

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

Product	ELECTRET CONDENSER MICROPHONE
Part No.	HMB-O40J42-CWH96 (RoHS)
Customer Part No.	
Customer Approval	2205C00G

Approved By	Checked By	Made By
王台平 JUN-13-2024	曹丽萍 JUN-13-2024	LILY JUN-13-2024

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

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EDITION:1.1

1. 变更记录（History change record）

Change Items	Date	Note	Drawn by	Checked by
	2024-06-13	First Issue	Lily 2024-06-13	王台平 2024-06-13

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	-30~+70		
Operating	-30~+70		

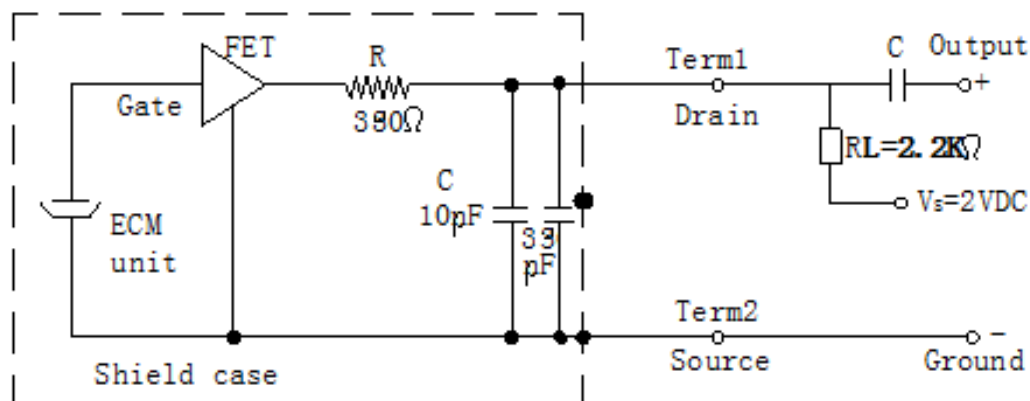
3. 规格 (Specifications)

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

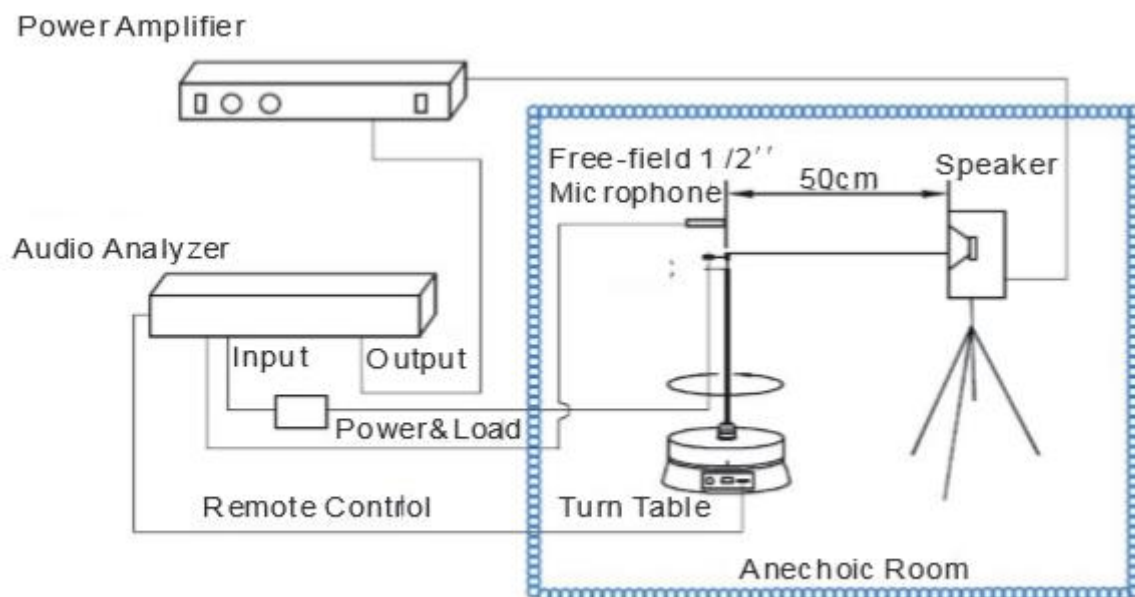
Item	Symbol	Test Conditions	M in	Standard	Max	Unit
灵敏度 Sensitivity	S	$f=1kHz, Pin=1Pa$	-4 5	-42	-39	dB (0dB=1V/Pa)
阻抗 Impedance	Z	$f=1kHz, Pin=1Pa$			2.2	$k\Omega$
指向性 Directivity		Omni-directional				
消耗电流 Current Consumption	I				500	μA
工作电压 Operation Voltage Range	U		1. 0	2.0	10	V
信噪比 S/N Ratio	S/N(A)	$f=1kHz, Pin=1Pa$ A Curve		60		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	$f=1kHz$ $Pin=94dB$			1	%
		$f=1kHz$ $Pin=115dB$			3	%
最大音压 Max Input S. P. L	dB	$f=1kHz$			115	dB S.P.L

4. 测试电路 (Standard Test Circuit)

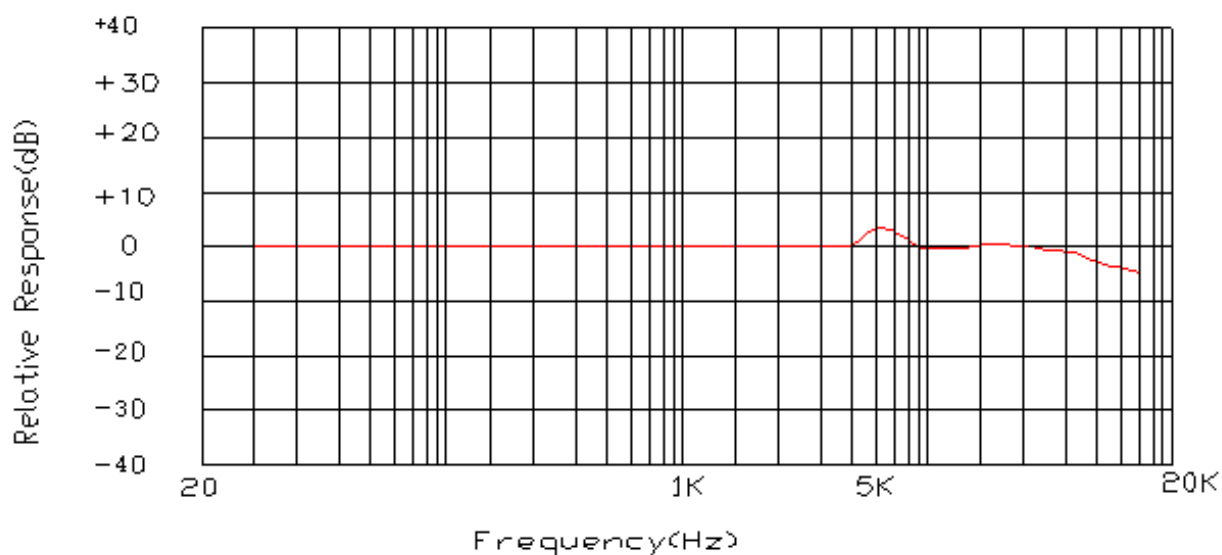
$V_S=2.0V$ $R_L=2.2k\Omega$ $Te=20^\circ C$ $R.H.=60\%$



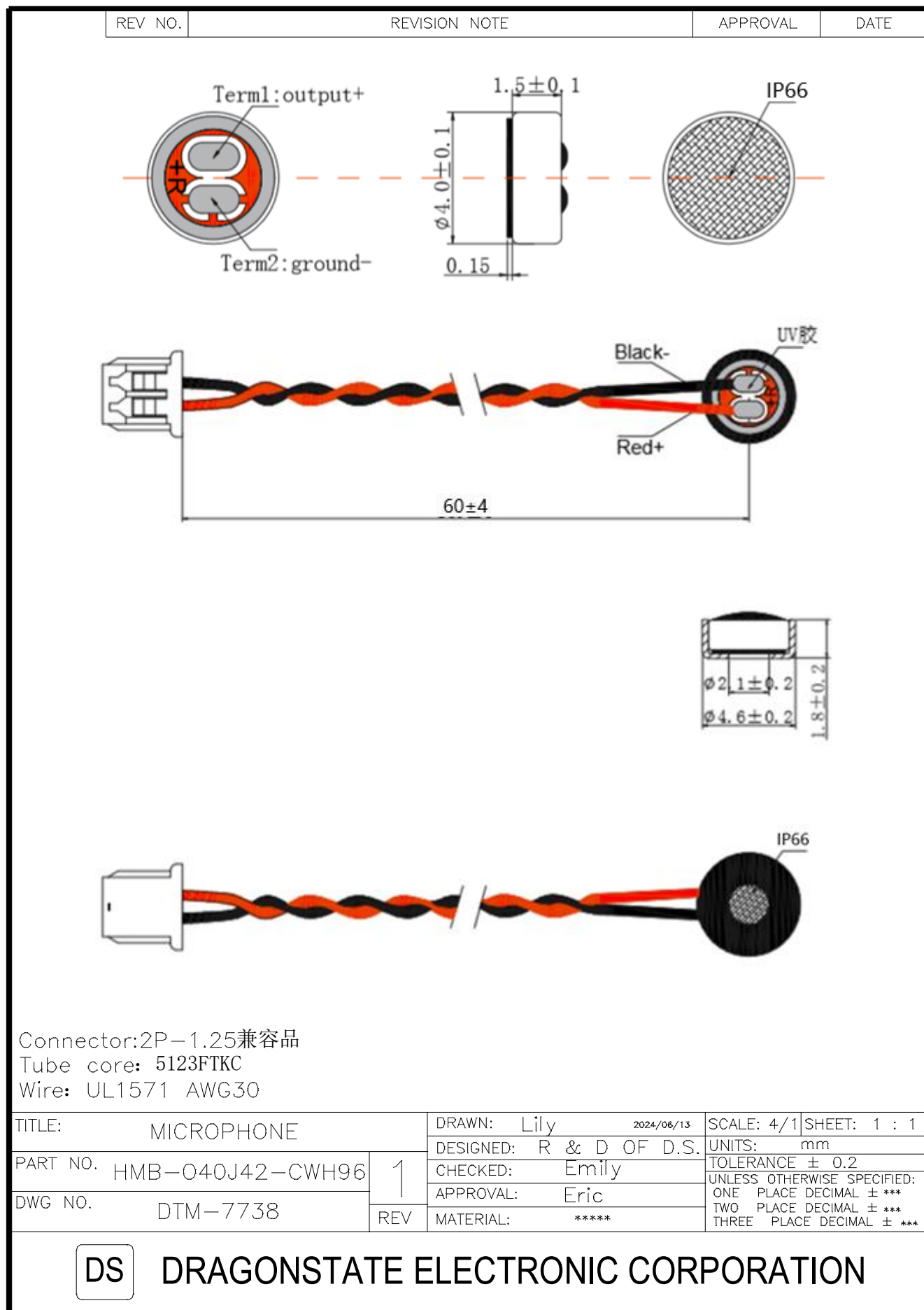
5. 测试装备图 (Standard Test Fixture)



6 频响曲线 (Frequency Response Curve)



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.

9.1 高温试验 (HIGH TEMPERATURE TEST)

温度(High temperature): +70°C

放置时间(Duration): 96hours

9.2 低温试验 (LOW TEMPERATURE TEST)

温度(Low temperature): -30°C

放置时间(Duration): 96 hours

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

低温(Low temperature): -30°C

高温(High temperature): +70°C

转化时间(Changeover time): 10min

放置时间(Duration): 30min

次数(Cycle): 5

9.4 湿度 (STATIC HUMIDITY TEST)

温度(Temperature): +40°C

相对湿度(Relative humidity): 90 ~ 95%

放置时间(Duration): 96 hours

9.5 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 hours

9.6 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)

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

