



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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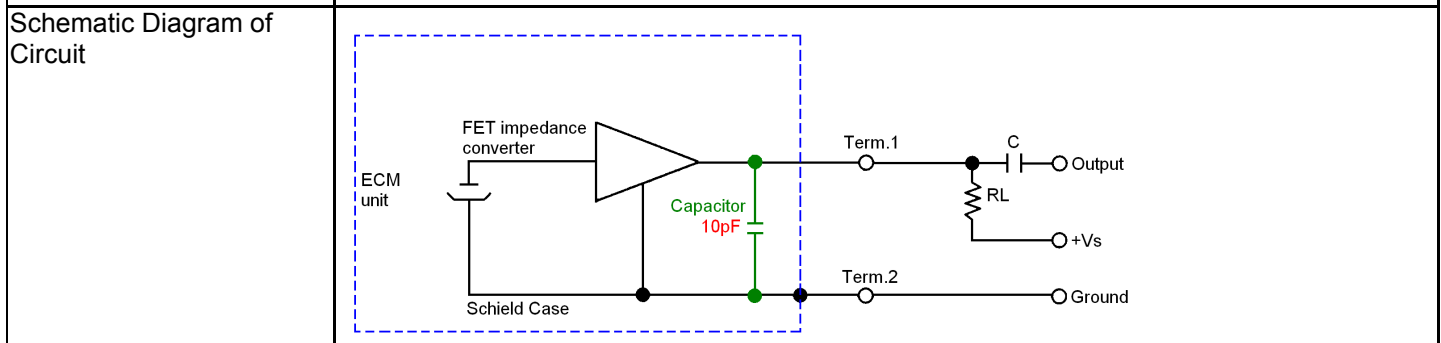
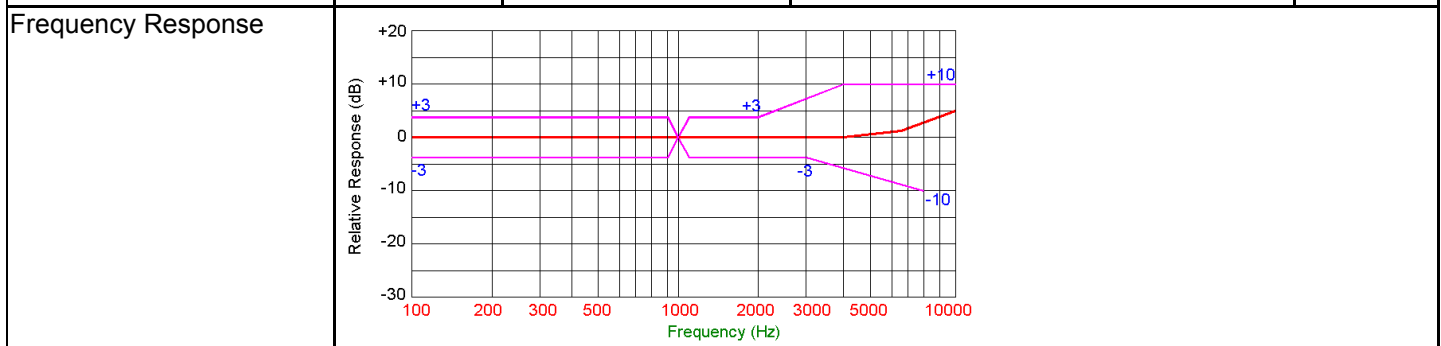


This specification applies to the electret condenser microphone outlined within this document.

Model Number: **MD9745APA-1**

I. Electrical Characteristics Test Condition (Vs= 2.0 V, RL= 3 k ohm, Ta=20°C, RH=65%)

ITEM	SYMBOL	TEST CONDITION	MINIMUM	STANDARD	MAXIMUM	UNITS
Sensitivity	S	f=1kHz, Pin=1Pa	-44	-41	-38	dB 0dB=1V/Pa
Impedance	Zout	f=1kHz, Pin=1Pa			2.2	kΩ
Directivity			OMNI-DIRECTIONAL			
Current Consumption	I				0.5	mA
S/N Ratio	S/N (A)	f=1kHz, Pin=1Pa A Curve	55			dB
Sensitivity Reduction	ΔS	f=1kHz, Pin=1Pa Vs= 2.0 - 1.5			-3	dB
Frequency Range			100-10,000			Hz



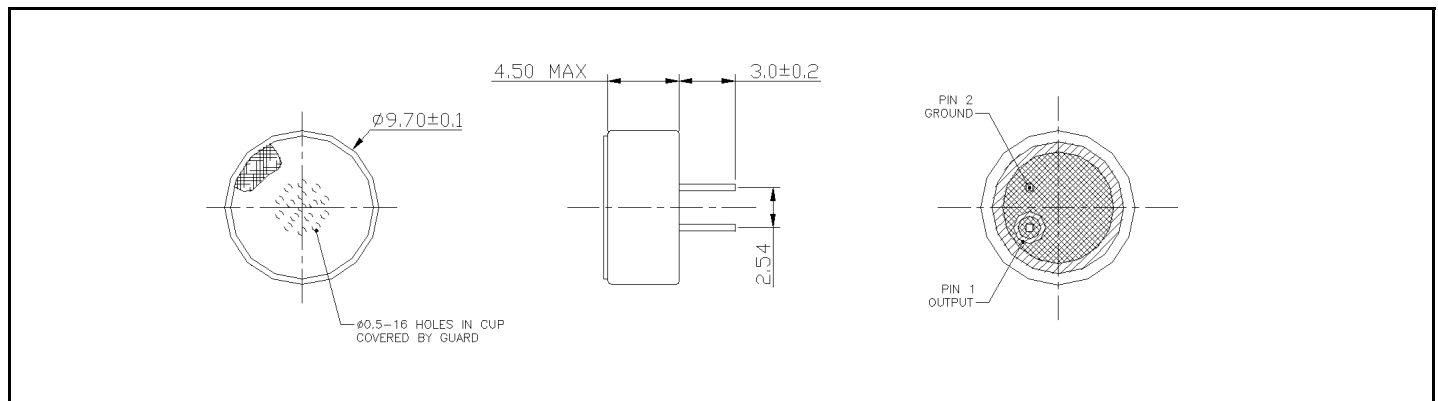
II. Mechanical Characteristics

Dimensions	∅ 9.7 x 4.5	See Drawing in Section IV		
Weight	Less than 1.0g			
Soldering Heat Shock	To be no interference in operation after soldering temperature exposure at 260°C +/-5°C for 5 +/- 1 seconds.			
Terminal Mechanical Strength	Not Applicable			
Absolute Maximum Ratings	Operating Voltage	Storage Temperature Range	Operation Temperature Range	
	Vs (V)	Tstg °C	Tope °C	
	10	-25°C to +60°C	-25°C to +55°C	

**III. Reliability Tests**

**Note:** After any of the following tests performed, the sensitivity of the microphone unit shall not deviate more than  $\pm 3\text{dB}$  from its initial value. The microphone shall maintain its initial operation and appearance. Measurements for tests with thermal requirements are to be done after 2hrs of conditioning at  $20^{\circ}\text{C}$ .

Vibration Test	The microphone to have no interference in operation after vibrations, 10Hz to 55Hz for 1 minute full amplitude 1.52mm, for 2 hours at three axes.	
Drop Test	The microphone unit must operate when dropped three times once on each axis from a height of 1m onto a metal plate.	
Temperature Test	High	The microphone unit must operate within its sensitivity specifications after subjected to the following conditions: $+60^{\circ}\text{C}$ for 240 hrs, and exposed to room temperature for 2 hrs.
	Low	The microphone unit must operate within its sensitivity specifications after subjected to the following conditions: $-25^{\circ}\text{C}$ for 240 hrs, and exposed to room temperature for 2 hrs.
Humidity Test	$+40^{\circ}\text{C}$ at 95%RH for 240 hrs	
Temperature Cycle Test	After exposure at $-25^{\circ}\text{C}$ for 30 minutes, at $+20^{\circ}\text{C}$ for 10 minutes, at $+60^{\circ}\text{C}$ for 30 minutes, at $+20^{\circ}\text{C}$ for 10 minutes, 5 cycles. (The measurement to be done after 2 hrs of conditioning at $+20^{\circ}\text{C}$ .)	

**IV. Dimensional Drawing**

**V. Other**


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