

# 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-2C30-66DB 通用型 (灵敏度-30~-66DB)  
描述  
DESCRIPTION :  $\phi$  4.0 x 1.5 MM 1033 3V -30~-66 dB  $\leq$ 2.2K $\Omega$  S/N:  $\geq$ 58 dBA  
客戶料號  
CUSTOMER NO. : C530103  
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-2C66DB

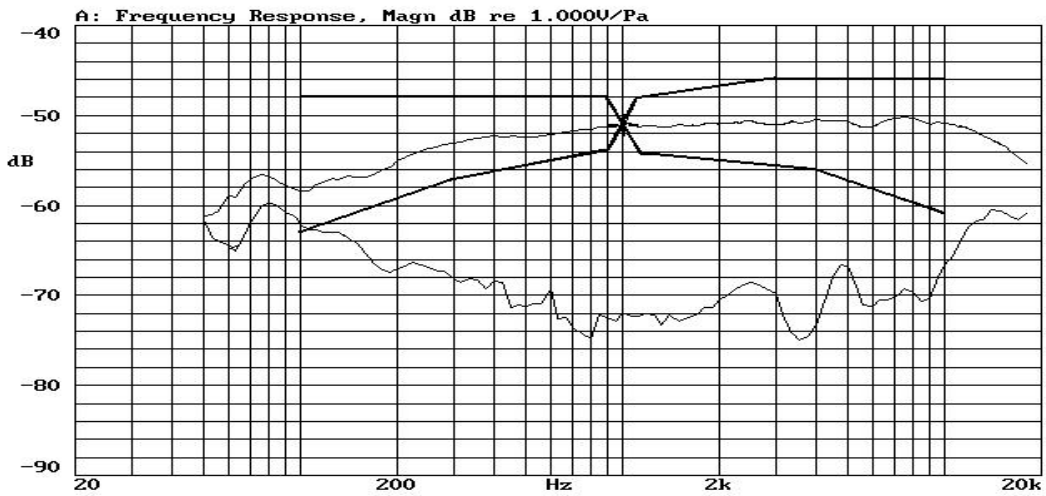
## B. SPECIFICATION

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

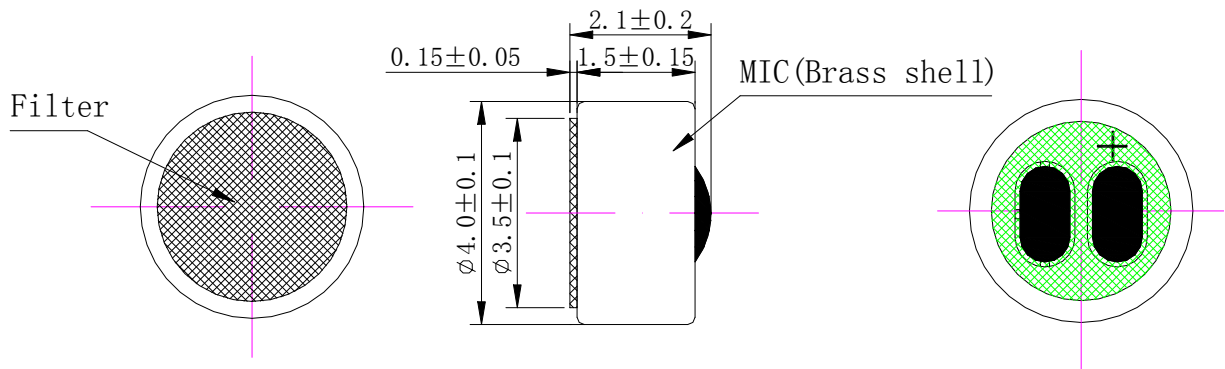
No.	Item	Symbol	Unit	Specification	Condition
1	Directivity			Unidirectional	
2	Sensitivity	<b>S</b>	dB	-66±3	f=1KHz, 1Pa 0dB=1V/Pa
3	Standard operating voltage	<b>Vs</b>	V	3.0	
4	Output impedance	<b>Zout</b>	K $\Omega$	$\leq 2.2$	f=1KHz, 1Pa
5	Frequency		Hz	20-16000	
6	Max operating voltage		V .	10	
7	Sensitivity reduction	$\Delta S-Vs$	dB	-3	f=1KHz, 1Pa Vs=2.0VDC to 1.5VDC
8	Max. current consumption	<b>Idss</b>	mA	$\leq 0.5$	
9	Signal to noise ration	<b>S/N</b>	dBA	$\geq 58$	f=1KHz, P in=1Pa
10	Max input sound level	<b>SPL</b>	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

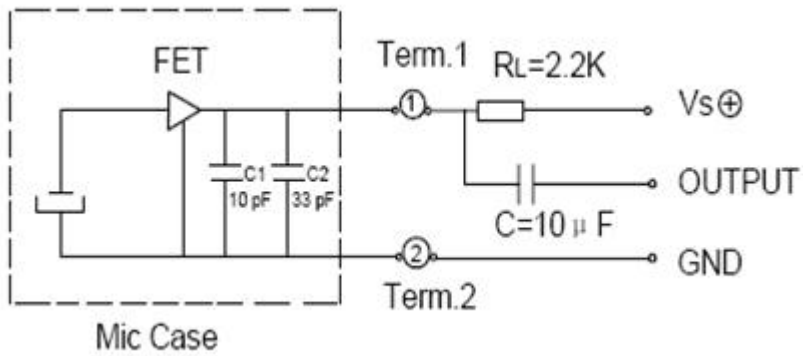
单指向型



### D. APPEARANCE DRAWING



### E. MEASUREMENT CIRCUIT



### F. 可靠性试验 Reliability Test

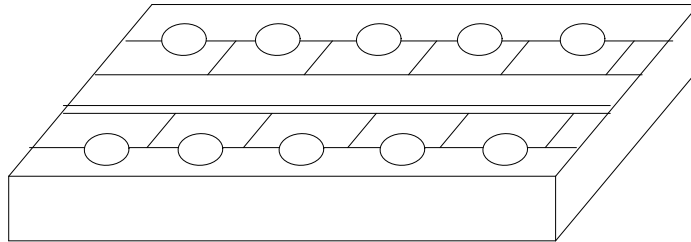
<p>经过以下所有试验在 20℃的条件下放置 3 小时后,麦克风的灵敏度与试验前比较变化在 3dB 以内</p> <p>After any following tests, the sensitivity of the microphone to be within <math>\pm 3\text{dB}</math> of initial sensitivity after 3hours of conditioning at 20℃</p>	
5-1 振动试验 Vibration	<p>周波数 1/Frequency1:10Hz~55Hz</p> <p>振幅/Amplitude:1.52mm</p> <p>变化/Change of Frequency:1 octave/min</p> <p>3 方向,各 2 小时/hours in each of 3 axes</p>
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	<p>-20℃ <math>\longleftrightarrow</math> 25℃ <math>\longleftrightarrow</math> 70℃</p> <p>(2h) (1h) (2h) (1h) (2h) <math>\times</math> 10 cycles</p>
5-6 跌落试验 Packing drop test	<p>Height:1m</p> <p>顺序:三个面各跌 10 次</p> <p>Procedure:10 times from each of 3 axes</p>
5-7 温度冲击试验 Temperature impact test	<p>-20℃ <math>\longleftrightarrow</math> 70℃</p> <p>30min 30s 30min <math>\times</math> 10 cycles</p>
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℃
<p><b>H. 焊接条件</b></p> <p><b>Soldering Condition</b></p>	
<p>7-1 焊接使用 90W 的烙铁。</p> <p>The soldering copper of a type of 90W shall be applied</p>	
<p>焊接条件</p> <p>Soldering Condition.</p>	
<p>7-2 电烙铁表面温度 320<math>\pm</math>10℃</p> <p>The temperature of the working surface of the soldering copper shall be 320<math>\pm</math>10℃</p>	
<p>7-3 焊接时把麦克风嵌入散热能力强的金属块内。</p> <p>ECM shall be soldered fixed on the metal block(heat sink)which has the higher radiation effects said heat sink</p> <p>Shall contact with of ECM.</p>	

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

