

# 規格承認書

PECIFICATION FOR APPROVAL

客戶  
CUSTOMER : \_\_\_\_\_  
項目  
ITEM : 单指向驻极体咪头 (ECM)  
型號  
TYPE : GMI6027U-32-66DB  
描述  
DESCRIPTION :  $\phi$  6.0 x H2.7mm 背极式 -32~-66dB 0.68K 1.5V S/N:  $\geq$ 58 dBA  
客戶料號  
CUSTOMER NO. : \_\_\_\_\_  
規格書號  
SPECIFICATION NO.: \_\_\_\_\_  
版本  
EDITION NO. : V1.  
日期  
DATE : 20

## 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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| 周明              | 李林               |                   |

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## A. SCOPE

This specification applies electret condenser microphone, GMI6027U-32-66DB

## B. SPECIFICATION

■ Test condition:  $RL=0.68K\Omega$   $VS=1.5V$   $TEMP=25^{\circ}C\pm 2^{\circ}C$  Related humidity= $65\pm 5\%$

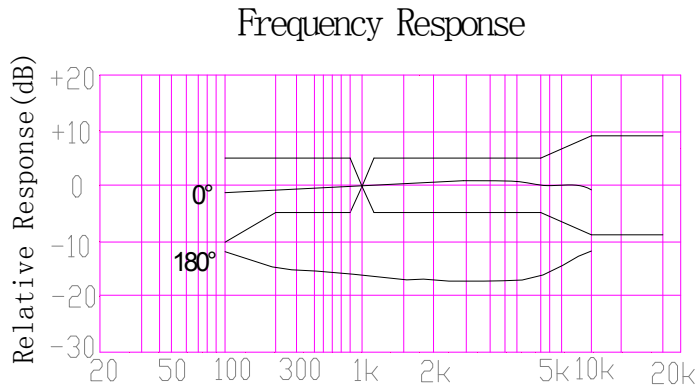
| No. | Item                       | Symbol        | Unit        | Specification          | Condition                          |
|-----|----------------------------|---------------|-------------|------------------------|------------------------------------|
| 1   | Directivity                |               |             | Unidirectional         |                                    |
| 2   | Sensitivity                | <b>S</b>      | dB          | -32~-66±3              | f=1KHz, 0dB=1V/ Pa                 |
| 3   | Standard operating voltage | <b>Vs</b>     | V           | 1.5                    |                                    |
| 4   | Output impedance           | <b>Zout</b>   | K $\Omega$  | $\leq 0.68$            | f=1KHz, 1Pa                        |
| 5   | Frequency                  |               | Hz          | 100-10,000             |                                    |
| 6   | Max operating voltage      |               | V .         | 10                     |                                    |
| 7   | Sensitivity reduction      | $\Delta S-Vs$ | dB          | -3                     | f=1KHz, 1Pa<br>vs=3.0VDC to 1.5VDC |
| 8   | Max. current consumption   | <b>IDSS</b>   | mA          | $\leq 0.5$             |                                    |
| 9   | Signal to noise ration     | <b>S/N</b>    | dBA         | $\geq 58$              |                                    |
| 10  | Max input sound level      | <b>SPL</b>    | dB          | 110                    |                                    |
| 11  | Operation temp.            |               | $^{\circ}C$ | -20 ~+60               |                                    |
| 12  | Storage temp.              |               | $^{\circ}C$ | -30 ~+70               |                                    |
| 13  | Dimension                  |               | mm          | $\phi 6.0 \times H2.7$ | 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)

The Sensitivity of "Pa" will increase 20dB comparing with "ubar" indication

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

### C. TYPICAL FREQUENCY RESPONSE CURVE

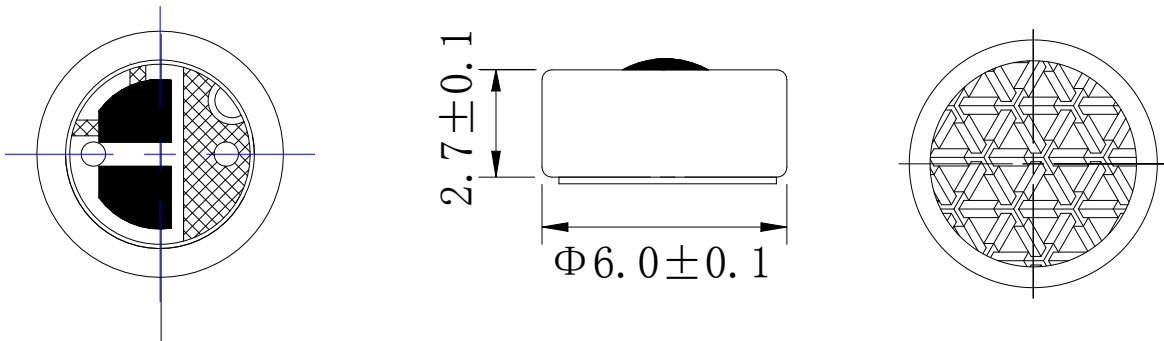


Microphone Response Tolerance Window

| Frequency (Hz) | Lower Limit (dB) | Upper Limit (dB) |
|----------------|------------------|------------------|
| 100            | -5               | 5                |
| 200            | -5               | 5                |
| 800            | -5               | 5                |
| 1000           | 0                | 0                |
| 1200           | -5               | 5                |
| 2000           | -5               | 5                |
| 5000           | -5               | 5                |
| 10000          | -8               | 8                |

### D. APPEARANCE DRAWING

Unit: mm



### E. MEASUREMENT CIRCUIT

## F.Explode Drawing



|   |     |    |     |
|---|-----|----|-----|
| 1 | PCB | 7  | 背极膜 |
| 2 | FET | 8  | 外壳  |
| 3 | 金环  | 9  | 防水网 |
| 4 | 塑环  | 10 | 阻尼棉 |
| 5 | 背极板 | 11 | 电容  |
| 6 | 垫片  | 12 |     |

## 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

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℃  |

## H. 焊接条件 Soldering Condition

7-1 焊接使用 90W 的烙铁。

The soldering copper of a type of 90W shall be applied

焊接条件

Soldering Condition.

7-2 电烙铁表面温度  $320 \pm 10^{\circ}\text{C}$

The temperature of the working surface of the soldering copper shall be  $320 \pm 10^{\circ}\text{C}$

7-3 焊接时把麦克风嵌入散热能力强的金属块内。

ECM shall be soldered fixed on the metal block(heat sink)which has the higher radiation effects said heat sink Shall contact with of ECM.

7-4 焊接时间控制在 2~3 秒内。

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.

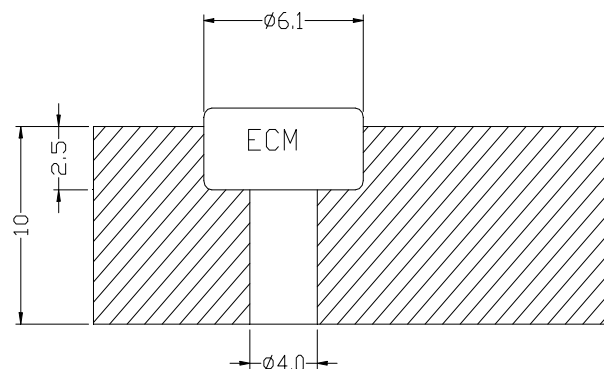
7-6 静电容易破坏麦克风必须采取措施避免（电烙铁接地，戴静电环等。）

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



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