



EO041522236W2MGR

DWG #: DB17-035

SPECIFICATION

PRODUCT: Electret Condenser Microphone - Omni directional

STETRON PART NUMBER: EO041522236W2MGR

DESCRIPTION: 4.0 x 1.5mm mic, with rubber boot, 40mm lead wire and ACES
connector; RoHS compliant

RFQ: QG16077-V2

STETRON APPROVALS	PREPARED BY	CHECKED BY	APPROVED BY
SIGNATURE	<i>YL</i>	<i>RS</i>	<i>RS</i>
DATE	9-May-17	9-May-17	9-May-17

CUSTOMER APPROVAL	SIGNATURE	DATE

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REVISION HISTORY

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0.0	9-May-17	Original (from DB16-049 Rev0.3)	All Pages	YL



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1. Scope

This document contains the required electrical, acoustic, mechanical and reliability information for an Omni-directional electret condenser microphone.

Notes:

- a. All soldering procedures on the microphone must be completed in a metallic device and the temperature of the soldering iron must be limited to $340 \pm 20^{\circ}\text{C}$ and the soldering time should not exceed 3 seconds.
- b. Operators, soldering fixtures and the soldering iron must be statically grounded under each soldering process.

2. Environmental Requirements

This electret condenser microphone including all components and solder joints must be RoHS compliant and meet the customer’s known requirements for banned or restricted substances.

3. Environmental Test Conditions

	Standard Conditions	Preferred Conditions
Temperature	5 to 35°C	20 ± 2°C
Humidity	45 to 85%	63 to 67%
Air Pressure	86 to 106kPa	86 to 106kPa

4. Electrical Requirements

4.1 Impedance

Max 2.2kΩ

4.2 Standard Operating Voltage

2.0 Vdc

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4.3 Operating Voltage Range	1.0 to 10.0 Vdc
4.4 Decrease Voltage ($V_s = 2.0$ to 1.5 Vdc)	Max -3.0dB
4.5 Current Consumption	Max 500 μ A
5. Acoustical Requirements	
5.1 Max Input SPL	100dB (THD \leq 3%)
5.2 Sensitivity	-36 \pm 3dB @ 1 kHz
5.3 S/N Ratio (A-Weighted)	62dB (min)

*See Standard Test circuit (Fig 1) and Frequency Response (Fig 2), and Test Set up (Fig 3).

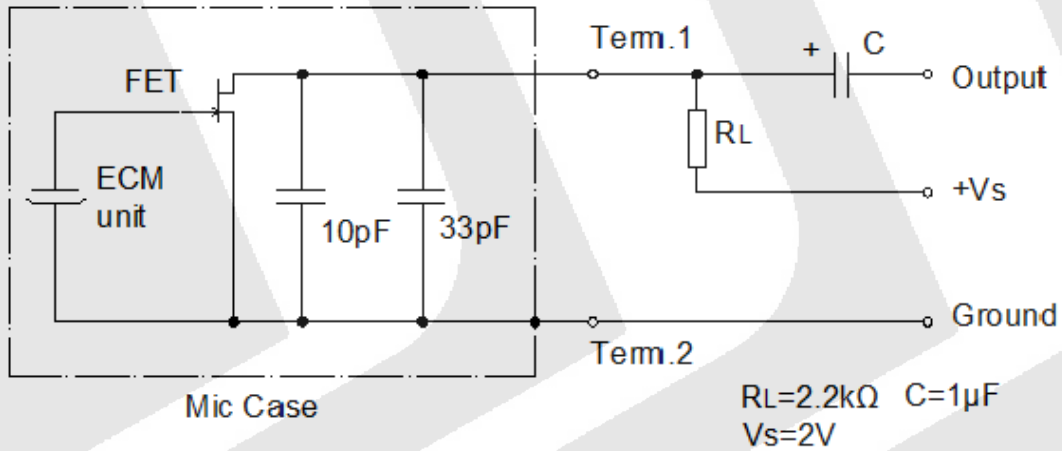


Fig 1. Standard Test Circuit

Note: @ 1kHz, $P_{in} = 1Pa$, 0dB=1V/Pa.

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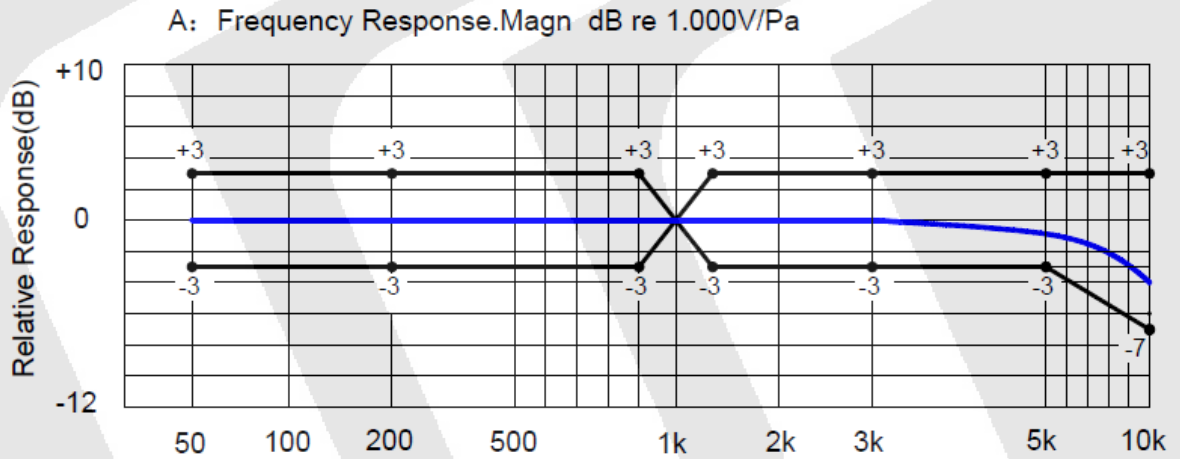


Fig 2. Typical Frequency Response

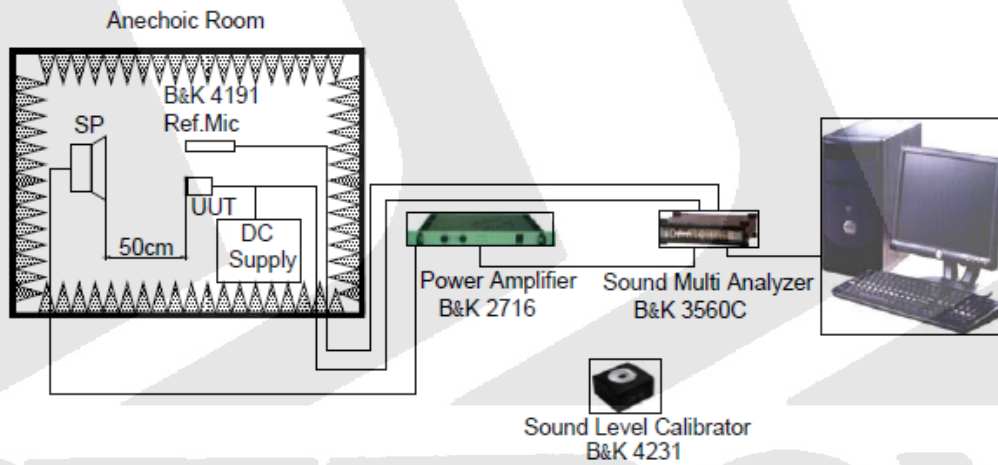


Fig 3. Test Set - Up

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6. Reliability

After any of the following tests the sensitivity of the microphone unit shall not change by more than ± 3 dB from the initial value and shall keep the initial operation and appearance.

6.1 High Temperature

The microphone must be subjected to $+80^{\circ}\text{C}$ for 100 hrs and then exposed to room temperature for 3 hrs.

6.2 Low Temperature

The microphone must be subjected to -40°C for 100 hrs and then exposed to room temperature for 3 hrs.

6.3 Humidity and Heat Test

The microphone must be subjected to $+55^{\circ}\text{C}$, 90% RH for 100 hrs and then exposed to room temperature for 3 hrs.

6.4 Thermal Shock

The microphone must be subjected to the following conditions ($+80^{\circ}\text{C}$ for 0.5hrs \rightarrow room temp. 1hr \rightarrow -40°C for 0.5hrs \rightarrow room temp 1hr) for 10 cycles.

6.5 Vibration Test

The microphone must be subjected to a vibrating procedure for 2 hrs from each of the 3 directions (x, y, and z) with a frequency of 10-55Hz and with an amplitude of 1.52mm.

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**6.6 Drop Test**

The microphone must be subjected to a procedure where it is dropped to a slippery marble floor for 5 times from 1.0m high without package.

6.7 Storage and Operating Temperature

-40°C ~ +70°C RH less than 90%

6.8 ESD Protection

The test microphone must be discharged between each ESD exposure without ground (contact: $\pm 6\text{KV}$; air: $\pm 8\text{KV}$)

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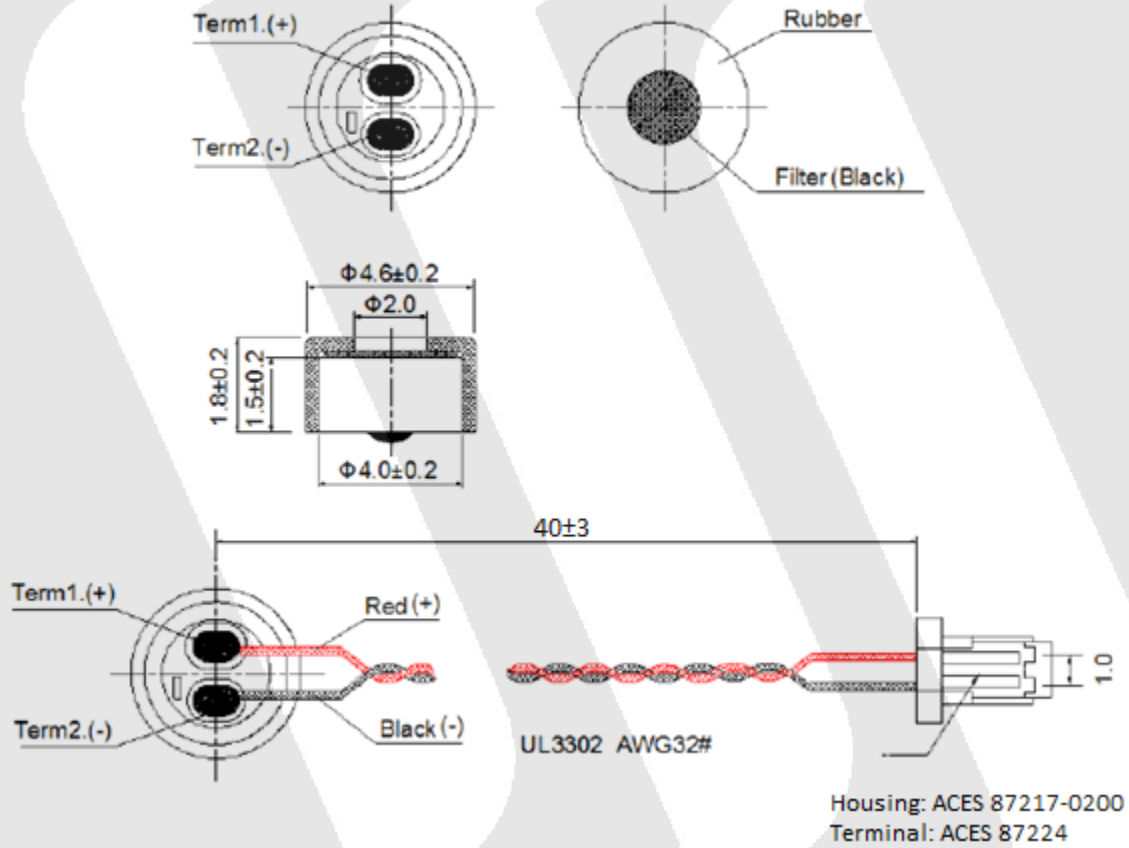
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7. Mechanical Layout and Dimensions



All dimensions in mm



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