

規格承認書

PECIFICATION FOR APPROVAL

客 戶

CUSTOMER : _____

項 目

ITEM : 单指向驻极体电容咪头 (ECM) _____

型 號

TYPE : GMI4015U-2C46DB 通用型 (灵敏度-30~-66DB) _____

描述

DESCRIPTION : ϕ 4.0 x 1.5 MM 1033 3V -46 dB $\leq 2.2K\Omega$ S/N: ≥ 58 dBA _____

客戶料號

CUSTOMER NO. : _____

規 格 書 號

SPECIFICATION NO.: _____

版 本

EDITION NO. : V1. _____

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 unidirectional electret condenser microphone:GMI4015U-2C46DB

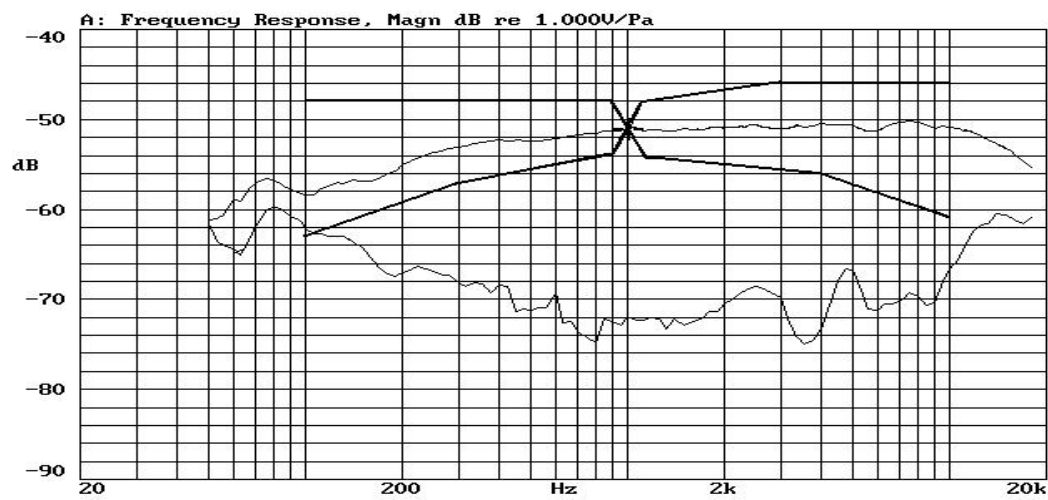
B. SPECIFICATION

■Test condition: $R_L=2.2K\Omega$ $V_S=3.0V$ $TEMP=25^{\circ}C\pm 2^{\circ}C$ Related humidity= $65\pm 5\%$

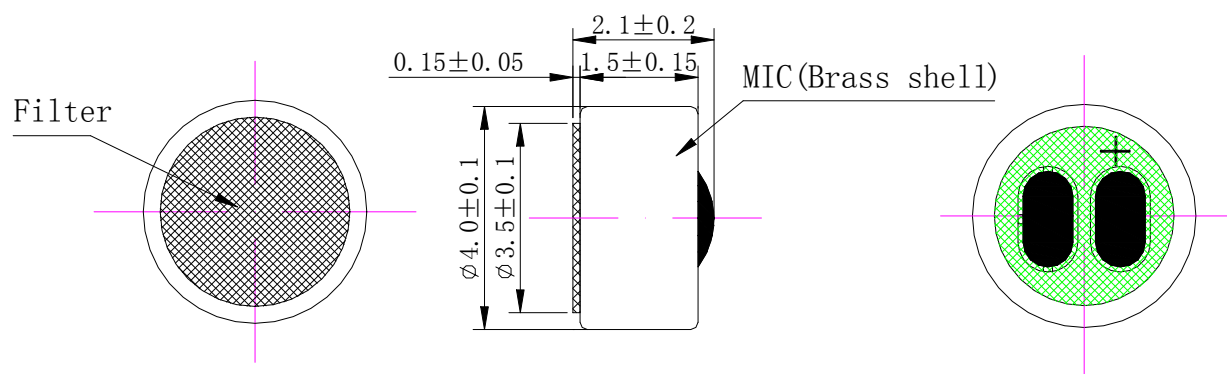
No.	Item	Symbol	Unit	Specification	Condition
1	Directivity			Unidirectional	
2	Sensitivity	S	dB	-46 ± 3	$f=1KHz, 1Pa$ $0dB=1V/Pa$
3	Standard operating voltage	V_s	V	3.0	
4	Output impedance	Z_{out}	K Ω	≤ 2.2	$f=1KHz, 1Pa$
5	Frequency		Hz	20-16000	
6	Max operating voltage		V .	10	
7	Sensitivity reduction	$\Delta S-V_s$	dB	-3	$f=1KHz, 1Pa$ $V_s=2.0VDC$ to 1.5VDC
8	Max. current consumption	I_{DSS}	mA	≤ 0.5	
9	Signal to noise ration	S/N	dBA	≥ 58	$f=1KHz, P_{in}=1Pa$
10	Max input sound level	SPL	dB	115	
11	Operation temp.		$^{\circ}C$	-20 ~+60	
12	Storage temp.		$^{\circ}C$	-40 ~+70	
13	Dimension		mm	$\phi 4.0 \times 1.5$	See appearance drawing
14	Terminal			Terminal	See appearance drawing

C.TYPICAL FREQUENCY RESPONSE CURVE

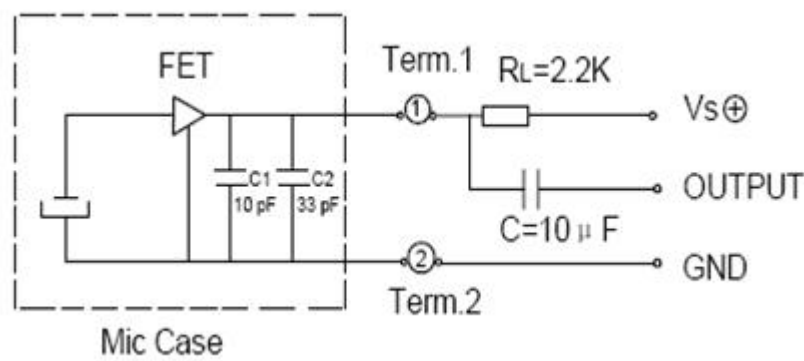
单指向型



D. APPEARANCE DRAWING



E. MEASUREMENT CIRCUIT



F. 可靠性试验 Reliability Test

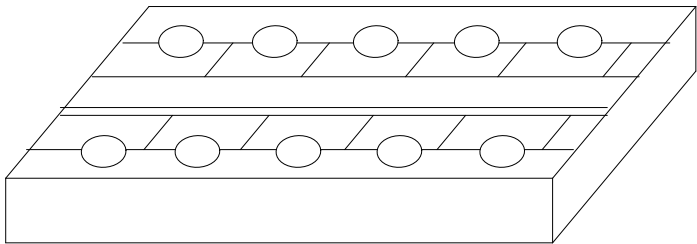
经过以下所有试验在 20℃的条件下放置 3 小时后,麦克风的灵敏度与试验前比较变化在 3dB 以内 After any following tests, the sensitivity of the microphone to be within $\pm 3\text{dB}$ of initial sensitivity after 3hours of conditioning at 20℃	
5-1 振动试验 Vibration	周波数 1/Frequency1:10Hz~55Hz 振幅/Amplitude:1.52mm 变化/Change of Frequency:1 octave/min 3 方向,各 2 小时/hours in each of 3 axes
5-2 高温试验 Dry Heat	+70 $\pm$ 5℃ for 200 hours
5-3 低温试验 Dry Cold	-20 $\pm$ 5℃ for 200 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	-20℃~60℃
6-2 储存温度范围 Storage Temperature	-40℃~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℃ 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。 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

