

Electret Condenser Microphone

Model No.	SpyLAB3D		
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NOTES:

- All the soldering procedures upon microphones must be completed in a metallic device and the temperature of the soldering iron must be limited to $380^{\circ}\text{C} \pm 10^{\circ}\text{C}$ and the soldering time should not exceed 2 seconds.
- Operators, the soldering fixture and the soldering iron must be statically grounded under each soldering process.

1. ELECTRICAL SPECIFICATIONS

Standard Conditions

Ordinary Temperature	5 to 35°C
Ordinary Humidity	45 to 85%
Ordinary air pressure	86 to 106kPa

Basic Test Conditions

Temperature	$20 \pm 2^{\circ}\text{C}$
Humidity	63 to 67%
Ordinary air pressure	86 to 106kPa

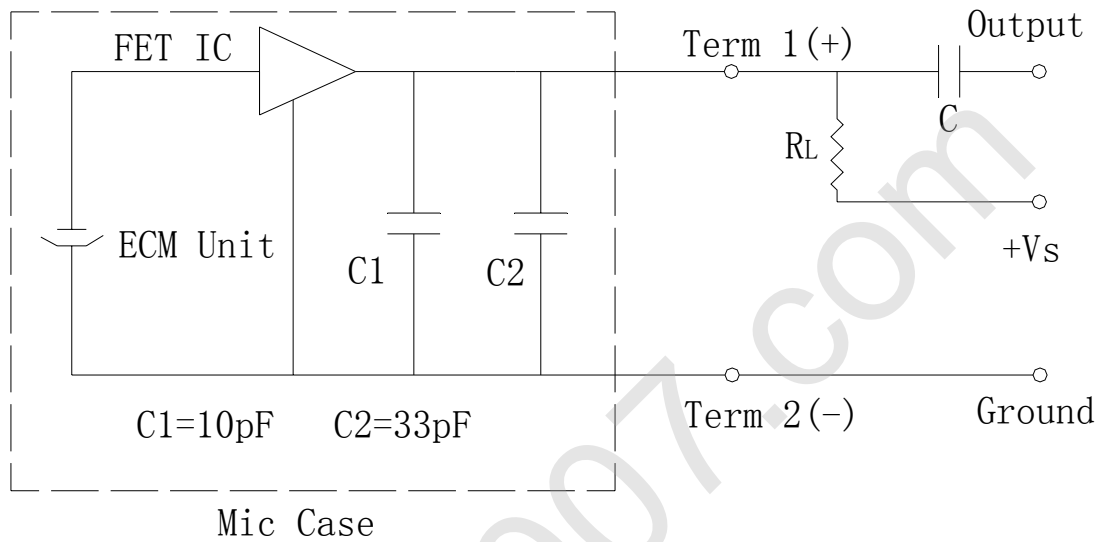
Parameter	SPEC.	Unit
Directional Characteristic	Omni-Directional	—
Sensitivity(@f=1kHz, Pin=1Pa, 0dB= 1V/Pa)	-42±3	dB
Impedance(@f=1kHz ,RL=2.2kΩ)	2.2(Max)	kΩ
S/N Ratio (@f=1kHz, Pin=1Pa, A weighted network)	58(Min)	dB
Maximum Input Sound Pressure Level (@f=1kHz)	100	dB
Standard Operating Voltage	2.0	Vdc
Operating Voltage Range	1.1~10	Vdc
Decrease Voltage Characteristics(@f=1kHz, Pin=1Pa, Vs=2.0 to 1.5Vdc)	-3(Max)	dB
Current Consumption (RL=2.2kΩ, Vs=2.0Vdc)	500(Max)	μA
Standard Test Circuit	See Fig. 1	—
Frequency Response Characteristic	See Fig. 2	—

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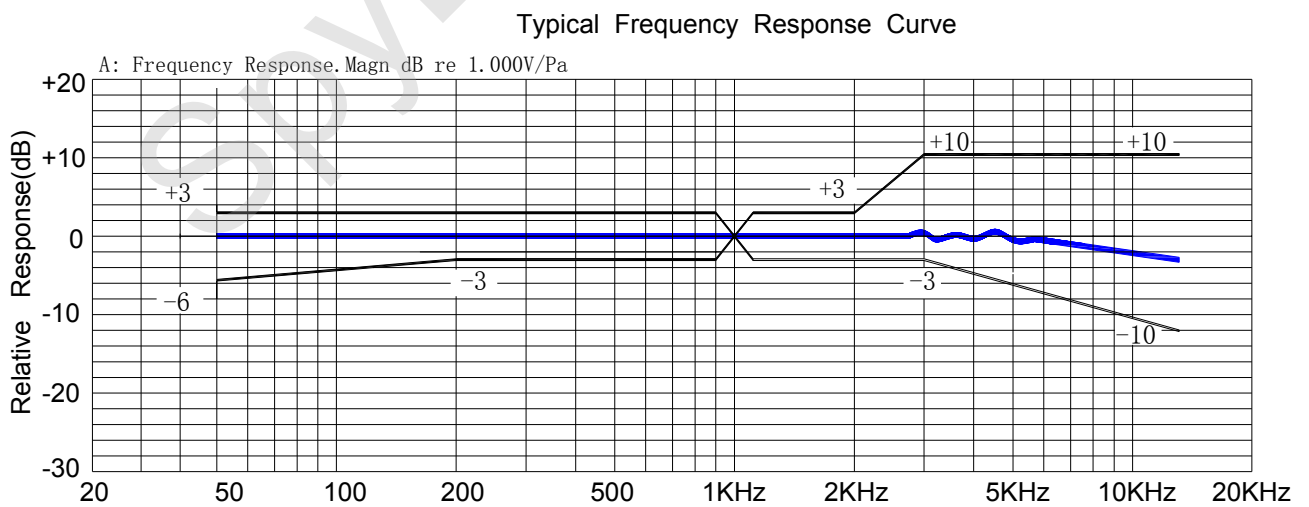
2. STANDARD TEST CIRCUIT

Fig.1



3. TYPICAL FREQUENCY RESPONSE

Fig.2



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4. RELIABILITY

Item		Test conditions	Evaluation standard
1	Hi-Temp. Test	The microphone unit must be subjected to +85°C for 100 Hours and exposed to room temperature for 3 Hours.	<p>After any following tests, the sensitivity of the microphone unit shall not change more than $\pm 3\text{dB}$ from initial value and shall keep their initial operation and appearance.</p>
2	Low-Temp. Test	The microphone unit must be subjected to -40°C for 100 Hours and exposed to room temperature for 3 Hours.	
3	Humidity & Heat Test	The microphone unit must be subjected to +40°C, 95% RH-for 100 Hours and exposed to room temp for 3 Hours.	
4	Thermal Shocking Test	The microphone unit must be subjected to following condition [+85°C 1H → room temp 1H → -40°C 1H → room temp 1H] at 10 cycle.	
5	Vibration Test	The microphone unit must be subjected to a procedure that be vibrating for two hours from each of the two directions(x y) with a frequency of 10-55Hz and a 1.52mm-high amplitude.	
6	Dropping Test	The microphone unit must be subjected to a procedure that be dropping to a slippery marble floor for 5 times from a 1.0-meter-high without package.	
7	Storage Temperature	-30°C~+75°C R.H. less than 90%	
8	Operating Temperature	-20°C~+70°C R.H. less than 90%	

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5. APPEARANCE & DIMENSION(Unit : mm)

