

# 規格承認書

PECIFICATION FOR APPROVAL

客 戶

CUSTOMER : \_\_\_\_\_

項 目

ITEM : 驻极体电容咪头 (ECM) \_\_\_\_\_

型 號

TYPE : GMI9767P-2C42DB \_\_\_\_\_

描述

DESCRIPTION :  $\phi 9.7 \times H6.7mm$  插针 双电容 -42dB 4.5V  $\leq 2.2K\Omega$   $\leq 0.5mA$  S/N:  $\geq 58 dBA$  \_\_\_\_\_

客戶料號

CUSTOMER NO. : C530072 \_\_\_\_\_

規 格 書 號

SPECIFICATION NO.: \_\_\_\_\_

版 本

EDITION NO. : V1.0 \_\_\_\_\_

日 期

DATE : 2025-8-11 \_\_\_\_\_

## 客戶承認

### CUSTOMER CONFIRM AND SIGN

| 檢查<br>TESTED BY | 審核<br>CHECKED BY | 承認<br>APPROVED BY |
|-----------------|------------------|-------------------|
|                 |                  |                   |

東莞市贏海電子有限公司

DONGUAN INGHAI ELECTRONICS CO.,LTD

| 製作<br>ISSUED BY | 審查<br>CHECKED BY | 確認<br>APPROVED BY |
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## A. SCOPE

This specification applies electret condenser microphone, GMI9767P-2C42DB

## B. SPECIFICATION

■Test condition: RL=2.2KΩ VS=4.5V TEMP=25°C±2°C Related humidity=65±5%

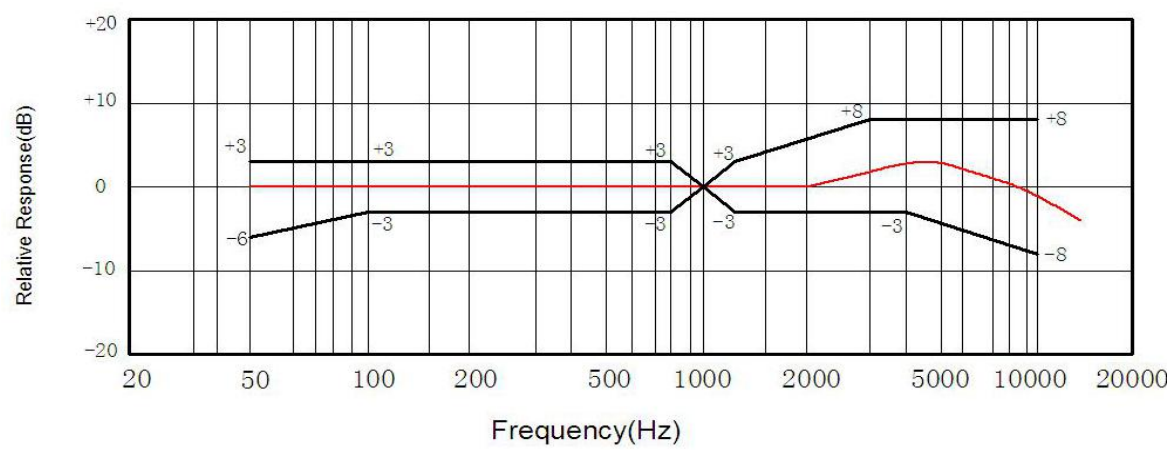
| No. | Item                       | Symbol | Unit | Specification   | Condition                          |
|-----|----------------------------|--------|------|-----------------|------------------------------------|
| 1   | Directivity                |        |      | Omnidirectional |                                    |
| 2   | Sensitivity                | S      | dB   | -42±3           | f=1KHz,0dB=1V/ubar                 |
| 3   | Standard operating voltage | Vs     | V    | 4.5             |                                    |
| 4   | Output impedance           | Zout   | KΩ   | ≤2.2            | f=1KHz, 1Pa                        |
| 5   | Frequency                  |        | Hz   | 100-10,000      |                                    |
| 6   | Max operating voltage      |        | V .  | 10              |                                    |
| 7   | Sensitivity reduction      | △S-Vs  | dB   | -3              | f=1KHz, 1Pa<br>vs=4.5VDC to 3.0VDC |
| 8   | Max. current consumption   | Idss   | mA   | ≤0.5            |                                    |
| 9   | Signal to noise ration     | S/N    | dBA  | ≥58             |                                    |
| 10  | Max input sound level      | SPL    | dB   | 110             |                                    |
| 11  | Operation temp.            |        | °C   | -20 ~+60        |                                    |
| 12  | Storage temp.              |        | °C   | -30 ~+70        |                                    |
| 13  | Dimension                  |        | mm   | φ9.7xH6.7       | See appearance drawing             |
| 14  | Terminal                   |        |      | Terminal        | See appearance drawing             |
| 15  | Approvals                  |        |      | RoHs FCC        |                                    |

We use “Pascal(Pa)”indication of sensitivity as per the recommendation of I.E.C.(International Electro technical Commission)

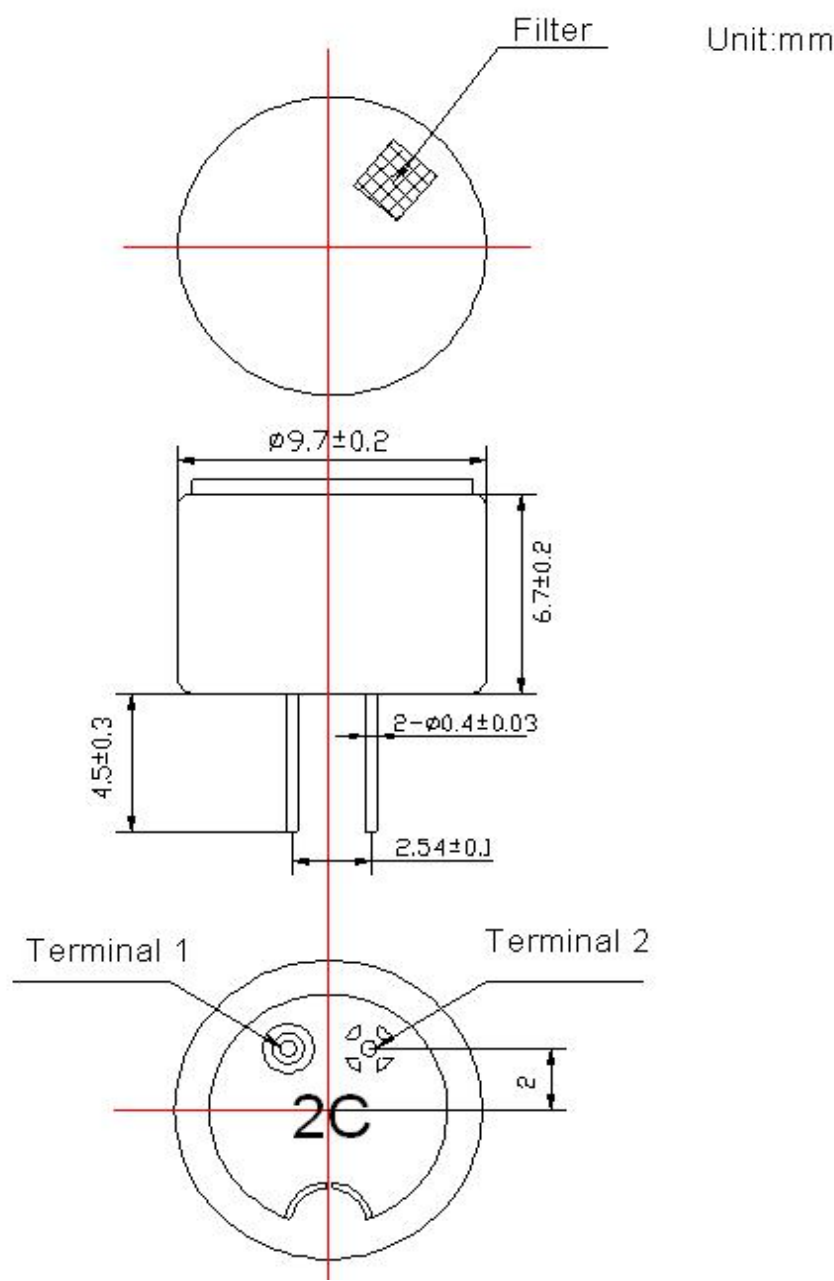
TheSensitivity of “Pa” will increase 20dB comparing with “ubar” indication

Example: -60dB(0dB=1V/ubar) =-40dB(1V/Pa)

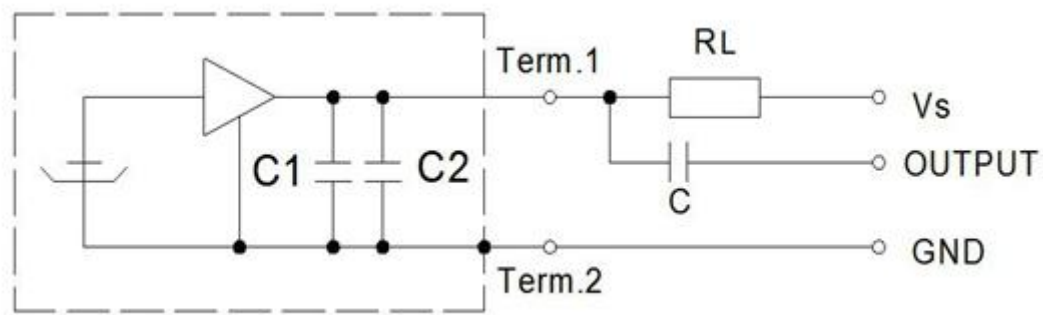
C.TYPICAL FREQUENCY RESPONSE CURVE



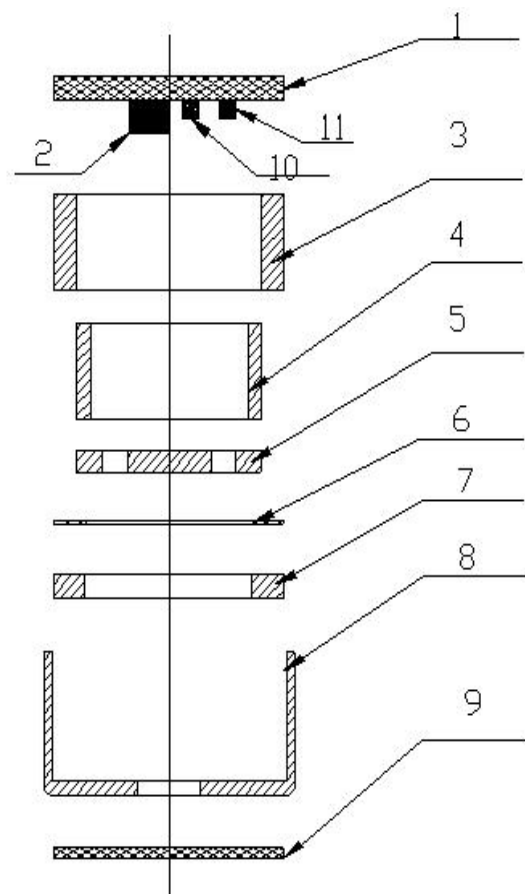
D. APPEARANCE DRAWING



E. MEASUREMENT CIRCUIT



F: Explode Drawing



| NO. | PARTS            |
|-----|------------------|
| 1   | PCB              |
| 2   | FET              |
| 3   | Holder           |
| 4   | Copper ring      |
| 5   | Back plate       |
| 6   | Spacer           |
| 7   | Film             |
| 8   | Outer most shell |
| 9   | Cloth            |
| 10  | Capacitor        |
| 11  | Capacitor        |

G. 可靠性试验 Reliability Test

|                                                                                                                                                                                                            |                                                                                                                                 |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|
| 经过以下所有试验在 20℃的条件下放置 3 小时后,麦克风的灵敏度与试验前比较变化在 3dB 以内<br>After any following tests, the sensitivity of the microphone to be within $\pm 3\text{dB}$ of initial sensitivity after 3hours of conditioning at 20℃ |                                                                                                                                 |
| 5-1 振动试验<br>Vibration                                                                                                                                                                                      | 周波数 1/Frequency1:10Hz~55Hz<br>振幅/Amplitude:1.52mm<br>变化/Change of Frequency:1 octave/min<br>3 方向,各 2 小时/hours in each of 3 axes |
| 5-2 高温试验<br>Dry Heat                                                                                                                                                                                       | +60 $\pm$ 5℃ for 96 hours                                                                                                       |
| 5-3 低温试验<br>Dry Cold                                                                                                                                                                                       | -20 $\pm$ 5℃ for 96 hours                                                                                                       |
| 5-4 高温高湿试验<br>Damp Heat                                                                                                                                                                                    | 90%~95%RH, +60 $\pm$ 5℃ for 96 hours                                                                                            |
| 5-5 温度循环试验<br>Temperature cycles                                                                                                                                                                           | -20℃ $\longleftrightarrow$ 25℃ $\longleftrightarrow$ 60℃<br>(2h) (1h) (2h) (1h) (2h) $\times$ 10 cycles                         |
| 5-6 跌落试验<br>Packing drop test                                                                                                                                                                              | Height:1m<br>顺序:三个面各跌 10 次<br>Procedure:10 times from each of 3 axes                                                            |
| 5-7 温度冲击试验<br>Temperature impact test                                                                                                                                                                      | -20℃ $\longleftrightarrow$ 60℃<br>30min 30s 30min $\times$ 10 cycles                                                            |
| 5-8 静电冲击试验<br>Electrostatic shock test                                                                                                                                                                     | 4000V(contact), 8000V(air) $\times$ 10 axes                                                                                     |
| 备注 Note                                                                                                                                                                                                    |                                                                                                                                 |
| 6-1 工作温度范围<br>Operation Temperature                                                                                                                                                                        | -20℃~60℃                                                                                                                        |
| 6-2 储存温度范围<br>Storage Temperature                                                                                                                                                                          | -30℃~70℃                                                                                                                        |
| <b>H. 焊接条件</b><br><b>Soldering Condition</b>                                                                                                                                                               |                                                                                                                                 |
| 7-1 焊接使用 90W 的烙铁。<br>The soldering copper of a type of 90W shall be applied                                                                                                                                |                                                                                                                                 |
| 焊接条件<br>Soldering Condition.                                                                                                                                                                               |                                                                                                                                 |
| 7-2 电烙铁表面温度 320 $\pm$ 10℃<br>The temperature of the working surface of the soldering copper shall be 320 $\pm$ 10℃                                                                                         |                                                                                                                                 |
| 7-3 焊接时把麦克风嵌入散热能力强的金属块内。<br>ECM shall be soldered fixed on the metal block(heat sink)which has the higher radiation effects said heat sink<br>Shall contact with of ECM.                                   |                                                                                                                                 |
| 7-4 焊接时间控制在 2~3 秒内。<br>time for each terminal shall be 2~3 sec.                                                                                                                                            |                                                                                                                                 |

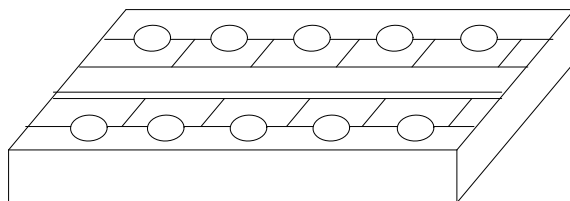
7-5 焊接后不能出现针孔。

The pinhole after soldering shall be avoided.

7-6 静电容易破坏麦克风必须采取措施避免（电烙铁接地，戴静电环等。）

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.

7-7 散热板形状 Shape of heat sink



7-8 固定部孔形状 Shape of hole at fixed part

