OBO Pro.2	SPECIFICATIONS	MODEL NO OBO-M41EC-2B-012
	PART NAME ELECTRET CONDENSER MICROPHONE	SHEET 1 OF 9

ALTERNATION HISTORY

Marking	Date	ECN NO.	REV.	Description	Page	PREPARE BY	APPROVE BY
——	NOV,17,2009	———	A	New Document	9		Josh

REV.	DATE	PREPARED BY	CHECKED BY	APPROVED BY
A	NOV,17,2009			11/18

MODEL NO : OBO-M41EC-2B-012

Features:Conformity RoHS Directive(2002/95/EC) Requests.

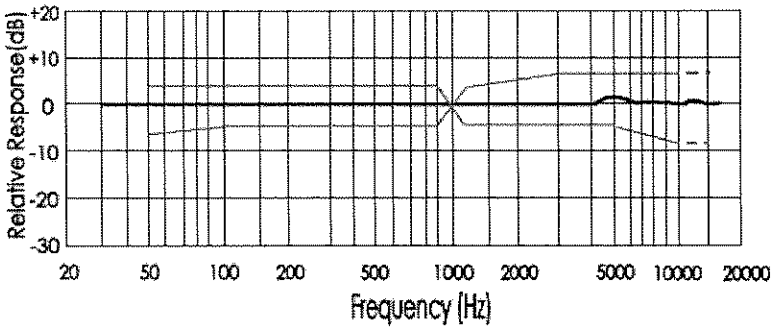
1. ELECTRICAL CHARACTERISTICS

Test Condition:(Vs=2.0 V,RL=2.2KΩ)

Directivity : Omnidirectional SMD Electret Condenser Microphone							
No	Parameter	Symbol	Condition	Limit			Unit
				Min	Center	Max	
1.1	Sensitivity	S	F=1KHz,S.P.L.=1Pa 0dB=1V/Pa	-45	-42	-39	dB
1.2	Output Impedance	Zout	F=1KHz			2.2	KΩ
1.3	Current Consumption	IDss	VS=2.0V, L=2.2KΩ			500	μA
1.4	Signal to Noise Ratio	S/N	S:(F=1KHz,S.P.L=1Pa) N:(A-Weighted Curve)	58			dB
1.5	Decreasing Voltage	△S-VS	VS=2.0V to 1.5V			-3	dB
1.6	Storage temp	℃	-40℃~+95℃				℃
1.7	Operating temp	℃	-40℃~+85℃				℃
1.8	Operating Voltage			1.4		5	V

1.9 Typical Frequency Response Curve Limit

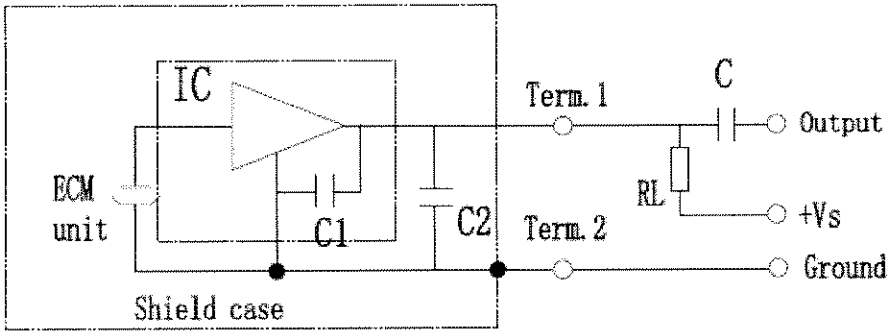
Frequency Response



Microphone Response Tolerance Window

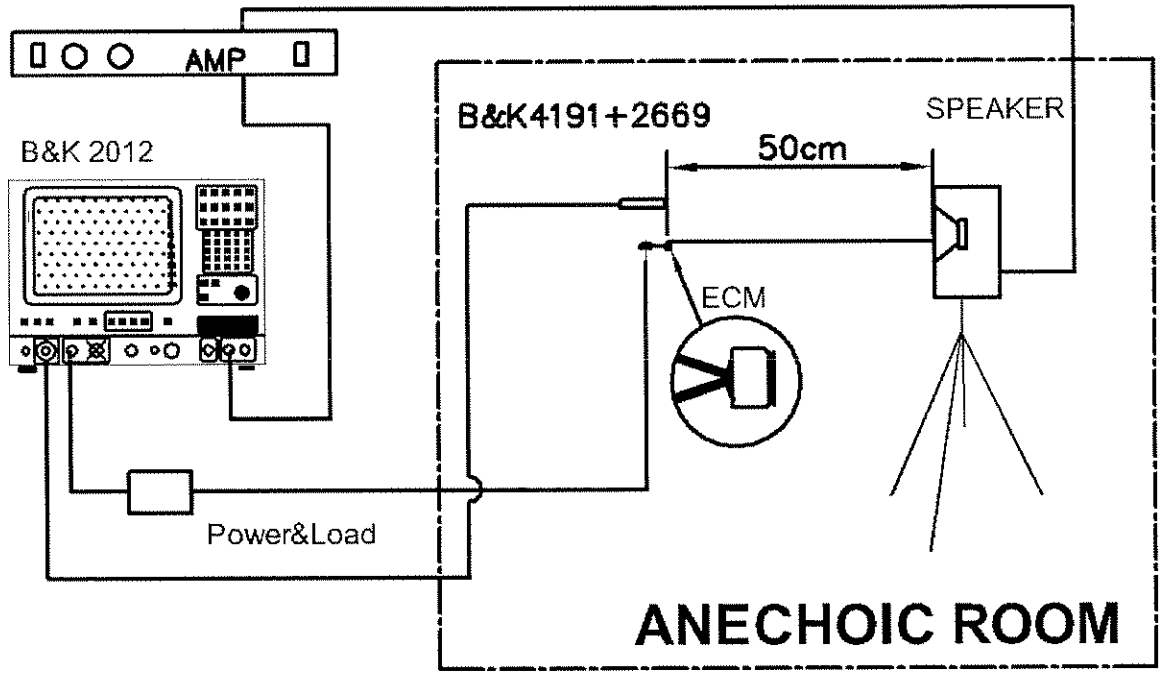
Frequency(Hz)	Lower Limit(dB)	Upper Limit(dB)
50	-6	+3
100	-3	+3
800	-3	+3
1000	0	0
1200	-3	+3
3000	-3	+8
5000	-3	+8
10000	-8	+8

2. MEASUREMENT CIRCUIT



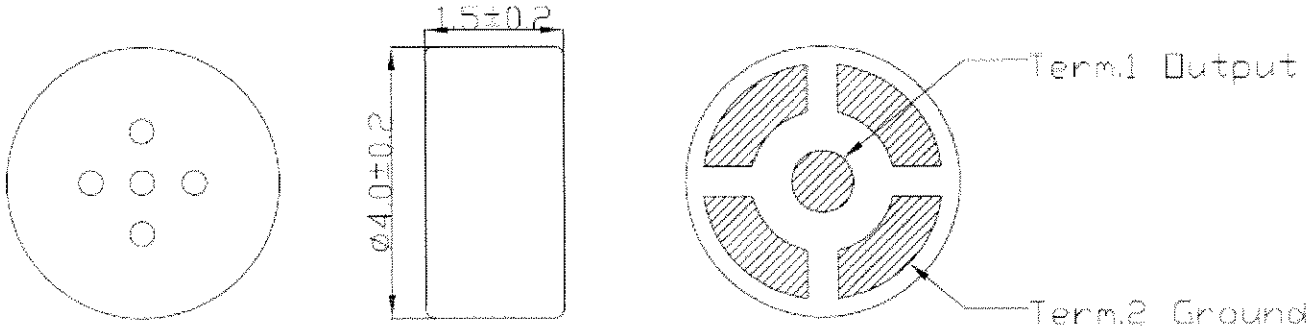
R_L=2.2K Ω
V_S =2.0V
C1=10PF
C2=33PF
C=1μF

3.MEASUREMENT METHOD

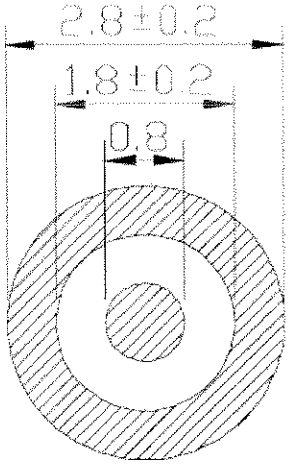


4. APPEARANCE DRAWING

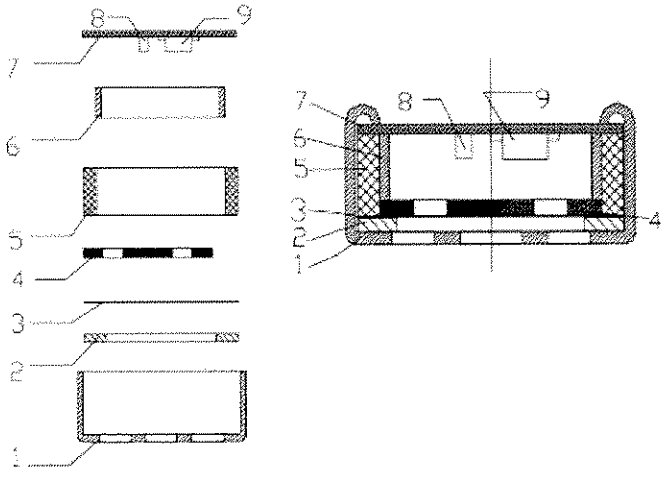
Unit:mm



5. RECOMMEND ASSEMBLY WELD PLATE



6. DRAWING



No.	Name	material	QTY	Remark
9	IC	Contains 10PF capacitor	1	
8	CHIP CAPACITOR	33PF	1	0201
7	P.C.B		1	FR-4
6	Copper ring	Copper tube	1	
5	HOUSPING CHAMBER	Gather formaldehyde	1	
4	ELECTRET BACK	Copper blank	1	
3	SPACER	Mylar	1	
2	POLARIZED DIAPHRAGM	DUPONT	1	
1	CASE	Copper	1	

7. TEMPERATURE CONDITIONS

7.1 Operating Temperature Range: -40℃ ~ +85℃

7.2 Storage Temperature Range: -40℃ ~ +95℃

8. RELIABILITY TEST

Vibration Test	The part shall be measured after being applied vibration of amplitude of 1.52mm with 10to 55hz band of vibration frequency to each of 3per-pendicular directions for 2hours.
Drop Test	The microphone unit without packaged must be subjected to each 3one time from 1 drops at 3 axises,the height of 1 meter to 20 mm thick wooden board.
Temperature	(a) After exposure at +70℃ for 72 hours, sensitivity to be within ±3dB from initial sensitivity. (b) After exposure at -25℃ for 72 hours, sensitivity to be within ±3dB from initial sensitivity. (The measurement to be done after 6 hours of conditioning at 25℃)
Humidity Test	After exposure at +40℃ and 90%~95% relative humidity for 240hours. sensitivity to be within ±3dB from initial sensitivity. (The measurement to be done after 6 hours of conditioning at 25℃)
Temperature Cycle Test	After exposure at +70℃ for 1 hr, from +70℃ to +25℃ for 0.5 hr ,at +25℃ for 1 hr, from +25℃ to-20 ℃ for 0.5 hr ,at -20℃ for 1 hr, from -20℃ to +25℃ for 0.5 hr , after 10 cycles , sensitvity to be within ±3dB from initial sensitivity. (The measurement to be done after 6 hours of conditioning at 25℃)

TEST CONDITION.

Standard Test Condition: a)Temperature:+5~+35℃ b)Humidity:45-85% c)Pressure:860-1060mbar

Judgement Test Condition: a)Temperature:+25±5℃ b)Humidity:60-70% c)Pressure:860-1060mbar

9. CONCEPT OF UNIT

The difference between concept of unit "Pascal" and the one of unit can be explained as follows.

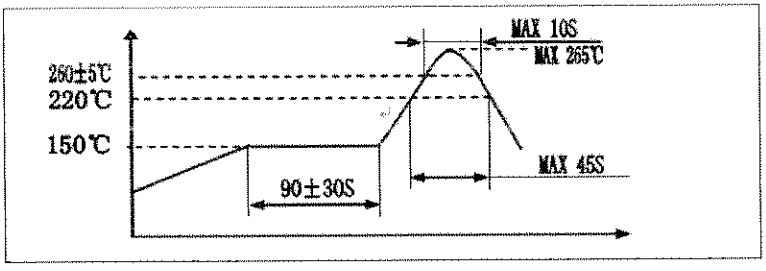
in calibrating the sensitivity of ECMS. the sensitivity is manifested differently according as the unitis "Pascal" or " μbar". That is the sensitivity will be increased by 20dB in the usage of unit "Pascal".

Example : -62dB(0dB=1V/μbar)=-42dB(0dB=1V/Pa)

10. 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 (265℃ 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.



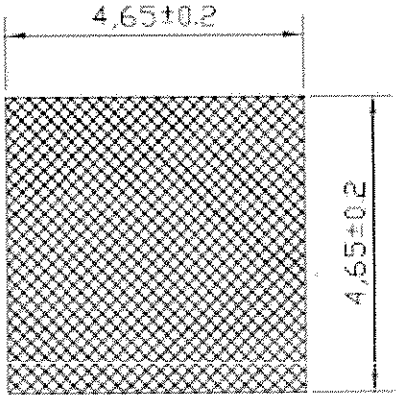
11. Name Explanation

NAME	EXPLANATION
O	Omni-direction Mic
B	Back Electret
40	D=4.0mm
15	T=1.5mm
2	Pcb version No.2
-	Dash
423	Sensitivity –42±3dB
G	Test Condition 2.2KΩ／2.0V
-	Dash
S03	Solderless
C01	Capacitance: 10 PF +33PF
-	Dash
FD	Rubber :JT-142
-	Dash
0	No especial require

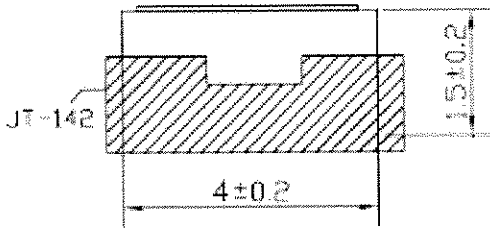
12. REFLOW PROCESS CONDITION

12.1 Glue shell outside drawing

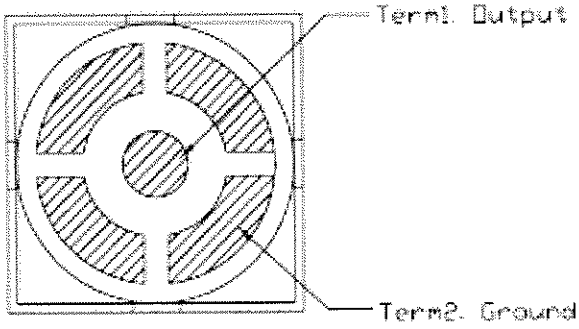
TOP VIEW



SIDE VIEW



BOTTOM VIEW

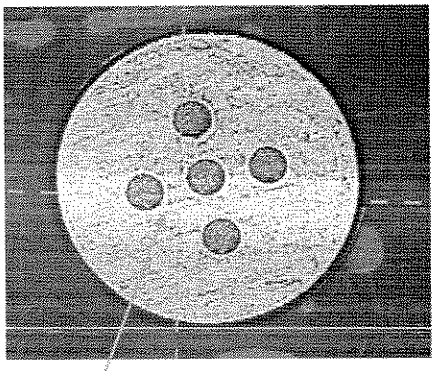


12.2 SMD MIC turmover proves with the glue shell

(It is demonstrated that the aircraft type of graphic presentation is only supported)

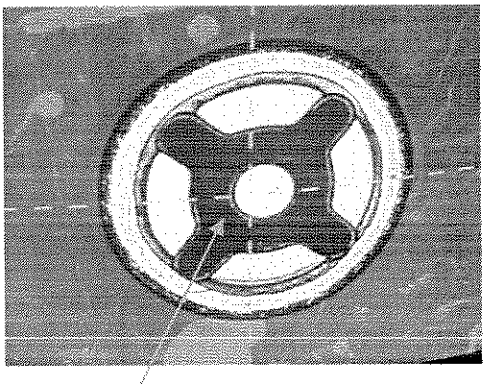
1)Have not added the glue shell state ---- Do not propose using

When not adding the black glue shell , suck the mouth and suck MIC and receive the hole place of the sound directly, it is very apt to damage the diaphragm.



In front of MIC

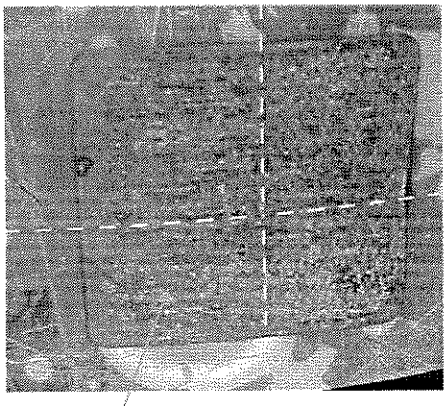
(suck the mouth and draw the surface directly)



MIC the back

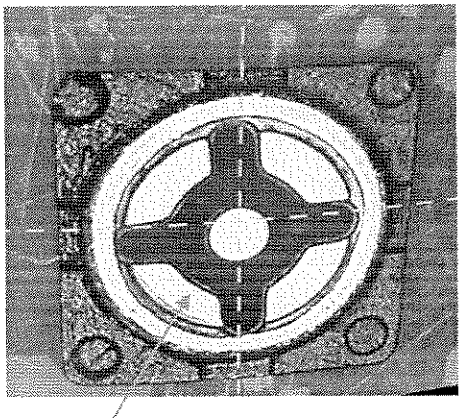
2)Add the glue shell state ---- Adopt the way now

After increasing the black glue shell , suck the mouth and suck the glue shell directly , has not sucked the diaphragm , protect MIC like this.



In front of MIC

Front after " MIC and glue shell are assembled "
(suck the mouth and suck the glue shell directly,
have not sucked the diaphragm , protect MIC like this)



MIC the back

12.PACKAGING

EQUIPMENT

a) ADHENSIVE TAPE MACHINE
b) AUTO PACKER

PACKING INTRODUCTION

a) 1000PCS/ DELIVERY PLATE
b) 3000PCS/ MID PACKET
c) 24000PCS/ PAPER CASE

QUANTITY INTRODUCTION

a) 1PC=0.1g
b) NET WEIGHT：2.4kg
c) GROSS WEIGHT：5.4kg

LABEL STIPULATION

a) LABELEDEVERY BOXES (SEE THE CHART)
b) DIMENSIONS SHOULD BE SEEN EASILY.