

Specification of Electret Condenser Microphone

Model No.: EM9745, EM9745P

Date: 2010-7-28

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Type: Omnidirectional Foil Electret Condenser Microphone

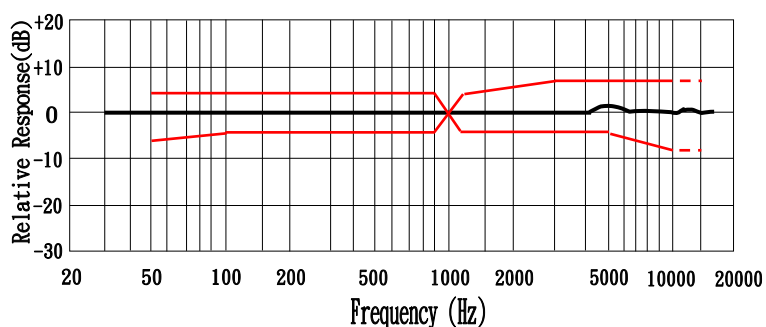
Model Number: EM9745,EM9745P

1. Electrical Characteristics (Temperature = $20\pm 2^{\circ}\text{C}$ Humidity= $65\pm 5\%$)

No	Parameter	Symbol	Condition	Limits			Unit
				Min.	Center	Max.	
1.1	Sensitivity	S	0dB=1V/Pa, at 1kHz	-48	-46	-44	dB
1.2	Output impedance	Z out	f=1kHz			2.2	K Ω
1.3	Current Consumption	I _{DSS}	V _{CC} =3.0V,R _L =2.2K Ω			500	μA
1.4	Signal to Noise Ratio	S/N	at 1kHz S.P.L=1Pa (A-Weighted Curve)	58			dB
1.5	Decreasing Voltage	Δ S	V _{CC} =3.0V to 2.0V			-3	dB
5	Operating Voltage			1.0		10	V
1.7	Maximum input S.P.L					110	dB

2. Typical Frequency Response Curve

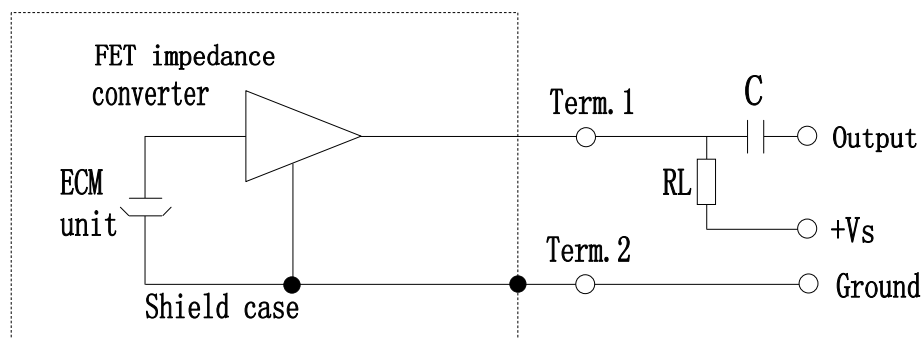
Frequency Response



Microphone Response Tolerance Window

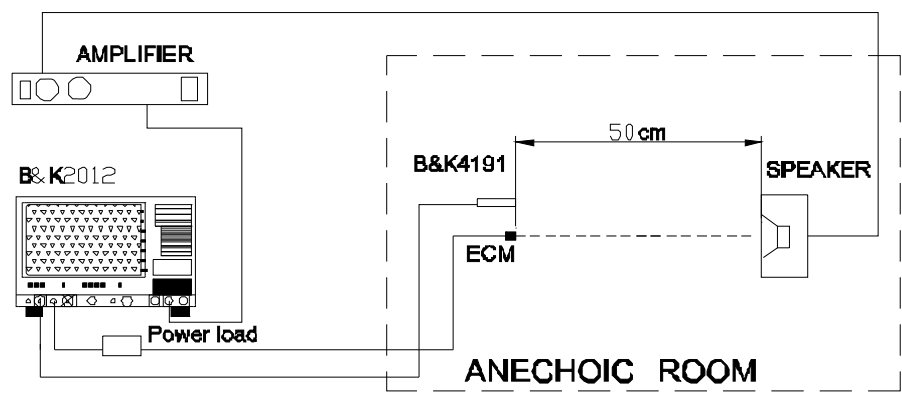
Frequency(Hz)	Lower Limit(dB)	Upper Limit(dB)
50	-6	+3
100	-3	+3
800	-3	+3
1000	0	0
1200	-3	+3
3000	-3	+8
5000	-3	+8
10000	-8	+8

3. Measurement Circuit



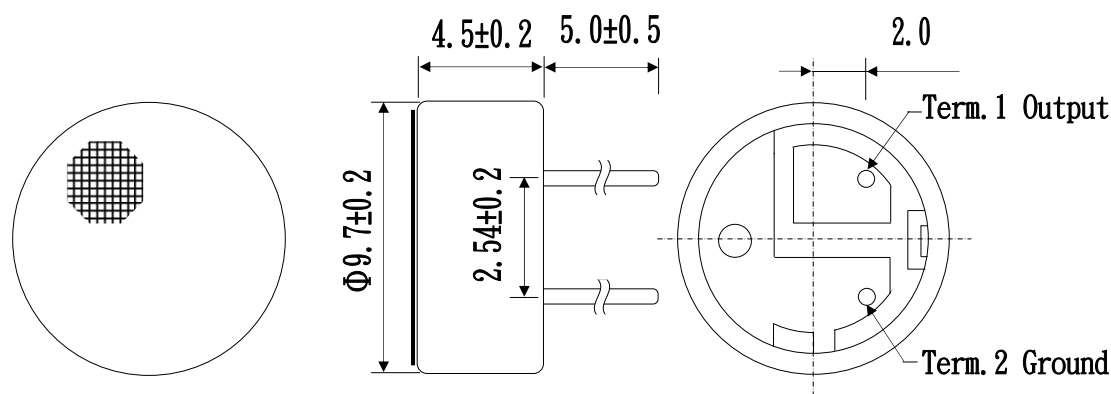
$R_L=2.2\text{K } \Omega$
$V_S=3.0\text{V}$
$C=1\mu\text{F}$

4. Measurement Setup Drawing

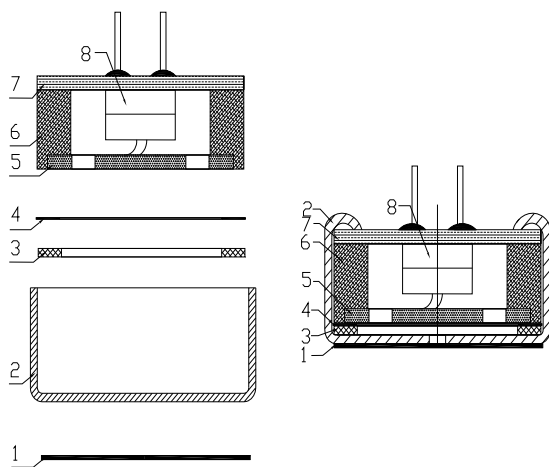


5. Appearance And Dimension

Unit: mm



6. Material And Structure



8	FET		1	
7	PCB	FR4	1	
6	Chamber		1	
5	Electret Plate		1	
4	Spacer		1	
3	Diaphragm		1	
2	Case	Al-Mg alloy	1	
1	Dustproof gauze	Non-weave cloth	1	
No.	Name	material	QTY	Remark

7. Temperature Conditions

Storage Temperature Range	Operation Temperature Range
-40℃ ~ +75℃	-20℃ ~ +60℃

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 $\pm 3\text{dB}$ 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

+70℃ for 72 hours.

3. Low Temperature Test

-20℃ for 72 hours.

4. Humidity Test

90%~95%RH, +40℃ for 240 hours.

5. Temperature Cycles

-20℃ $\longleftrightarrow$ 25℃ $\longleftrightarrow$ 70℃ $\longleftrightarrow$ -20℃
(2h) (1h) (2h) (1h) (2h) (2h) for 10 cycles.

6 Packing Drop Test

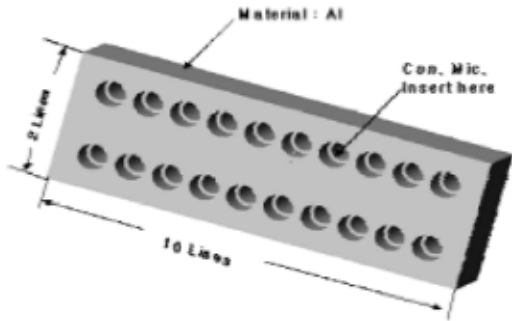
Height: 1m
Procedure: 5 times from each of axes

10. Soldering Condition

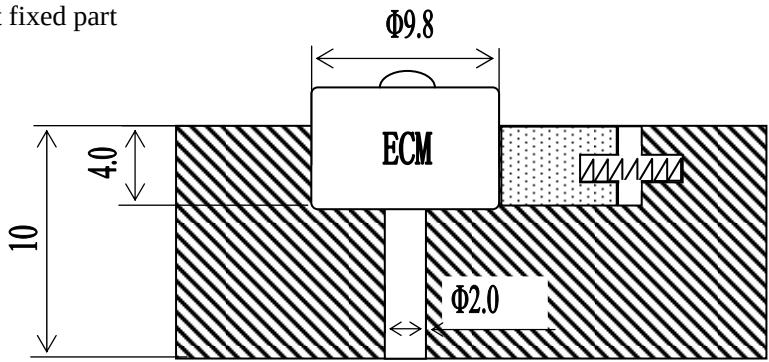
1. We suggest using anti-static welding machine which can control soldering temperature automatically.
2. Soldering temperature should be controlled under 320℃ and soldering time for each terminal should be 1~2 sec..
3. Microphone should be fixed on the metal block (heat sink), which has high radiation effects, and heat sink shall contact with MIC tightly.
4. Microphone may easily be destroyed by the static electricity and the countermeasure for eliminating the static electricity shall be executed (worktable and human body shall be ground connection).

5. Heat Sink

Shape of heat sink



Shape of hole at fixed part



11. Code Explanation

NAME	EXPLANATION
	Omni-directional Mic
	Foil Electret
	D= 9.7mm
	T=4.5mm
	PCB version No.3
	Dash
	Sensitivity -46 ± 2dB
	Test Condition 2.2K Ω / 3.0V
	Dash
	PIN=5.0mm
	NO Capacitance
	Dash
	NO RUBBER
	Dash
	No especial require

12. Packing

1. MODEL NUMBER :

EM9745,EM9745P

2. DIMENSION:(LENGTH*WIDTH *HEIGHT)

2.1 ANTI- STATIC SPONGE :

100mm*100mm*10mm

2.2 SMALL BOX

100mm*100mm*17mm

2.3 MIDDLE BOX:

450mm*280mm*135mm

2.4 CARTON SIZE:

550mm*230mm*235mm

3. QUANTITY AND WEIGHT

3.1 100P CS/SMALL BOX

3.2 6000PCS/MID BOX

3.3 12000PCS/CARTON

3.4 1PC=0.7g

3.5 NET WEIGHT: 8.4kg

3.6 GROSS WEIGHT: 12kg

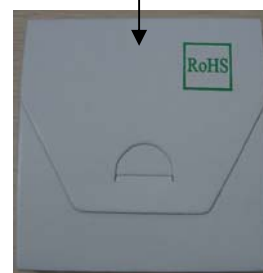
4. LABEL STIPULATION

4.1.1 CONTENTS SHOULD BE SEEN CLEAR.

Packing chart



100PCS



X60

6000PCS



X2

12000PCS

