



MODEL: EM9745P
PRODUCT: Electret Condenser Microphone

TYPE: OMNIDIRECTIONAL FOIL ELECTRET CONDENSER MICROPHONE

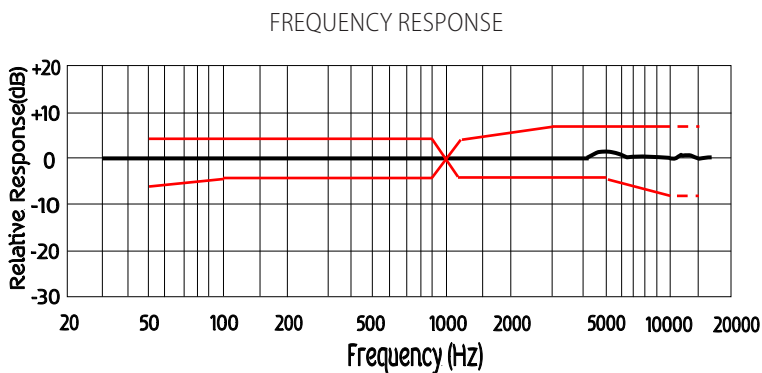
ELECTRICAL CHARACTERISTICS

Temperature = 20 ± 2 °C Humidity = 65 ± 5 %

parameter	symbol	condition	limits			unit
			min	center	max	
sensitivity	S	0dB=1V/Pa at 1kHz	-45	-42	-39	dB
output impedance	Z out	f=1kHz			2.2	K Ω
current consumption	I _{SS}	V _{CC} =2.0V, RL=2.2K Ω			500	μ A
signal to noise ratio	S/N	at 1kHz S.P.L=1Pa (A-Weighted Curve)	58			dB
decreasing voltage	Δ S	V _{CC} =3.0V to 2.0V			-3	dB
operating voltage			1.0		10	V
maximum input S.P.L					110	dB

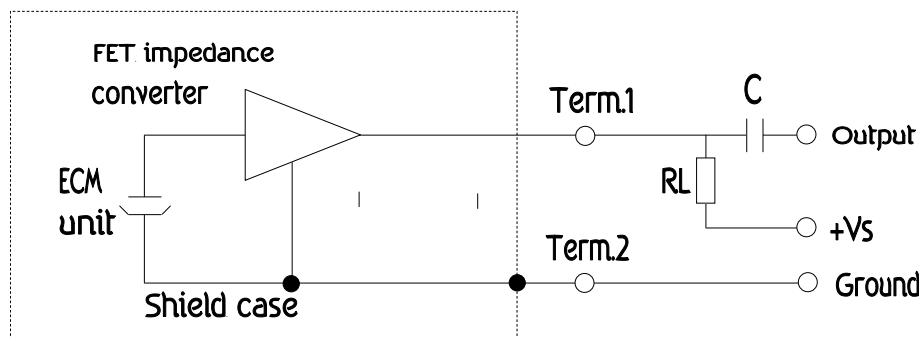
TYPICAL FREQUENCY RESPONSE CURVE

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

MEASUREMENT CIRCUIT



RL = 2.2K Ω
Vs = 2.0V
C = 1 μ F
C1 = 10PF
C2 = 33PF



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TEMPERATURE CONDITIONS

storage temperature range -40C ~ +85C

operation temperature range -40C ~ +85C

Note: Store in electronic warehouse.

TERMINAL MECHANICAL STRENGTH

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

RELIABILITY TEST

After each of following tests, the sensitivity of the microphone should be within $\pm 3\text{dB}$ of initial sensitivity after 3 hours of conditioning at 20°C .

vibration test

frequency 10hz ~ 55hz

amplitude 1.52mm

change of frequency 1 octave/min

2 hours in each of axis

high temperature test +85°C for 240 hours

low temperature test -40°C for 240 hours

humidity test 90% ~ 95%RH, +60°C for 240 hours

thermal shocking test -40°C, 30 minutes \longleftrightarrow +80°C, 30 minutes, repeated 32 cycles \rightarrow room temperature, 3 hours

temperature cycles -40°C \longleftrightarrow +20°C \longleftrightarrow +85°C \longleftrightarrow +20°C \longleftrightarrow -40°C
 (2h) (0.5h) (2h) (0.1h) (2h) (0.5h) (2h) (0.5h) (2h) for 5 cycles

packing drop test

height 1.5m

procedure 5 times from each of axis

electrostatic discharge Tested to IEC61000-4-2 level 3

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

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

SOLDERING CONDITION

We suggest using an anti-static welding machine which can control soldering temperature automatically.

Soldering temperature should be controlled at under 320 °C and soldering time for each terminal should be 1~2 seconds.

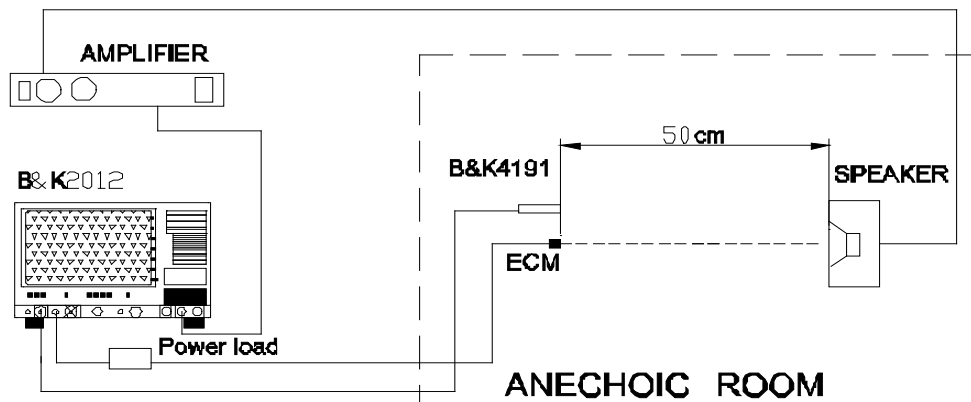
Microphone should be fixed on the metal block (heat sink), which has high radiation effects, and heat sink shall contact with MIC tightly.

Microphone may easily be destroyed by the static electricity and the countermeasure for eliminating the static electricity shall be electrocution (**worktable and human body shall be ground connection**).



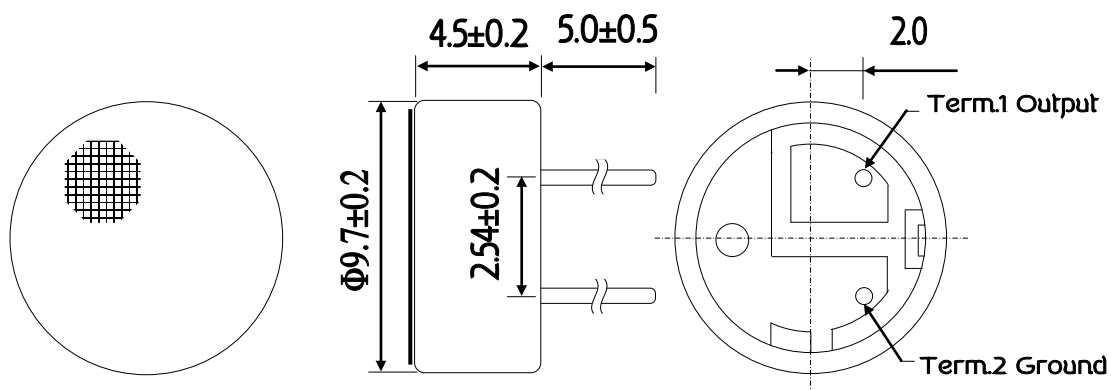
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MEASUREMENT SETUP DRAWING

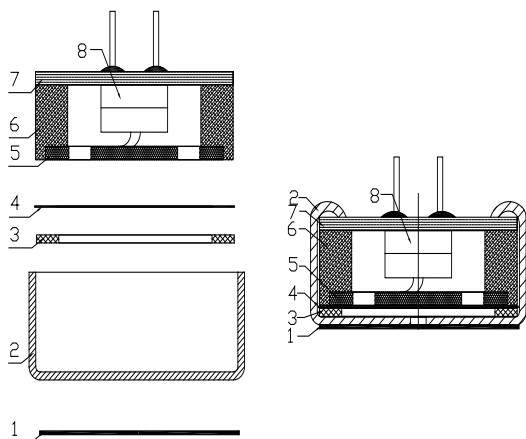


PRODUCT EXTERNAL VIEW AND DIMENSION

Unit : mm



EXPLODED DRAWING AND MATERIAL TABLE



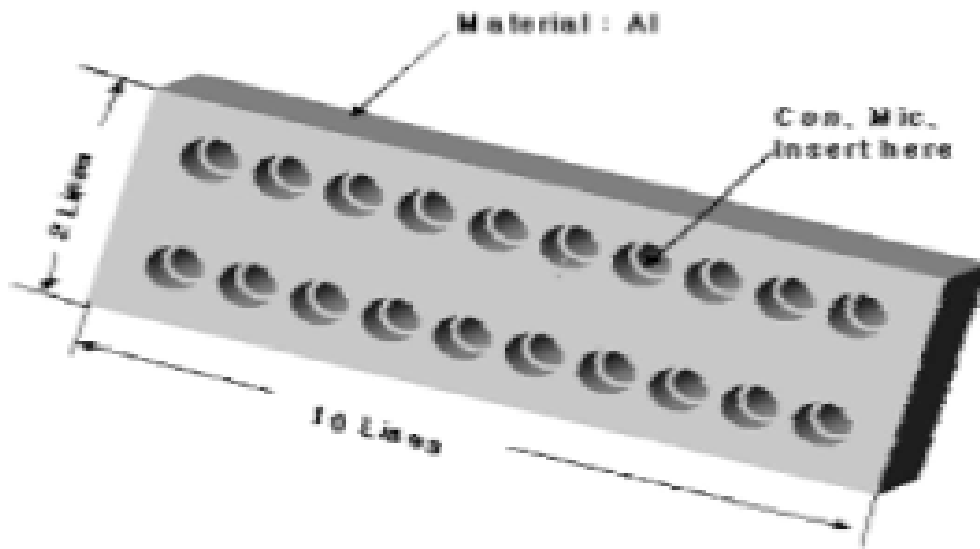
	Name	Material	Quantity	Remark
1	Dustproof gauze	Non-weave cloth	1	
2	Case	Al-Mg alloy	1	
3	Diaphragm		1	
4	Spacer		1	
5	Electret Plate		1	
6	Chamber		1	
7	PCB		1	FR4
8	FET		1	
9	PIN		2	



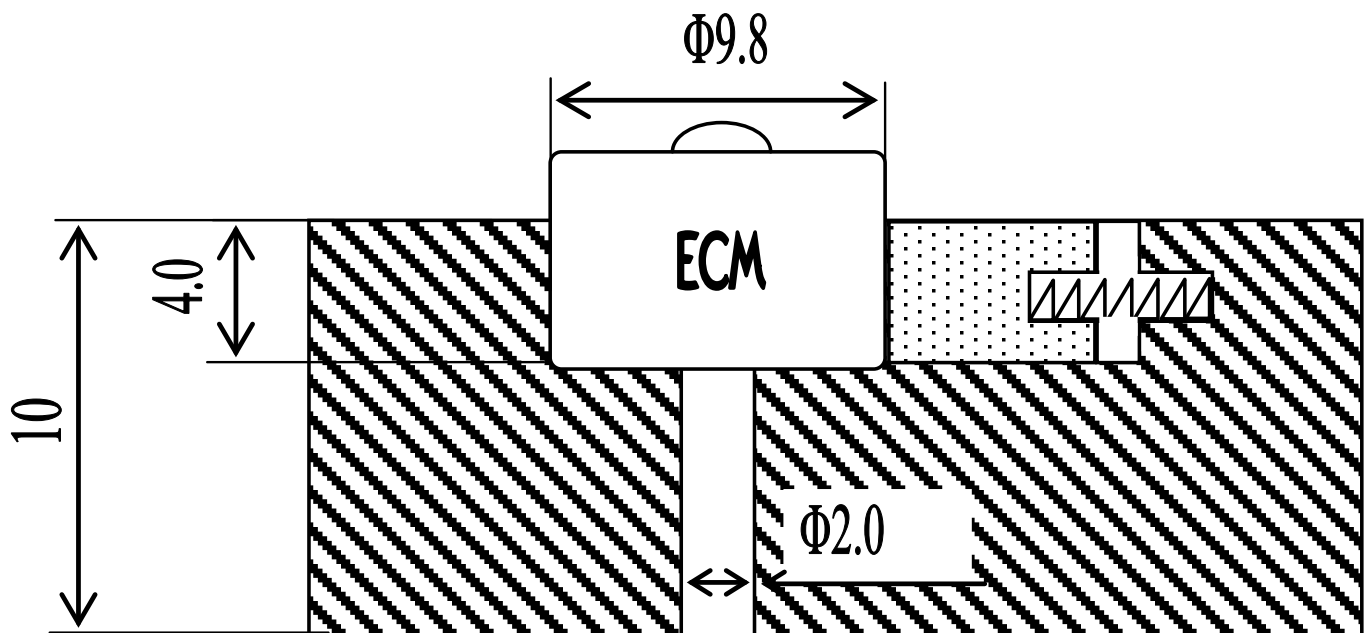
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HEAT SINK

SHAPE OF HEAT SINK



SHAPE OF HOLE AT FIXED PART





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PACKING

DIMENSION: (LENGTH*WIDTH *HEIGHT)
ANTI-STATIC SPONGE: 100mm*100mm*10mm
SMALL PACKET: 100mm*100mm*17mm
MIDDLE BOX: 450mm*280mm*135mm
CARTON SIZE: 550mm*230mm*235mm

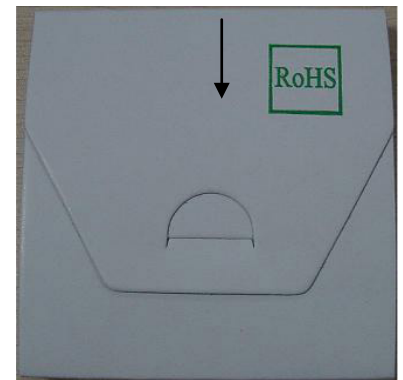
QUANTITY AND WEIGHT

100PCS/Small Box
6000PCS/Mid Box
12000PCS/Per Carton

1PC=0.7g
NET WEIGHT : 8.4kg
GROSS WEIGHT : 12.0kg



100PCS →



X60

6000PCS →



X2

12000PCS →

