

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 : GMI4015-40DB

描述

DESCRIPTION : ϕ 4.0 x 1.5 MM 2V -40 dB $\leq 2.2K \Omega$ S/N: ≥ 58 dBA

客戶料號

CUSTOMER NO. : C529880

規 格 書 號

SPECIFICATION NO.: _____

版 本

EDITION NO. : V1.2

日 期

DATE : 2025-8-11

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

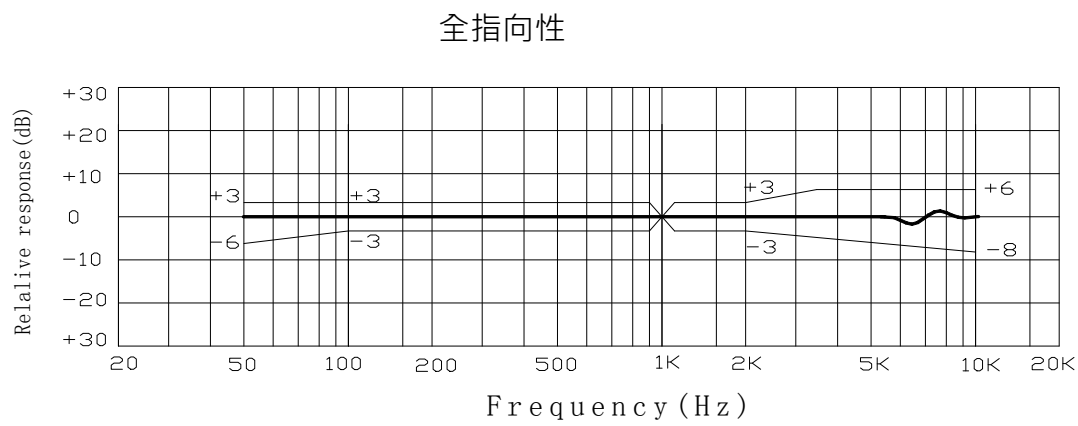
This specification applies electret condenser microphone, GMI4015-40DB

B. SPECIFICATION

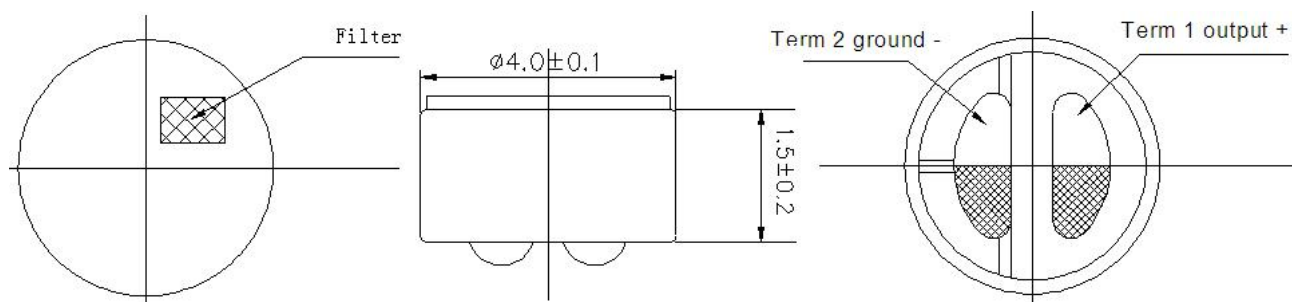
■Test condition: $R_L=2.2K\Omega$ $V_S=2.0V$ $TEMP=25^{\circ}C\pm 2^{\circ}C$ Related humidity= $65\pm 5\%$

No.	Item	Symbol	Unit	Specification	Condition
1	Directivity			Omnidirectional	
2	Sensitivity	S	dB	-40 ± 3	$f=1KHz, 1Pa$ $0dB=1V/Pa$
3	Standard operating voltage	Vs	V	2.0	
4	Output impedance	Zout	K Ω	≤ 2.2	$f=1KHz, 1Pa$
5	Frequency		Hz	100-10,000	
6	Max operating voltage		V .	10	
7	Sensitivity reduction	$\Delta S-Vs$	dB	-3	$f=1KHz, 1Pa$ $Vs=2.0VDC$ to 1.5VDC
8	Max. current consumption	Idss	mA	≤ 0.5	
9	Signal to noise ration	S/N	dBA	≥ 58	$f=1KHz, P_{in}=1Pa$
10	Max input sound level	SPL	dB	110	
11	Operation temp.		$^{\circ}C$	-30 ~+70	
12	Storage temp.		$^{\circ}C$	-40 ~+80	
13	Dimension		mm	$\phi 4.0 \times 1.5$	See appearance drawing
14	Terminal			Terminal	See appearance drawing

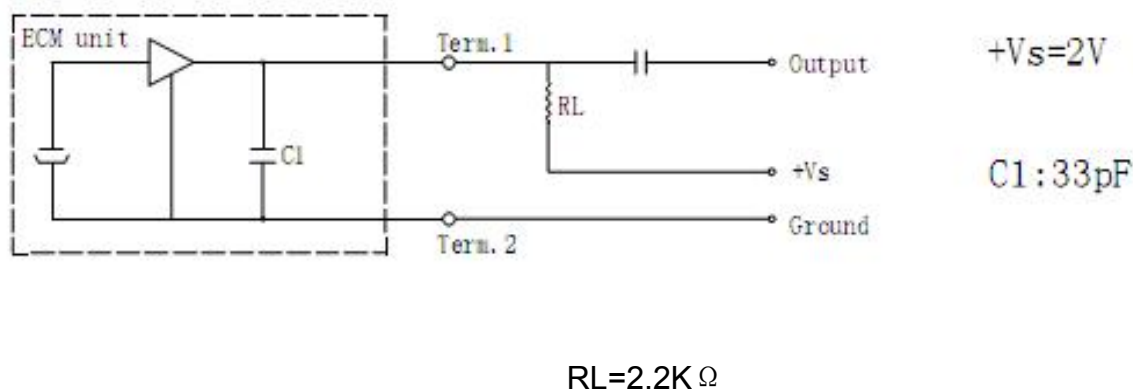
C.TYPICAL FREQUENCY RESPONSE CURVE



D. APPEARANCE DRAWING



E. MEASUREMENT CIRCUIT



F. 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	+80 $\pm$ 5℃ for 96 hours
5-3 低温试验 Dry Cold	-40 $\pm$ 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℃ $\longleftrightarrow$ 70℃ (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℃ $\longleftrightarrow$ 70℃ 30min 30s 30min $\times$ 10 cycles
5-8 静电冲击试验 Electrostatic shock test	6000V(contact), 15000V(air) $\times$ 10 axes
备注 Note	
6-1 工作温度范围 Operation Temperature	-30℃~70℃
6-2 储存温度范围 Storage Temperature	-40℃~80℃
G. 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℃	

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.

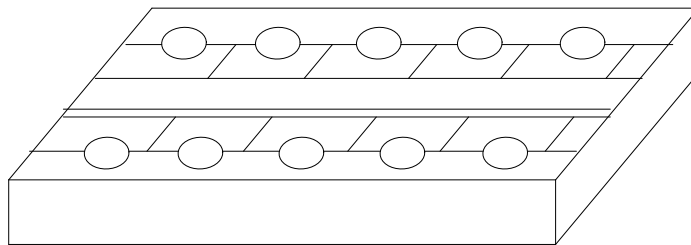
7-5 焊接后不能出现针孔。

The pinhole after soldering shall be avoided.

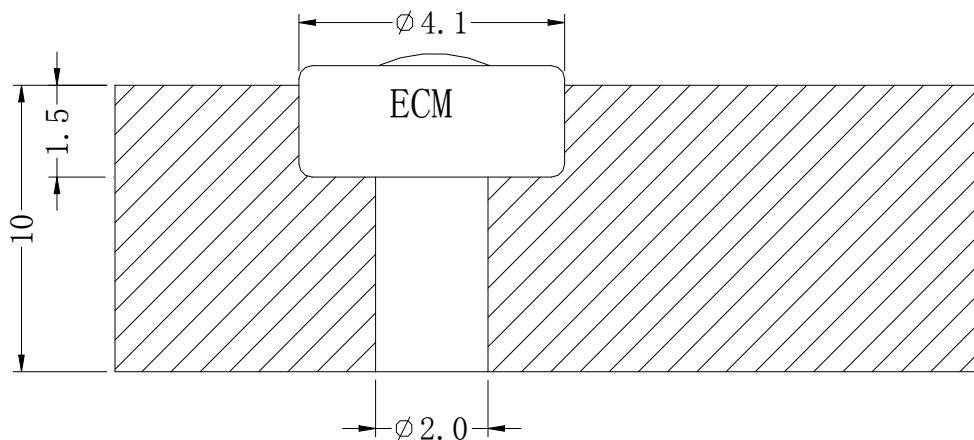
7-6 静电容易破坏麦克风必须采取措施避免（电烙铁接地，戴静电环等。）

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



unit:mm