Specification For Approval

承 認 書

客　　戶 （Customer）			
品　　名 （Product Name）			
機　　種 （Model No.）			
客戶料號 （Customer Parts No.）			
供應商料號（Supplier Model No.）	PVM4013B-YRCQ423G		
客戶承認簽章 Customer Approval Signature	In Charge	Checked	Approval

Revision History			
Version	Date	Description	Author
V 00	2017.11.20	creation	VIVIAN

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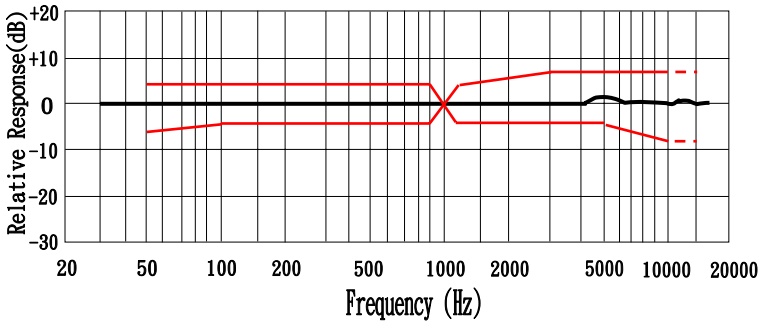
1.	Name：	Omni directional Back Electret Condenser Microphone			
2.	Model No.	PVM4013B-YRCQ423G	C1=10PF	C2=33PF	R1=330Ω

3. Electrical characteristics （Temp=20±2℃Room Humidity=65±5%）

	Parameter	Symbol	Condition	Limits			Unit
				Min.	Center	Max.	
3.1	Sensitivity	S	0dB=1V/Pa，at 1kHz	-45	-42	-39	dB
3.2	Output impedance	Z out	f=1kHz			2.2	KΩ
3.3	Current Consumption	I_{DSS}	V_{CC} =2.0V,R_L=2.2KΩ			500	μA
3.4	Signal to Noise Ratio	S/N	at 1kHz S.P.L=1Pa (A-Weighted Curve)	58			dB
3.5	Decreasing Voltage	△S	V_{CC}=3.0V to2.0V			-3	dB
3.6	Operating Voltage			1.0		10	V
3.7	Maximum input S.P.L					110	dB
3.8	Typical Frequency Response Curve						

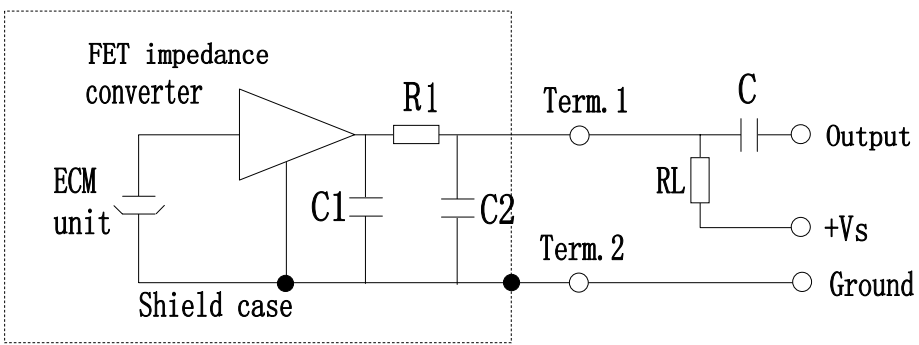
Typical Frequency Response Curve



Microphone Response Tolerance Window

Frequency(Hz)	Lower Limit(dB)	Upper Limit(dB)
50	-6	+3
100	-3	+3
800	-3	+3
1000	0	0
1200	-3	+3
3000	-3	+8
5000	-3	+8
10000	-8	+8

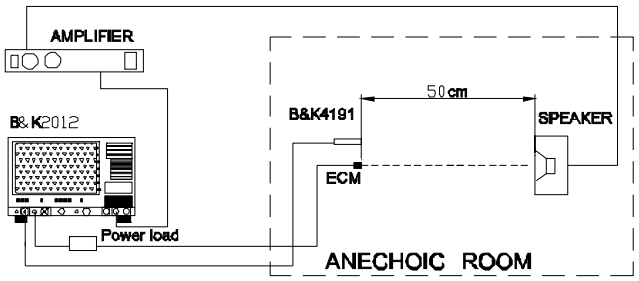
3.9 Measurement Circuit



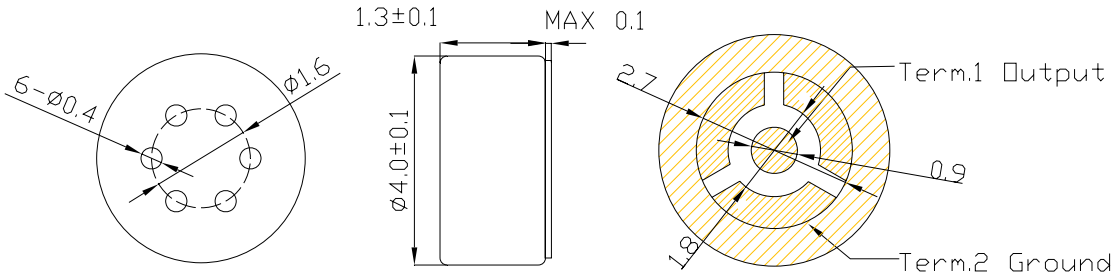
R_L=2.2KΩ
Vs =3.0V
C1=10PF
C2=33PF
R1=330Ω
C=1μF

4. Test Setup Drawing

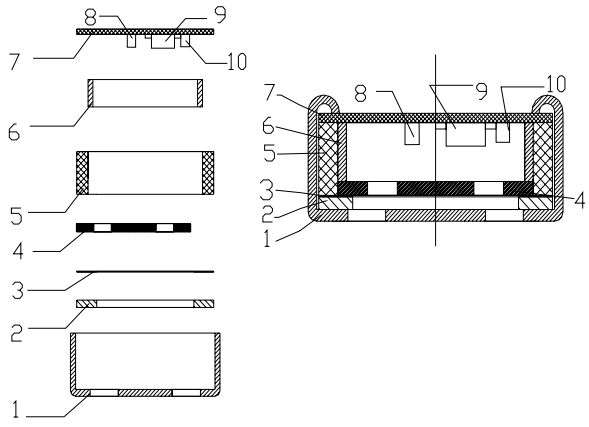
L=50CM



5. Appearance And Dimension **Unit：mm**



6. Drawing



No.	Name	material	QTY	Remark
10	RES		1	330Ω
9	FET		1	
8	Chip Capacitor		1	10pF+33pF
7	PCB	FR4	1	
6	Copper ring		1	
5	Chamber		1	
4	Electret Plate		1	
3	Spacer		1	
2	Diaphragm		1	
1	Case		1	

7. Temperature Conditions

Storage Temperature Range	Operation Temperature Range
-40℃ ~ +85℃	-40℃ ~ +85℃

Note: Store in electronic warehouse.

8. Terminal Mechanical Strength

Terminal should be no interference in operation after pulled the terminal with 1kg for 1 minute.

9. Reliability Test

After each of following test, the sensitivity of the microphone should be within ±3dB of initial sensitivity after 3hours of conditioning at 20℃.

1. Vibration Test

   Frequency : 10Hz~55Hz

   Amplitude : 1.52mm

   Change of Frequency : 1 octave/min

   2 hours in each of axes

2. High Temperature Test

   +85℃ for 240 hours.

3. Low Temperature Test

   –40℃ for 240 hours.

4. Humidity Test

   90%～95%RH,+60℃ for 240 hours.

5. Thermal shocking test

   –40°C, 30 minutes ↔ +80°C, 30 minutes, repeated 32 cycles → room temperature, 3 hours.

6. Temperature Cycles

   -40℃ ⟷ +20℃ ⟷ +85℃ ⟷ +20℃ ⟷ -40℃

   (2h) (0.5h) (2h) (0.1h) (2h) (0.5h) (2h) (0.5h) (2h) for 5 cycles.

7. Packing Drop Test

   Height：1.5m Procedure: 5 times from each of axes

8. Electrostatic discharge

   Tested to IEC61000-4-2 level 3：

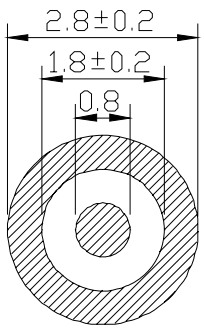
   a) Contact discharge

   The microphone shall operate normally after 10 discharges to is 6KV DC and the discharge network is 150pF and 330Ω.

   b) Air discharge

The microphone shall operate normally after 10 discharges to is 8KV DC and the discharge network is 150pF and 330Ω

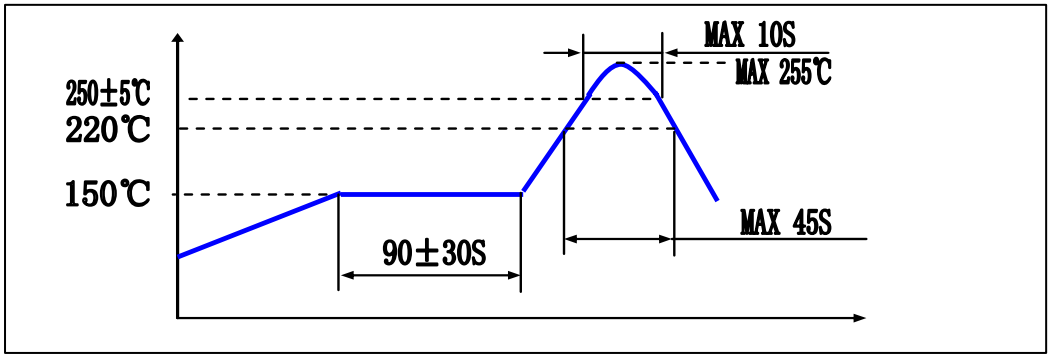
10. Recommend assembly weld plate



11. Reflow Process Condition

The soldering profile depends on various parameters necessitating a set up for each application.The data here is given only for guidance on solder re-flow. There are four zones:

1. Preheat Zone: This zone brings the temperature at a controlled rate, typically 1~2.5℃/s.
2. Equilibrium Zone: This zone brings the board to be a uniform temperature and also activates the flux. The duration in this zone (typically 2~3 minutes) will need to be adjusted to optimize the out gassing of the flux.
3. Re-flow Zone: The peak temperature should be high enough to achieve good wetting but not so high as to cause component discoloration or damage (255℃ for maximum 10 seconds).
   Excessive soldering time can lead to inter-metallic growth which can result in a brittle joint.
4. Cooling Zone: The cooling rate should be fast, to keep the solder grains small which will give a longer lasting joint. Typically will be 2~5℃/s.
5. Sensitivity change should within ±3dB after re-flow process and at room temperature for 30 minutes at least.



12.	Packing Introduction	Packing chart

PACKING INTRODUCTION

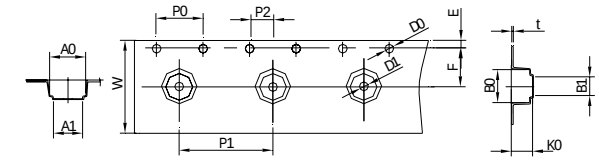
1. 1000PCS/ DELIVERY PLATE
2. 1000PCS/ AVOID STATIC SPONGE
3. 3000PCS/ MID PACKET
4. 24000PCS/ PAPER CASE

QUANTITY INTRODUCTION

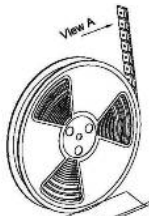
1. 1PC=0.1g
2. NET WEIGHT：2.4kg
3. GROSS WEIGHT：6.0kg

LABEL STIPULATION

CONTENTS SHOULD BE SEEN CLEAR.



ITEM	W	A0	B0	D0	F	E	K0	P0	P1	P2	t
DIM	12	4.2	4.2	1.5	5.50	1.75	1.70	4.0	8.0	2.0	0.25
TOLE	±0.30	±0.10	±0.10	±0.10	±0.10	±0.1	±0.10	±0.1	±0.1	±0.1	±0.05



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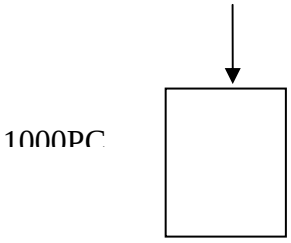

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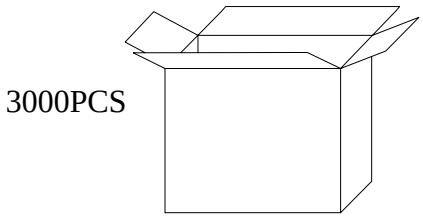

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