

# 規格承認書

PECIFICATION FOR APPROVAL

客戶  
CUSTOMER : 立創  
項目  
ITEM : 驻极体电容咪头 (ECM)  
型號  
TYPE : GMI4013S-2C30~66DB 通用型 (灵敏度范围-30~-66DB)  
描述  
DESCRIPTION :  $\phi 4.0 \times H1.3 \text{ mm}$  SMT 1033 -30~-66dB 2.0V  $\leq 2.2K\Omega$  S/N:  $\geq 58 \text{ dBA}$   
客戶料號  
CUSTOMER NO. :  
規格書號  
SPECIFICATION NO.:  
版本  
EDITION NO. : V1.0  
日期  
DATE : 20

## 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, GMI4013S-2C30-66DB

## 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	<b>S</b>	dB	-30~-66±3	f=1KHz, 1Pa 0dB=1V/ Pa
3	Standard operating voltage	<b>Vs</b>	V	2.0	
4	Output impedance	<b>Zout</b>	K $\Omega$	$\leq 2.2$	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=1.5VDC to 3VDC
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	110	
11	Operation temp.		$^{\circ}C$	-30 ~+70	
12	Storage temp.		$^{\circ}C$	-40 ~+80	
13	Dimension		mm	$\phi 4.0 \times H1.3$	See appearance drawing
14	Terminal			Terminal	See appearance drawing
15	Approvals			RoHs FCC	

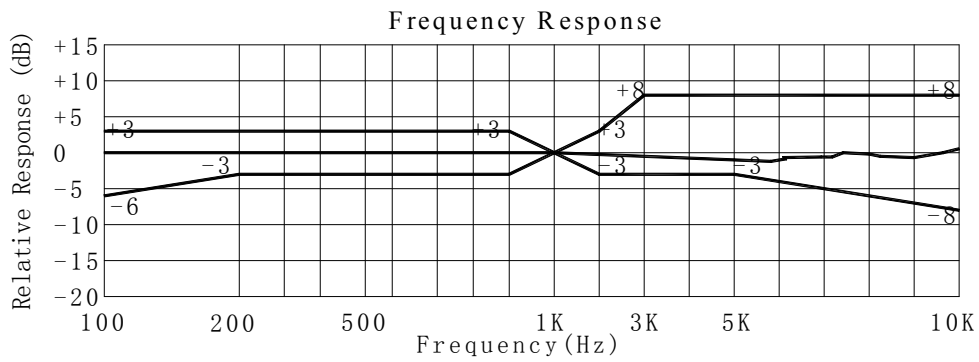
We use "Pascal(Pa)" indication of sensitivity as per the recommendation of I.E.C.(International Electro technical Commission)

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

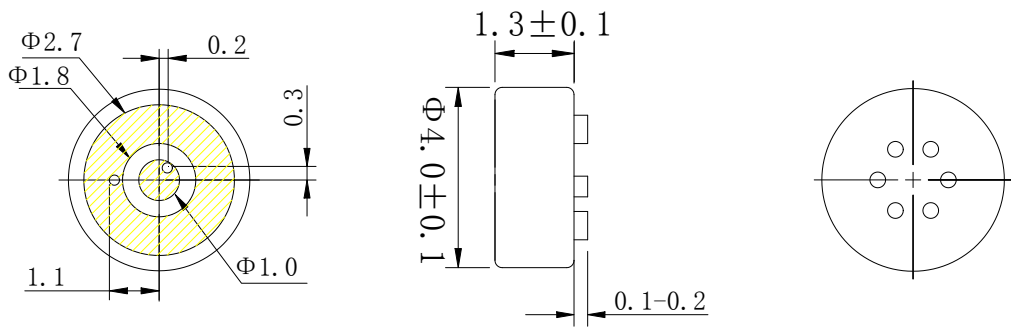
Example: -60dB(mv / ubar) = -40dB(mv / Pa)

### C. TYPICAL FREQUENCY RESPONSE CURVE

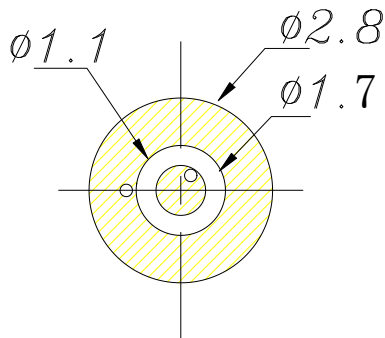
全指向性



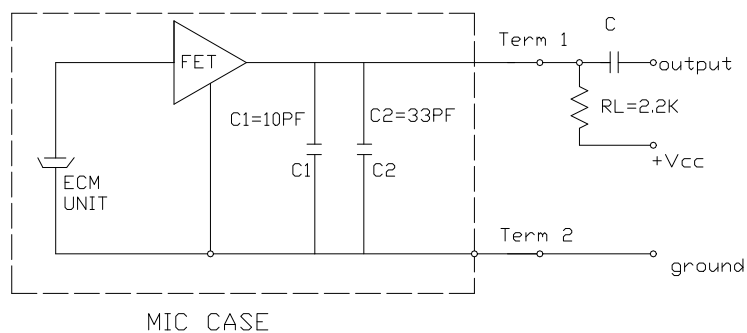
### D. APPEARANCE DRAWING



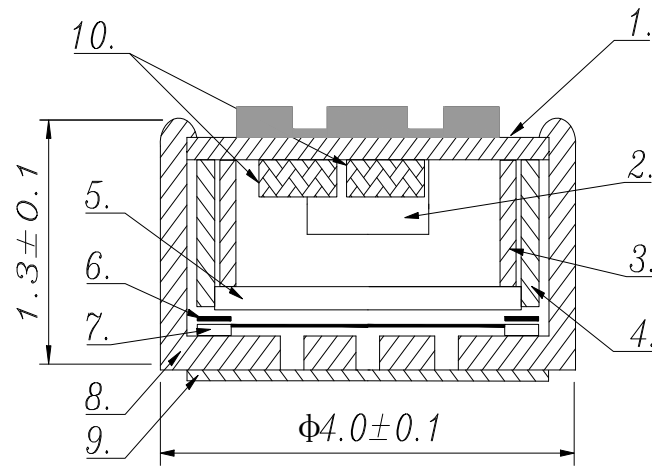
### E. Recommend drawing of PCB for SMT



### F. MEASUREMENT CIRCUIT

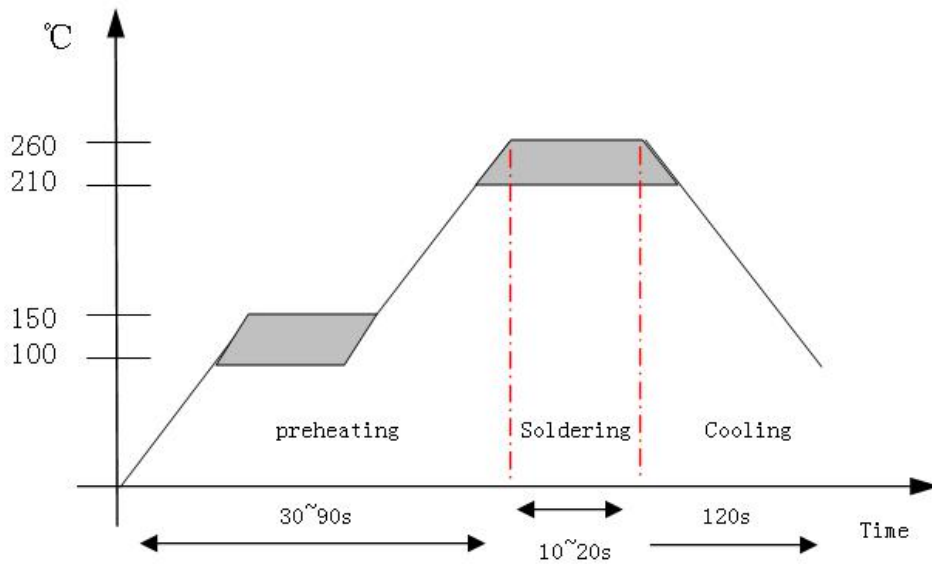


## G. Explode Drawing



1	PCB	7	背极膜
2	FET	8	外壳
3	金环	9	防水网
4	塑料壳体	10	电容
5	背极板	11	
6	垫片	12	

## H. Recommend Reflow Profile



## 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	+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	4000V(contact), 8000V(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℃~85℃

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