APPROVAL SHEET
FOR
MICROPHONE

CUSTOMER	上海比德
MODEL	ACMG4015-02P14-423
DIMENSIONAL	Φ4.0×1.5
SENSITIVITY	-42±3dB

CUSTOMER	APPROVER	CHECKER

DATE	2007-8-27
PREP	Hetieshan
CHKD	Fangtao

PRODUCT SPECIFICATIONS

TYPE: Back Electret Condenser Microphone

Number: ACMG4015-02P14-423

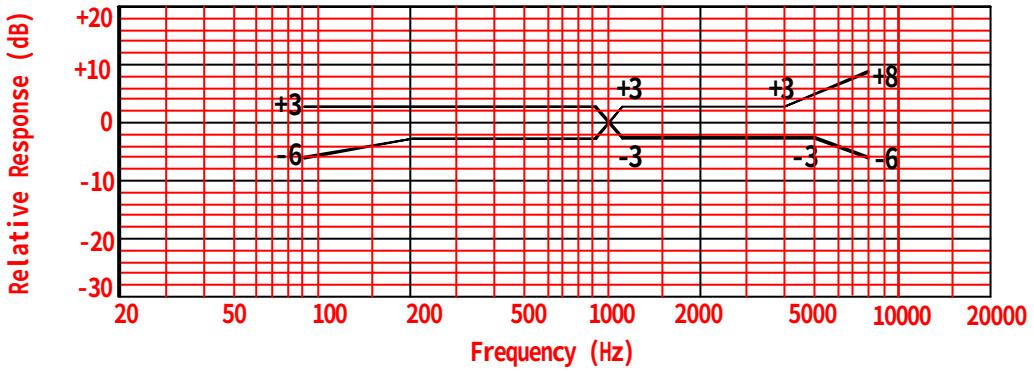
The Microphone including all material and solder joints must be free from Lead and other restricted substances as per customer requirement.

1.Electrical Characteristics

Test Condition (Vs=2.0V RL=2.2KΩ Ta=20℃ R.H.=65%)

Item	Symbol	Test Conditions	Minimum	Standard	Maximum	Unit
Sensitivity	S	Pin=1Pa , f=1kHz	-45	-42	-39	dB
Output Impedance	Zout	Pin=1Pa , f=1kHz			2.2	kΩ
Directivity		Omnidirectional				
Current consumption	I				500	μA
S/N ratio (A)	S/N (A)	Pin=1Pa , f=1kHz(A Curve)	58			dB
Decreasing Voltage Characteristic	△S	Pin=1Pa , f=1kHz Vs=2.0~1.5V			-3	dB
Operating Voltage		D.C	1	2	10	V
Maximum Input Sound Pressure Level	S.P.L				110	dB

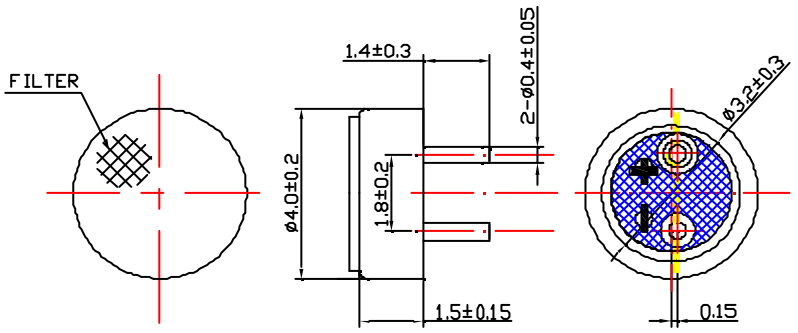
Typical Frequency Response Curve



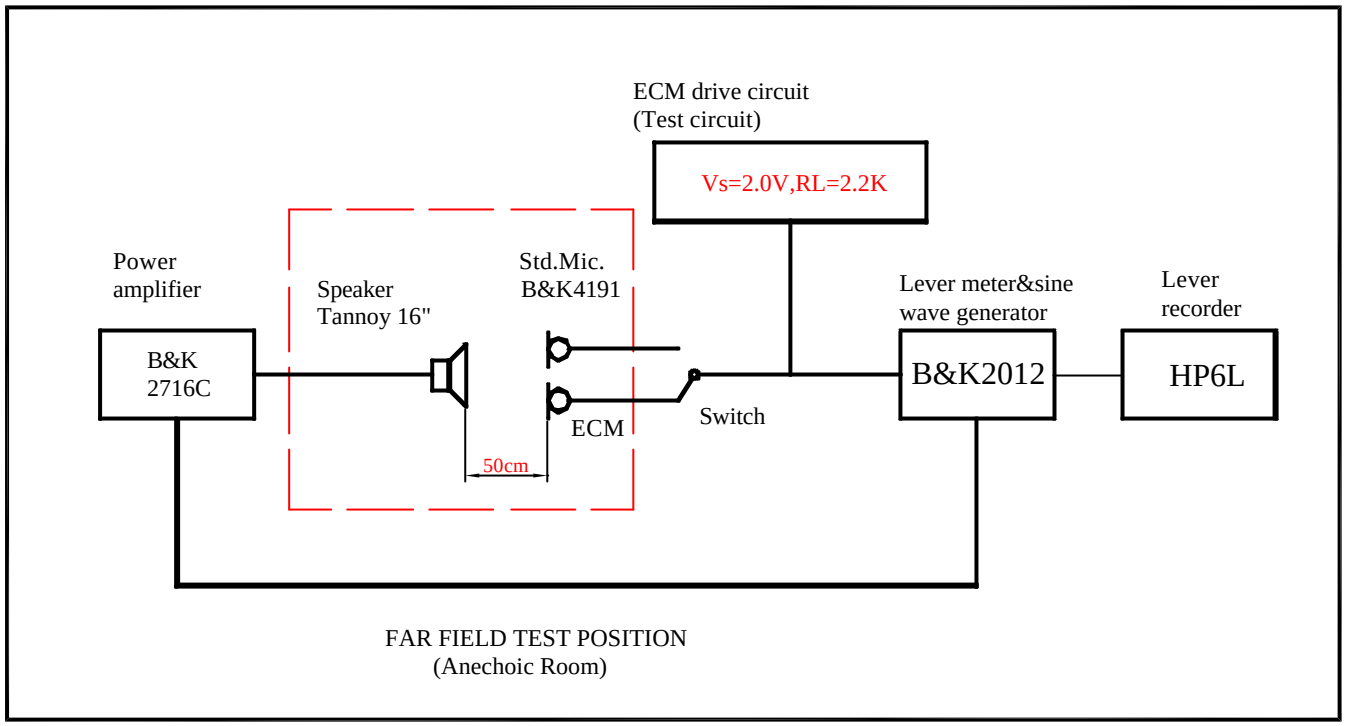
Frequency(Hz)	100	200	900	1000	1200	2000	4000	5000	8000
Upper Limit(dB)	3	3	3	0	3	3	3	5	8
Lower Limit(dB)	-6	-3	-3	0	-3	-3	-3	-3	-6

2. Appearance Drawing

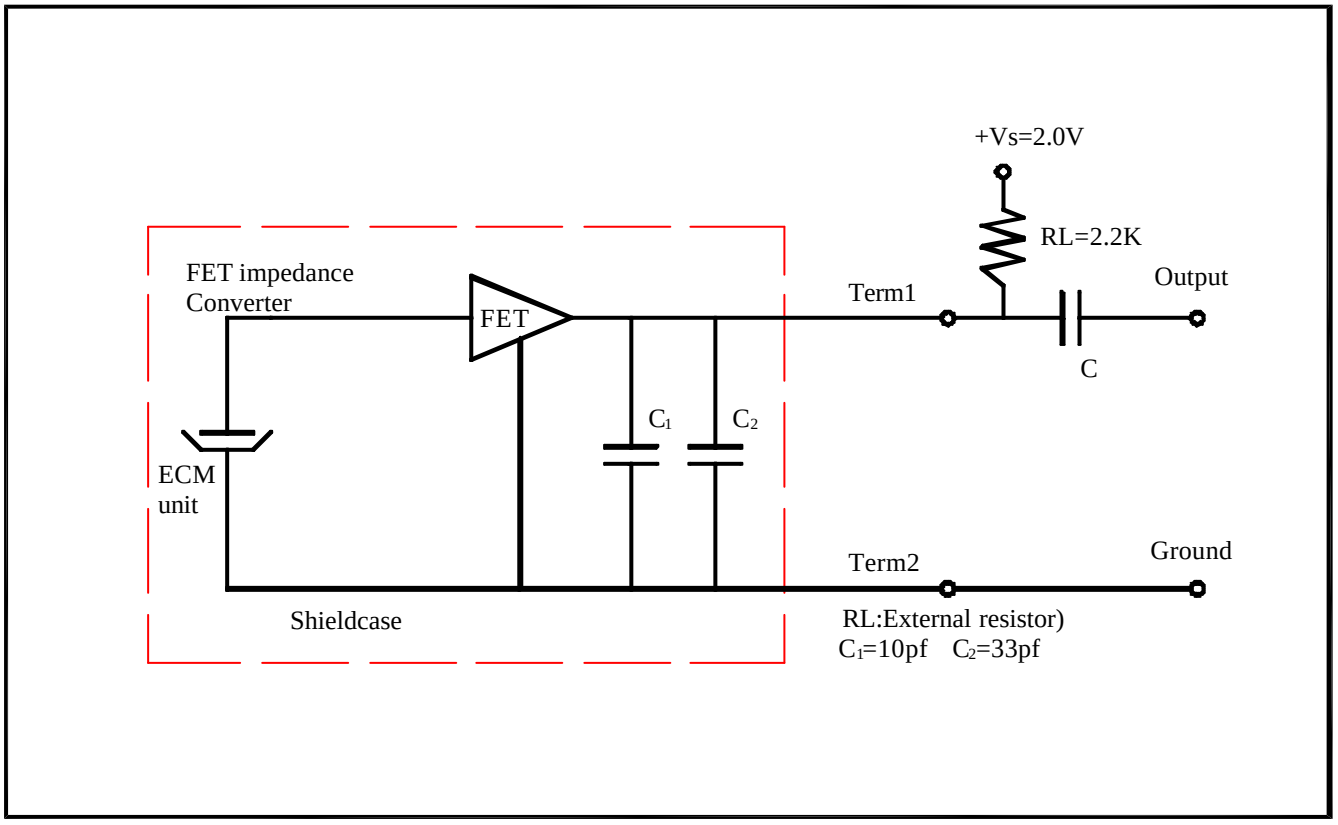
Unit:mm



3. Standard test fixtures



4. Standard test circuit.



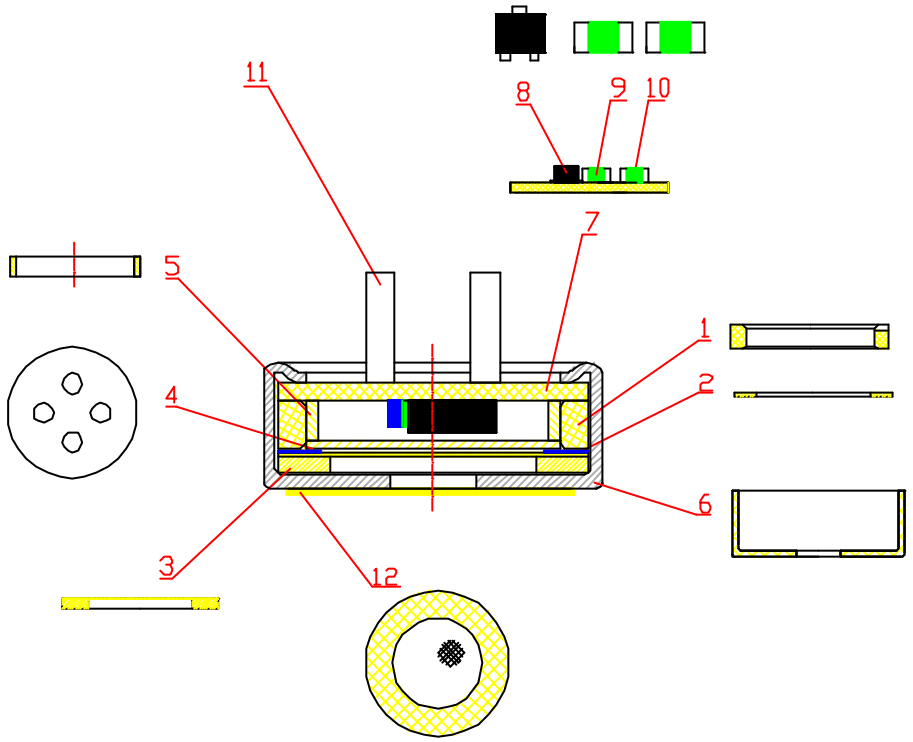
5. Mechanical Characteristics

Dimension	See appearance drawing
Weight	Less than 0.5 g
Operation Temperature	-30℃ to +70℃
Storage Temperature	-40℃ to +85℃

6. Reliability Tests

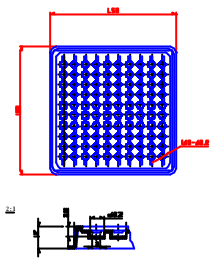
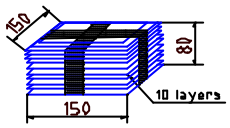
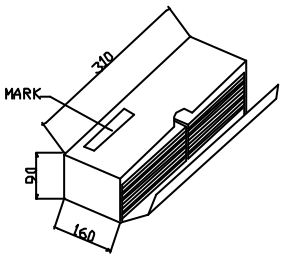
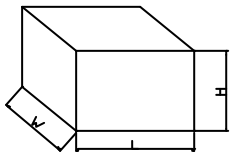
Vibration Test	Vibration cycle of 10 to 50 Hz/min, for 2 hours, full Amplitude 1.52mm, in 3 directions. The sensitivity change within ±3dB relative to initial value.
Drop Test	To be no interference in operation after drop from 1.5 Meter height onto a concrete surface，each time at three direction in state of packing, The sensitivity change within ±3dB relative to initial value.
Operating Life	Subject samples to +70℃ for 1000 hours under full rated power.
High Temperature Test	The Microphone exposure at 70℃ for 200 hours, then measuring the sensitivity after depositing 2 hours of conditioning at room temperature. The sensitivity change within ±3dB relative to initial value.
Low Temperature Test	The Microphone exposure at -30℃ for 200 hours, then measuring the sensitivity after depositing 2 hours of conditioning at room temperature. The sensitivity change within ±3dB relative to initial value.
Static Humidity	Condition part at +25℃ for 1 hour. Then expose to +70℃ with 95% relative humidity for 240 hours. Finally allow to dry at room ambient for 4 hours before taking final measurements, The sensitivity change within ±3dB relative to initial value.
Temperature Shock	32 cycles of the following: 30 minutes at -40℃ followed by 30 minutes at 85℃ with a 20 second maximum transition time between temperature extremes, The sensitivity change within ±3dB relative to initial value.
Lead Pull Test (If applicable)	Subject test leads to an increasing pull force (between the wire or lead and the transducer) until destruction occurs. Record the point of destruction. The minimum pull strength is 1Kg (2.2 pounds).
Solder Heat Resistance (If applicable)	Flux the terminations using a RMA solder flux ,then manually immerse the terminations into a 260±5℃（310±5℃ for lead free product) solder pot for 2 seconds.

7. Microphone Material



12	Cloth	1	Cloth
11	Pin	2	1.4mm
10	Chip Capacitor	1	0201
9	Chip Capacitor	1	0201
8	FET	1	FET
7	PCB	1	FR-4
6	Case	1	Al
5	Cooper Ring	1	Gold Plated
4	Back Plate	1	ALSET/PC-CNZ
3	D/P	1	PET
2	Insulation Spacer	1	Mylar
1	Base	1	Plastic
No.	Name	Quantity	Material

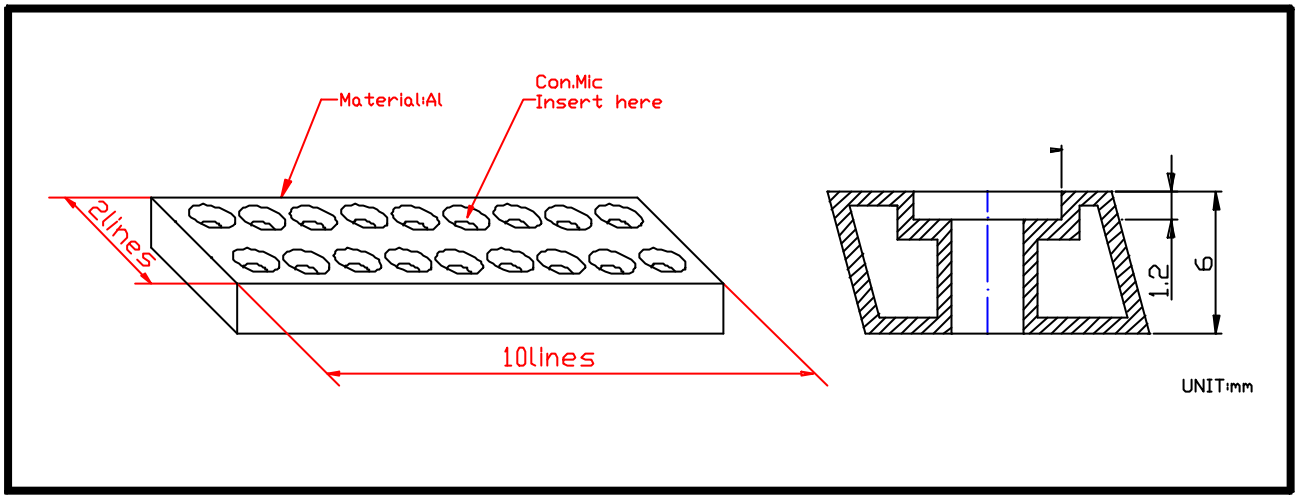
8. Packing Specification

	Drawing	Qty (pcs.)	Size(mm) L×W×H	Material	Marking
Packing	Lot No.:date/month/year e.g.(26JUN01) 	100	150× 150× 12	Anti-static plastic	ACMG4015-02P14-423 QTY:100PCS
		1,000 (10× 100)	150× 150× 80	Anti-static plastic	ACMG4015-02P14-423 QTY:1,000PCS
Middle		2,000 (2× 1,000)	310× 160× 90	Paper	ACMG4015-02P14-423 QTY:2,000PCS
Outer Box		18,000 (9× 2,000)	500× 330× 300	paper	ACMG4015-02P14-423 QTY:18,000PCS

9. REGARDING THE SOLDERING OPERATION

Every ECM contains a FET with microphone body.
This FET is easy to damageable from excessive heat and electrical shock. Proper attention for the soldering work is required same as followings.

-Recommend using ceramic soldering iron and apply temperature lower310℃
-Soldering should be accomplished within 2seconds at each terminal so as not to be overheated.
-Do not make a cavity at the surface of lead lump on the PCB.wiring board. (Opened cavity will influence to the sensitivity of ECM)
-Optimal design for heat sink pad is same as below.



10.Require PWB Pattern