

規格承認書

PECIFICATION FOR APPROVAL

客戶
CUSTOMER : 立創
項目
ITEM : 单指向驻极体电容咪头 (ECM)
型號
TYPE : GMI6027U-2C42DB
描述
DESCRIPTION : ϕ 6.0 x H2.7mm 背极式 1033 -42dB 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. : V1.2
日期
DATE : 2019-12-27

客戶承認

CUSTOMER CONFIRM AND SIGN

| 檢查 TESTED BY | 審核 CHECKED BY | 承認 APPROVED BY |
|-----------------|------------------|-------------------|
| | | |

東莞市贏海電子有限公司

DONGUAN INGHAI ELECTRONICS CO.,LTD

| 製作 ISSUED BY | 審查 CHECKED BY | 確認 APPROVED BY |
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A. SCOPE

This specification applies electret condenser microphone, GMI6027U-2C42DB

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 | S | dB | -42±3 | f=1KHz, 0dB=1V/ Pa |
| 3 | Standard operating voltage | Vs | V | 1.5 | |
| 4 | Output impedance | Zout | K Ω | ≤ 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 vs=3.0VDC to 1.5VDC |
| 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. | | $^{\circ}C$ | -20 ~+60 | |
| 12 | Storage temp. | | $^{\circ}C$ | -30 ~+70 | |
| 13 | Dimension | | mm | $\varphi 6.0 \times H2.7$ | 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

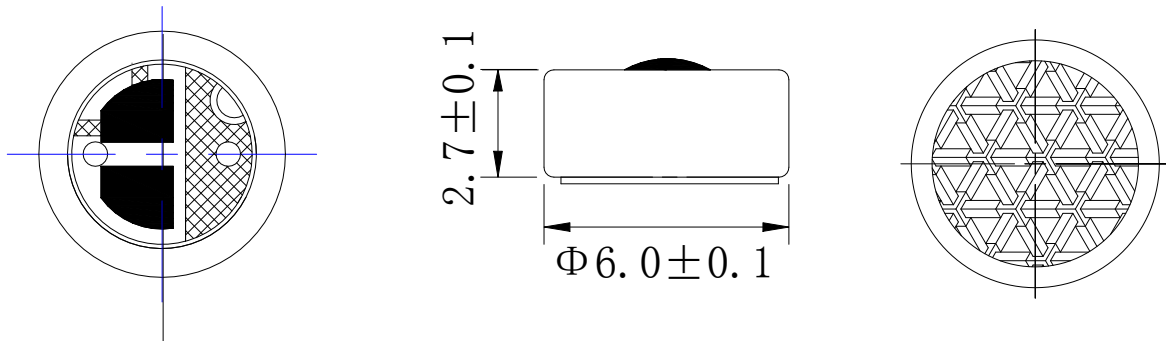


Microphone Response Tolerance Window

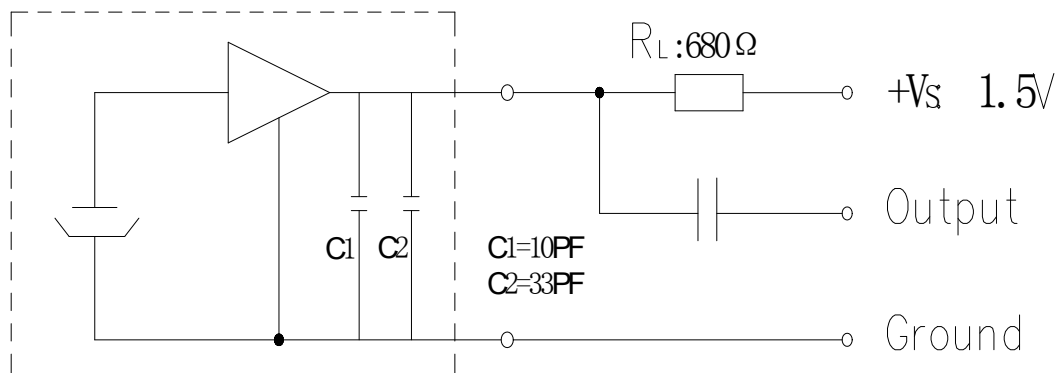
| Frequency (Hz) | Lower Limit (dB) | Upper Limit (dB) |
|----------------|------------------|------------------|
| 100 | -5 | 5 |
| 200 | -5 | 5 |
| 800 | -5 | 5 |
| 1000 | 0 | 0 |
| 1200 | -5 | 5 |
| 2000 | -5 | 5 |
| 5000 | -5 | 5 |
| 10000 | -8 | 8 |

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 Vibration | 周波数 1/Frequency1:10Hz~55Hz 振幅/Amplitude:1.52mm 变化/Change of Frequency:1 octave/min 3 方向,各 2 小时/hours in each of 3 axes |
| 5-2 高温试验 Dry Heat | +60 \pm 5℃ for 96 hours |
| 5-3 低温试验 Dry Cold | -20 \pm 5℃ for 96 hours |
| 5-4 高温高湿试验 Damp Heat | 90%~95%RH, +60 \pm 5℃ for 96 hours |
| 5-5 温度循环试验 Temperature cycles | -20℃ \longleftrightarrow 25℃ \longleftrightarrow 60℃ (2h) (1h) (2h) (1h) (2h) \times 10 cycles |
| 5-6 跌落试验 Packing drop test | Height:1m 顺序:三个面各跌 10 次 Procedure:10 times from each of 3 axes |
| 5-7 温度冲击试验 Temperature impact test | -20℃ \longleftrightarrow 60℃ 30min 30s 30min \times 10 cycles |
| 5-8 静电冲击试验 Electrostatic shock test | 4000V(contact), 8000V(air) \times 10 axes |
| 备注 Note | |
| 6-1 工作温度范围 Operation Temperature | -20℃~60℃ |
| 6-2 储存温度范围 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.

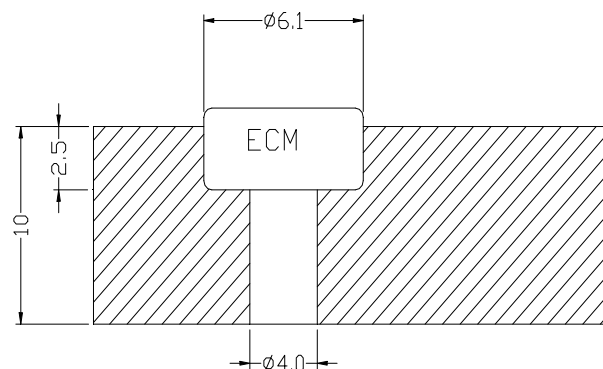
7-6 静电容易破坏麦克风必须采取措施避免（电烙铁接地，戴静电环等。）

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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