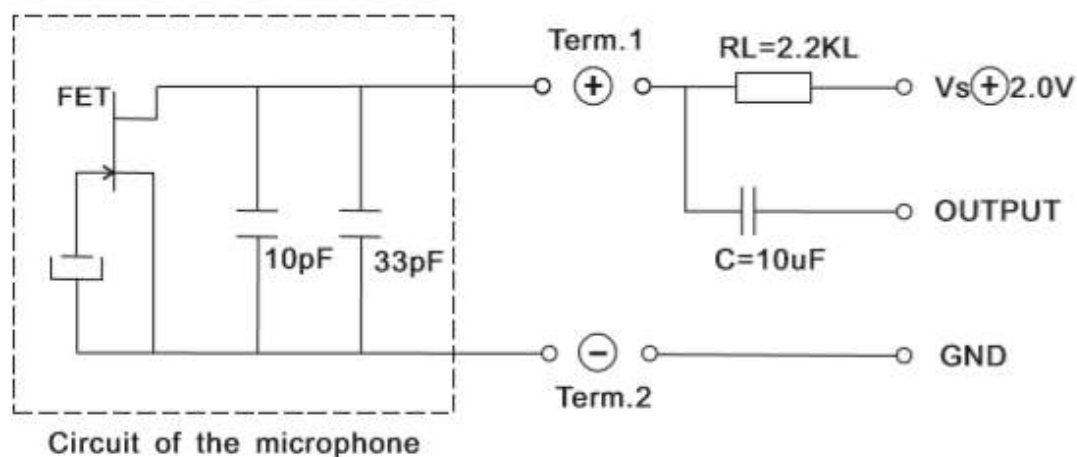
3. 规格 (Specifications)

Test conditions($V_S=2.0V$ $R_L=2.2k\Omega$ $Temp=20\pm 2^{\circ}C$ $R.H=60\pm 5\%$)

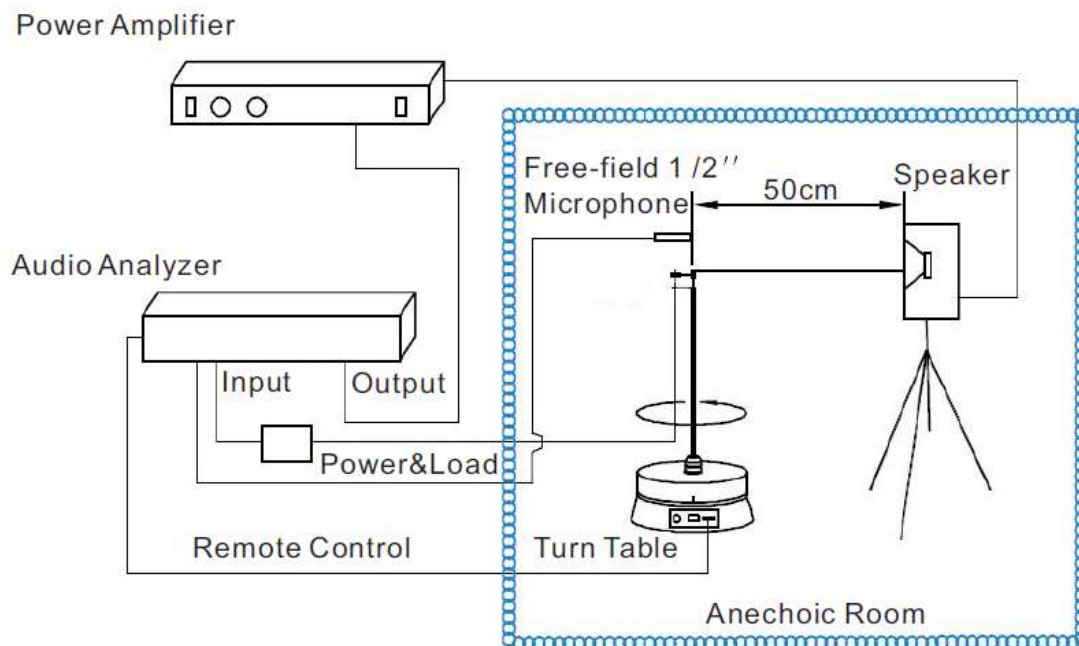
Item	Symbol	Test Conditions	Min	Standard	Max	Unit
Sensitivity	S	$f=1kHz, P_{in}=1Pa$	-38	-36	-34	dB ($0dB=1V/Pa$)
Impedance	Z	$f=1kHz, P_{in}=1Pa$			2.2	$k\Omega$
Directivity	Omni-directional					
Current Consumption	I				500	μA
Operation Voltage Range	U		1.0	2.0	10	V
S/N Ratio	S/N(A)	$f=1kHz, P_{in}=1Pa$ A Curve		62		dB
Decreasing Voltage Characteristic	ΔS	$f=1kHz, P_{in}=1Pa$ $V_S=2.0-1.5V$			-3	dB
Distortion	THD	$f=1kHz, P_{in}=1Pa$			1	%

4. 测试电路 (Standard Test Circuit)

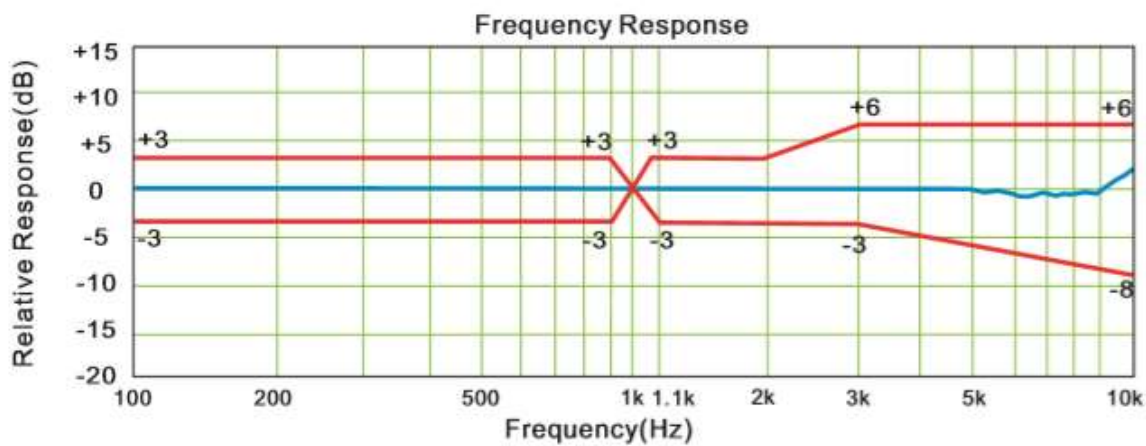
$V_S=2.0V$ $R_L=2.2k\Omega$ $T_e=20^{\circ}C$ $R.H.=60\%$



5. 测试装备图 (Standard Test Fixture)

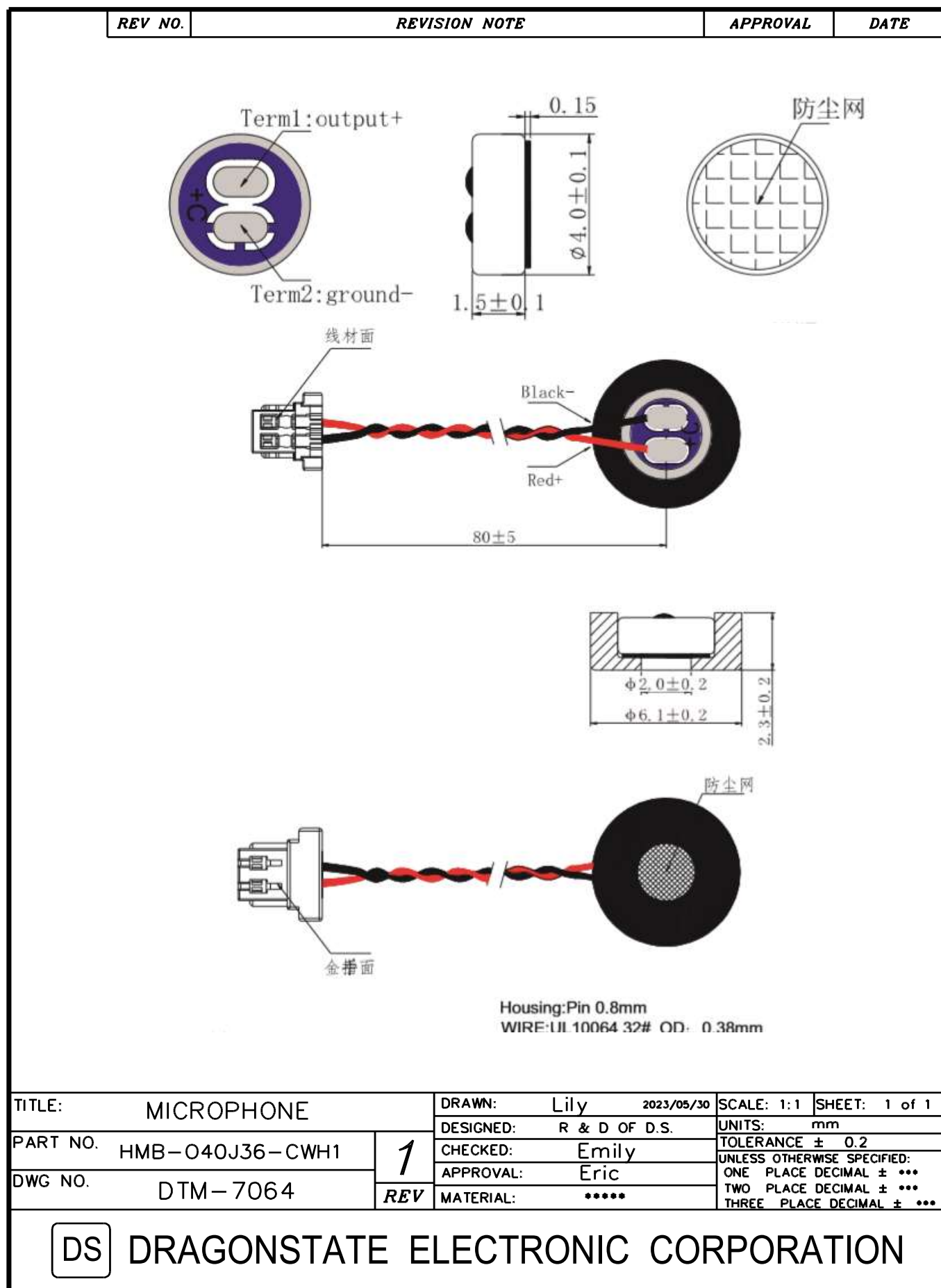


6 频响曲线 (Frequency Response Curve)



频率 (Hz)	100	900	1.0K	1.1K	2K	3K	10K
限值 (dB)	+3	+3	0	+3	+3	+6	+6
下限值 (dB)	-3	-3	0	-3	-3	-3	-8

7.外观图 (Appearance Drawing)



8. 可靠性试验 (Reliability Test)

在下列试验完成后,在温度为 20°C,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 $\pm 3\text{dB}$ 以内.

(All tests should be done after 3 hours of conditioning at 20°C, R.H65%, while the sensitivity is to be within $\pm 3\text{dB}$, from the initial sensitivity after the following experiments.)

8.1 高温试验 (HIGH TEMPERATURE TEST)

温度(High temperature):	+70°C
放置时间(Duration):	96hours

8.2 低温试验 (LOW TEMPERATURE TEST)

温度(Low temperature):	-25°C
放置时间(Duration):	96 hours

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

低温(Low temperature):	-25°C
高温(High temperature):	+70°C
转化时间(Changeover time):	10min
放置时间(Duration):	30min
次数(Cycle):	5

8.4 湿度 (STATICAL HUMIDITY TEST)

温度(Temperature):	+40°C
相对湿度(Relative humidity):	90 ~ 95%
放置时间(Duration):	96 hours

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 $350\pm 10^{\circ}\text{C}$ 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.

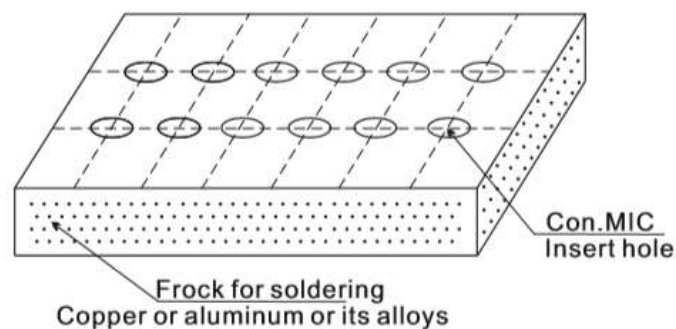
Every ECM contains a FET with microphone body.

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

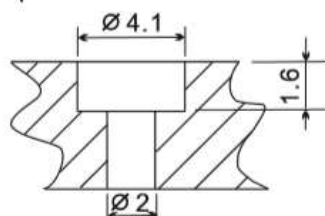
- Recommend to use 25W-35W ceramic soldering iron and apply $300\pm 10^{\circ}\text{C}$ temperature range
- Soldering should be accomplished within 2 seconds at each terminal so as not to be overheated.
- Do not make a cavity at the surface of lead lump on the PCB. wiring board.

(Opened cavity will influence to the sensitivity of ECM)

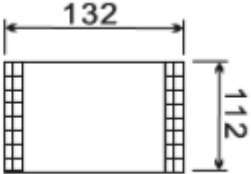
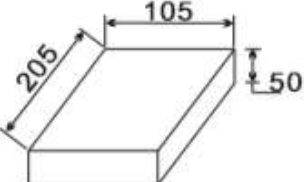
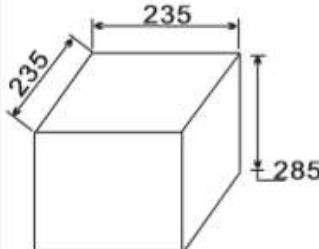
- Optimal design for heat sink pad is same as below.



Shape of the individual hole



10. 包装规格 (Packing Specifications)

REV. NO.	REVISION NOTE	APPROVAL	DATE
 132 112 Bag(132*112mm) 100pcs Material: Plastic ↓  205 105 50 Middle(205*105*50mm) 1000pcs(10*100pcs) Material: Paper ↓  235 235 285 Outer Box(235*235*285mm) 10000pcs(10*1000pcs) Material: Paper			
TITLE: 包装方式		DRAWN: <u>Shirley</u> DESIGNED: R & D of D.S. CHECKED: <u>Shirley</u> APPROVAL: <u>Shirley</u> MATERIAL: <u>紙張</u>	SCALE: 1:10 SHEET: 1 of 1 UNITS: mm TOLERANCE: ±0.5 UNLESS OTHERWISE SPECIFIED: ONE PLACE DECIMAL ± 0.1 TWO PLACE DECIMAL ± 0.05 THREE PLACE DECIMAL ± 0.02
PART NO.	1		
DWG NO.		REV	
DS DRAGONSTATE ELECTRONIC CORPORATION			