

# **Specification**

## of Electret Condenser Microphone

Our model: EMS-94

Cust model: \_\_\_\_\_

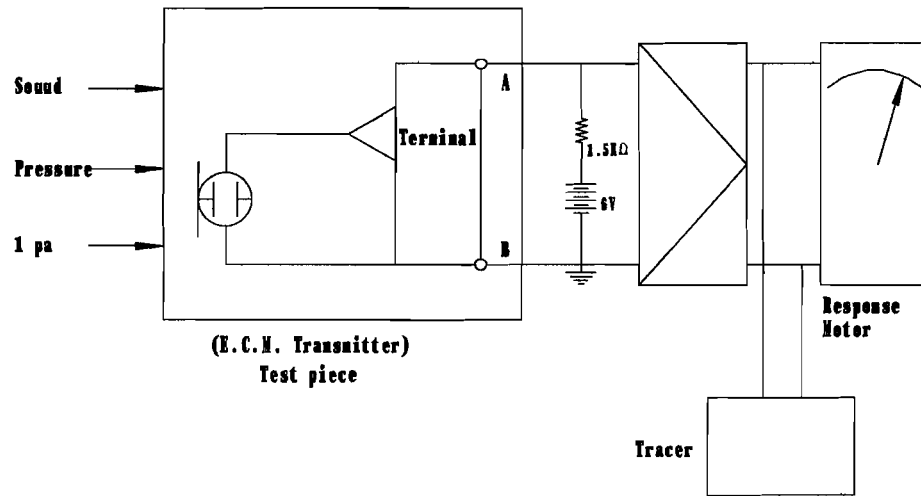
To: \_\_\_\_\_

Apvd	Chkd	Design

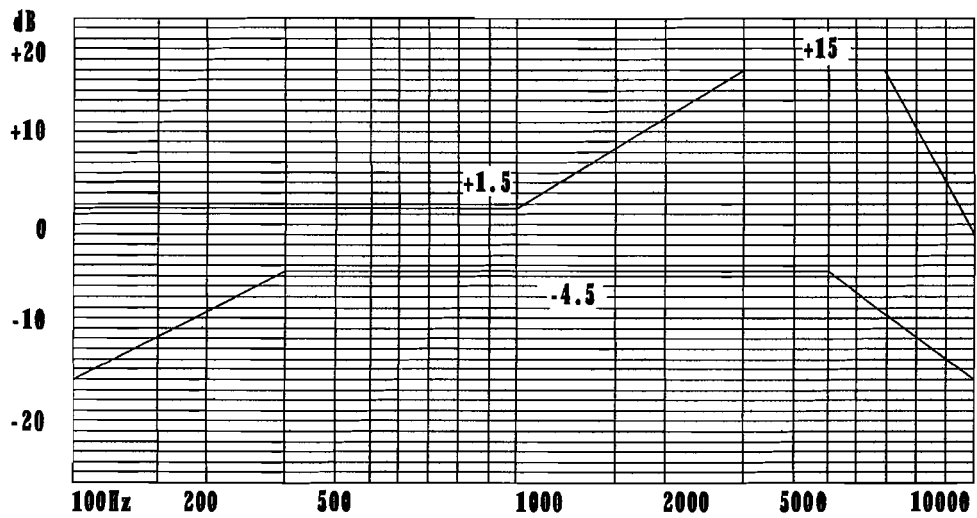
Customer Approval:

1.	Scope	This specification applies electret condenser microphone(E.C.M)
2.	Model No.	EMS-94
3.	Operation Condition	
	3.1 Temperature	-20~+70°C
	3.2 Rel. Humidity	35%~85%RH
	3.3 Pressure	86~106Kpa
	3.4 Environmental Noise	36dB(Maximum)
	3.5 Operation Voltage	+1~+10VDC
	3.6 Earth	⊖
4.	Electrical Characteristics	
	4.1 Standard Operation Voltage	+6.0VDC
	4.2 Impedance	1.5k $\Omega$ (Maximum)
	4.3 Current Consumption	0.3mA(Maximum)
	4.4 Sensitivity	(0dB=1V/Pa,1KHz) -40 $\pm$ 3dB
	4.5 Directivity	Omni-directional
	4.6 S/N Ratio	60dB(Minimum)(A-Curve at 1KHz,1Pa)
	4.7	
	Test Temperature	20°C $\pm$ 2°C
	Test Rel. Humidity	45%~65%RH

4.8 Schematic Diagram



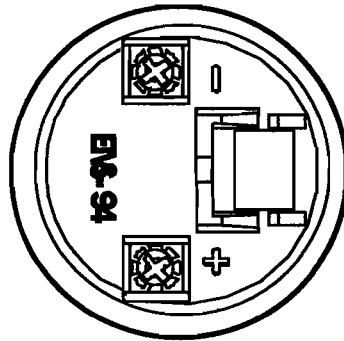
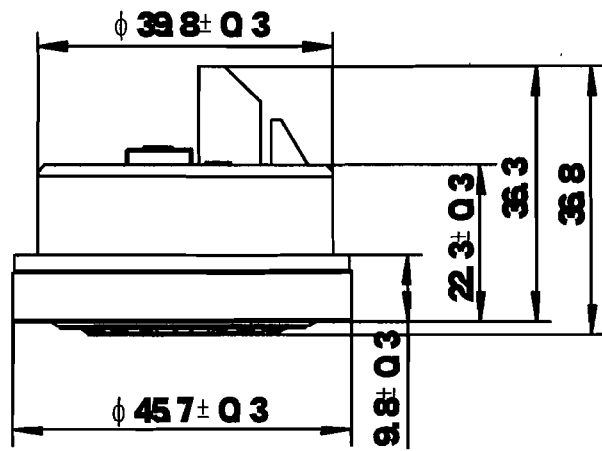
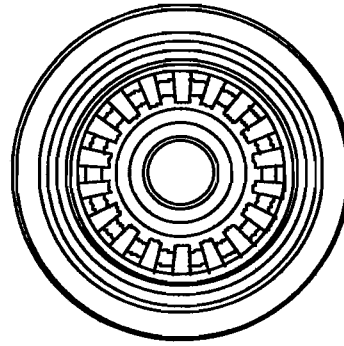
4.9 Frequency Response



5. Mechanical Characteristics

5.1 Dimension	$\phi 45.7 \times 38.6$
5.2 Mass	$\leq 25.5g$

5.3 Dimensional Drawing



6.	<b>Reliability Tests</b> The sensitivity to be within $\pm 3\text{dB}$ of initial sensitivity after 3 hours of conditioning at $20^\circ\text{C}$ .
6.1	<b>Vibration Test</b> Frequency 1 $10\text{Hz}\sim 55\text{Hz}$ Amplitude $\pm 0.15\text{mm}$ Frequency 2 $55\text{Hz}\sim 150\text{Hz}$ Acceleration $20\text{m/s}^2$ Change of Frequency    1octave/min 2 hrs in each of 3 axes
6.2	<b>Shocks Test</b> Pulse Shape       Half Sinusoidal Pulse Duration    11ms Acceleration $150\text{m/s}^2$ Number of Jolts    10 in each of 3 axes
6.3	<b>Drop Test</b> To be no interference in operation after dropped to concrete floor each time from 1 meter height at three directions in state of packing.
6.4	<b>Dry Heat/Cold Test</b> $80^\circ\text{C}$ for 72 hrs $-20^\circ\text{C}$ for 72 hrs
6.5	<b>Damp Heat Test</b> $90\%\text{RH}, +40^\circ\text{C}$ for 100 hrs
6.6	<b>Temperature Cycles Test</b> (2h) (1h) (2h)    4cycles
7.	<p>7.1 The soldering copper of a smaller type of less than 20W shall be applied.</p> <p>7.2 The temperature of the working surface of the soldering copper shall be below <math>270^\circ\text{C}</math>.</p> <p>7.3 E.C.M shall be soldered fixed on the metal block (heat sink) which has the higher radiation effects. Said heat sink shall contact with each of E.C.M.</p> <p>7.4 The soldering time for each terminal shall be 1~2 sec.</p> <p>7.5 E.C.M may easily destroyed by the static electricity, and the countermeasure for eliminating the static electricity (the ground for soldering copper, for worktable and for human body) shall be executed.</p>