Microphone Cartridge

LOT number _____

Specification of Electret Condenser Microphone

I E A Model B4010AL443-43

CUST. Model _____

TO :

I E A		CUSTOMER APPROVAL
DESIGN	Worden Oct 18 2005	
STANDARD	Merry Oct 18 2005	
CHKD	Bart Oct 18 2005	
APVD	Herbert Oct 18 2005	

Remark: Please sign and fax the specification to IEA after you confirm the sample and specification ,or IEA can not take on production without your confirmation.

WEIFANG IEA ELECTRO-ACOUSTIC CO.,LTD.

潍坊怡力达电声有限公司

ISO9001:2000

ISO14001:1996

1.1 Security warning

1.2 Publication history

Version	Author	Date	Description
1.4	Tony,Wang	Jun,23,04	A. Increase the remark that we require to get the feedback from customer in page1. B. Increase the restricted information in page 2. C. Increase the heat shock test in page 4. D. Update "the soldering iron of the 13W" to "the constant temperature soldering iron of more than 60W" in page 5. E. Delete " normal sampling level Ⅱ" and " the value of AQL is 0.65" in page 6.

1.3 Modification Mark column：

Modified Mark	Modified QTY	Modified p/o No.	Modified position	Modifier/Date

PRODUCT SPECIFICATIONS

Type: Back Electret Condenser Microphone (RoHS Compliance)

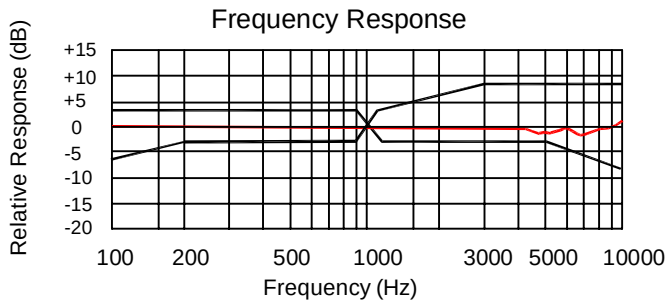
Number: B4010AL443-43

1. Electrical Characteristics

Test Condition (Vs=2.0V R_L=2.2KΩ Ta=20± 2° C R.H.=60%~70%)

Item	Symbol	Test Conditions	Min	Standard	Max	Unit
Sensitivity	S	f=1kHz, Pin=1Pa	-47	-44	-41	dB 0dB=1V/Pa
Output Impedance	Zout	f=1kHz, Pin=1Pa			2.2K	Ω
Directivity		Omnidirectional				dB
Current Consumption	I				500	μA
S/N Ratio	S/N(A)	f=1kHz, Pin=1Pa A Curve	55			dB
Decreasing Voltage Characteristic	ΔS	f=1kHz, Pin=1Pa Vs=2.0-- 1.5V			-3	dB
Max Input Sound Pressure Level	MISPL	f=1kHz, THD<2%			120	dB

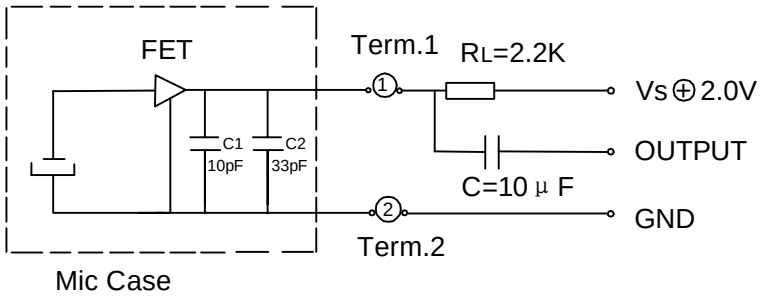
2. Frequency in Cycles Per Second &Microphone Response Tolerance Window



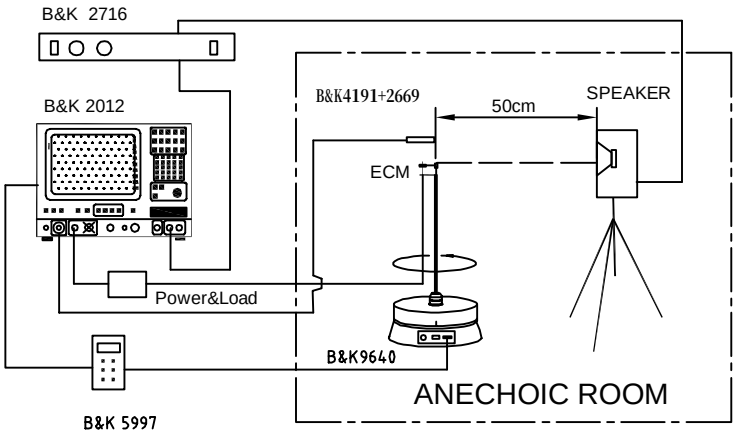
Microphone Response Tolerance Window

Frequency(Hz)	Lower Limit(dB)	Upper Limit(dB)
100	-6	+3
200	-3	+3
900	-3	+3
1000	0	0
1100	-3	+3
3000	-3	+8
5000	-3	+8
10000	-8	+8

3. Measurement Circuit



4. Test setup Drawing



5. Extreme Range

Operating voltage Range	Storage Temperature Range	Operating Temperature Range
Vs(V)	Tstg(° C)	Topr(° C)
1.1--10	-40-- +85	-30-- +70

6. Reliability Test

6.1 Vibration Test

To be no interference in operation after vibrations,10Hz to 55 Hz for 1 minute full amplitude 1.52 mm, for 2 hours at three axises in state of standard packing,sensitivity to be within ± 3dB from initial sensitivity.
(The measurement to be done after 2 hours of conditioning at 20 ° C, R.H 50%)

6.2 Drop Test

To be no interference in operation after dropped to concrete floor each one time from 1 meter height at three directions in state of Outer packing,sensitivity to be within ± 3dB from initial sensitivity.
(The measurement to be done after 2 hours of conditioning at 20 ° C, R.H 50%)

6.3 Temperature Test

a) After exposure at +85 ° C for 200 hours,sensitivity to be within ±3dB from initial sensitivity.
(The measurement to be done after 2 hours of conditioning at 20 ° C, R.H 50%)

b) after exposure at -40 ° C for 200 hours,sensitivity to be within ±3dB from initial sensitivity.
(The measurement to be done after 2 hours of conditioning at 20 ° C, R.H 50%)

6.4 Humidity Test

After exposure at +40 ° C and 90-- 95% relative humidity for 200 hours,sensitivity to be within ±3dB from initial sensitivity.
(The measurement to be done after 2 hours of conditioning at 20 ° C, R.H 50%)

6.5 Temperature Cycle Test

After exposure at -40 ° C for 30 minutes, at 20 ° C for 10 minutes, at+85 ° c for 30 minutes,at 20 ° C for 10 minutes,5 cycles,sensitivity to be within ±3dB from initial sensitivity.
(The measurement to be done after 2 hours of conditioning at 20 ° C, R.H 50%)

6.6 Soldering Heat Shock

To be no interference in operation after soldering heat shock,temperature 260 ° C± 5° C for 2± 0.5 seconds.If customer confirm to use lead-free soldering,the soldering temperature is 280° C± 10° C for 2± 0.5 seconds,sensitivity to be within ± 1dB from initial sensitivity.
(The measurement to be done after 30 minutes of conditioning at 20 ° C, R.H 50%)

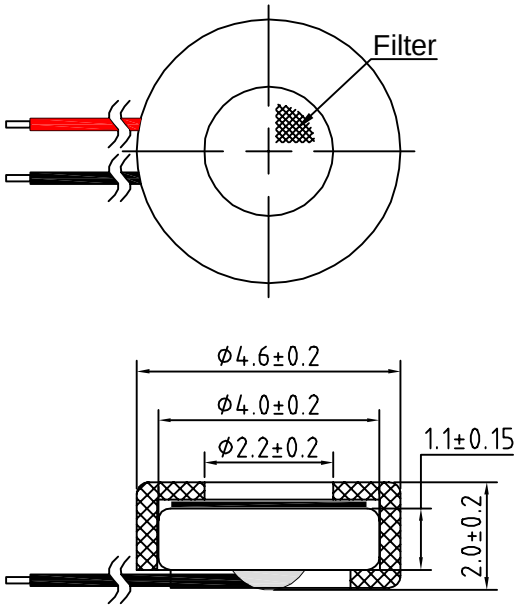
6.7 Heat Shock Test

After exposure at -40 ° C for 30 minutes, at+85 ° c for 30 minutes,200 cycles,sensitivity to be within ±3dB from initial sensitivity.
(The measurement to be done after 2 hours of conditioning at 20 ° C, R.H 50%)

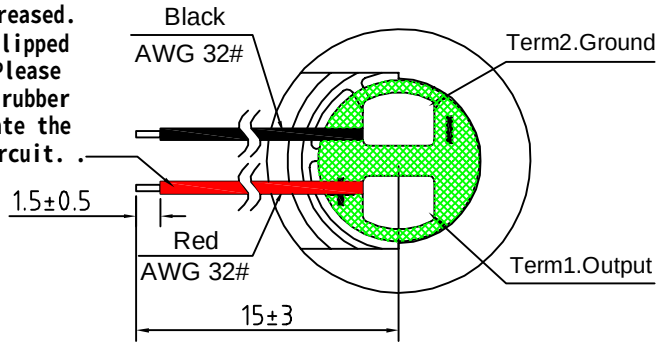
7. Mechanical Characteristics

7.1 Appearance Drawing

Unit: mm



If wire length is shorter than 20 mm, the adhesion ability between insulative rubber and core wire will be decreased. The insulative rubber is easily slipped off mic if the case occurs.Please consciously pull the insulative rubber to mic end in order to eliminate the potential problem of short-circuit. .



7.2 Weight

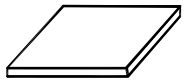
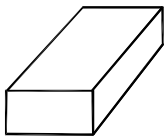
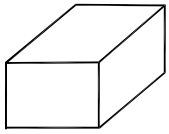
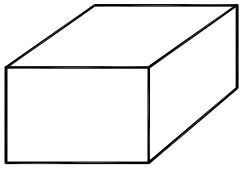
Less than 0.5g

7.3 Cautions:

a.The constant temperature soldering iron of more than 60W shall be applied.
b.The temperature of the working surface of the the soldering copper shall be below 270 ° C.
If customer confirm to use lead-free soldering,the soldering temperature is
280° C± 10° C for 2± 0.5 seconds.
c.ECM shall be soldered fixed on the metal block (heat sink)which has the higher radiation effects
Said heat sink shall contact with each of ECM.
d. The soldering time for each terminal shall be 1--2 seconds.
e. The pin hole after soldering shall be avoided.
f. ECM may easily destroyed by the static electricity, and the countermeasure for elimination the static electricity (the ground or soldering copper,for worktable and for human body)shall be executed.

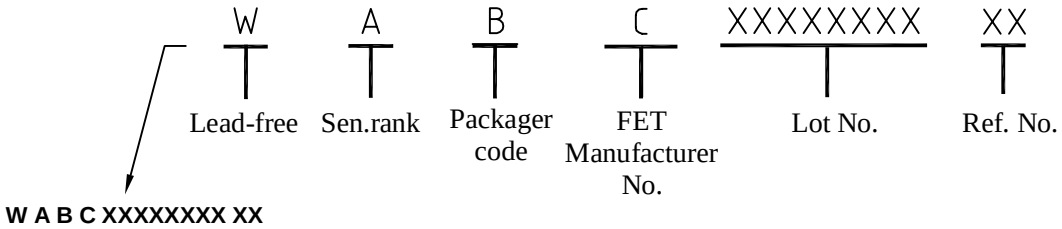
8. Packaging

8.1 Package dimension figure

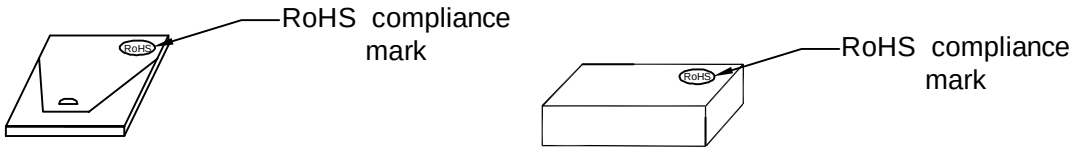
	DRAWING	QTY(PCS)	SIZE(MM)	MARKING
PACKING		100	100X100X7	AS CUSTOMER'S P.O
MIDDLE BOX		1000	206X104X40	AS CUSTOMER'S P.O
INNER BOX		6000	525X160X120	AS CUSTOMER'S P.O
OUTER BOX		12000	535X265X190	AS CUSTOMER'S P.O

8.2 Package labeling

8.2.1 The facing of a quilt labeling



8.2.2 The obverse labeling



8.2.3 The obverse labeling

According to the requirement from customer.

9. Output Inspection standard

Output inspection standard is excuted according to 《JIS-Z9015》.