

## Specification of Microphone

**RoHS Compliance & Halogen Free**

**LinkMems P/N: LO6027L372YA-O8HTH11**

Designed by	Checked by	Approved by
Kevin	Thomas	Hary

**Customer Approval**

Approved by: \_\_\_\_\_



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## Electret Condenser Microphone

### 1. Introduction

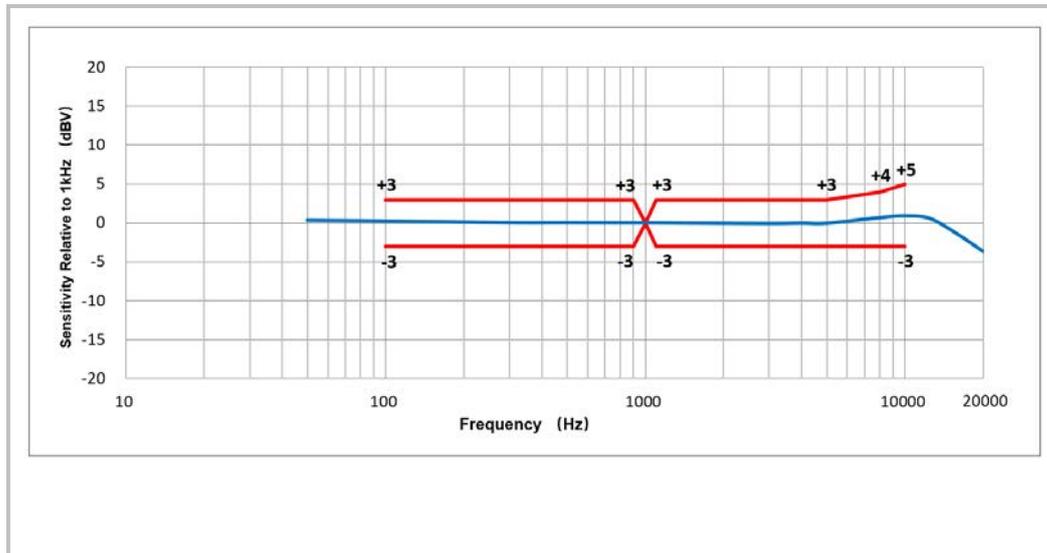
This document is the technical specification of electret condenser (ECM) Omni-Directional Microphone.

### 2. Electrical Characteristics

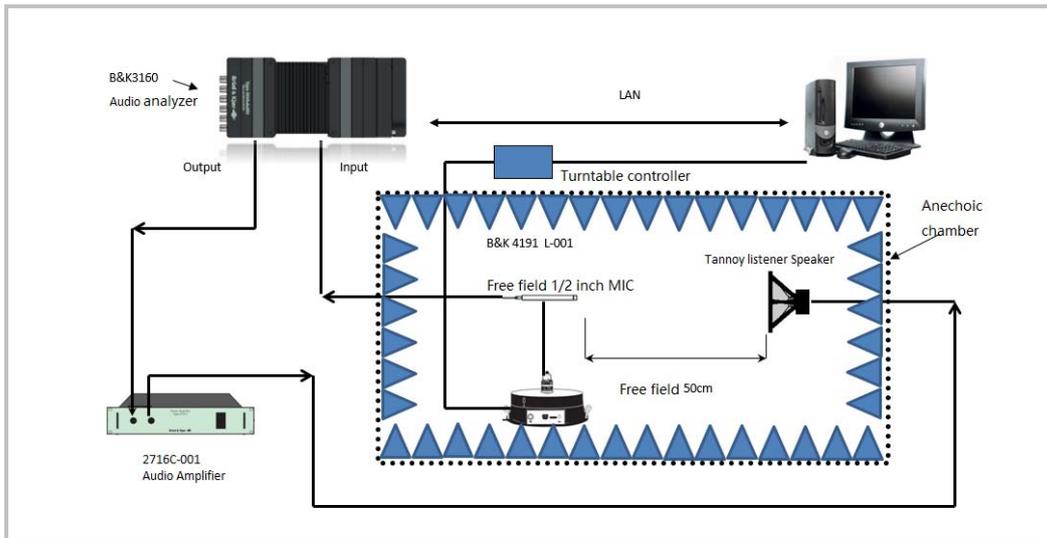
Test Condition:  $V_{DD}=3.0V$ ,  $R_L=6.8k\Omega$ ,  $23\pm 2^\circ C$ ,  $55\pm 20\%R.H.$ , unless otherwise specified.

Specification	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Directivity			Omni-directional			
Sensitivity Range	S	94dB SPL @1kHz	-39	-37	-35	dB
Output Impedance	$Z_{out}$	94dB SPL @1kHz			1	$k\Omega$
Current Consumption	I				500	$\mu A$
S/N Ratio	SNR	94dB SPL @1kHz A-Weighted		72		dB(A)
Operating Voltage	$V_s$		1.0	3.0	10.0	V
Sensitivity vs. Voltage	$\Delta S$	94dB SPL @1kHz $V_s=3.0V$ to $2.0V$			-3	dB
Total Harmonic Distortion	THD	130dB SPL @1kHz		3		%

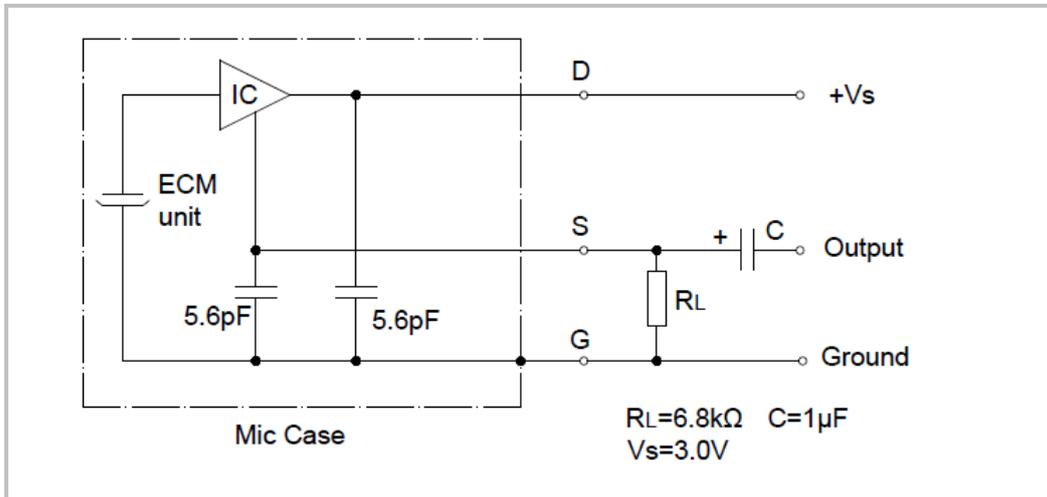
### 3. Frequency Response Curve



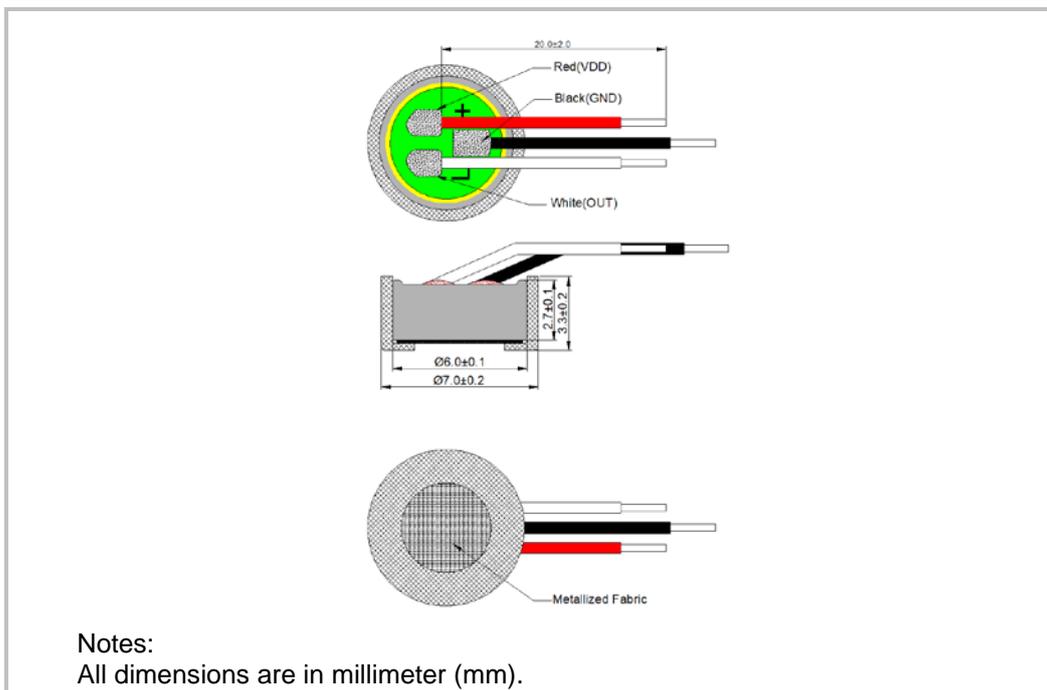
#### 4. Test Setup (Sensitivity Test in Anechoic Room)



#### 5. Measurement Circuit



#### 6. Mechanical Characteristics



## 7. Special Cautions

### 7.1 Environmental Condition

7.1.1 Storage Condition:-35°C~+60°C.

7.1.2 Operating Condition:-35°C~+60°C.

7.1.3 Arbitration Condition:20±1°C, R.H.63~67%, Air pressure:86~106Kpa.

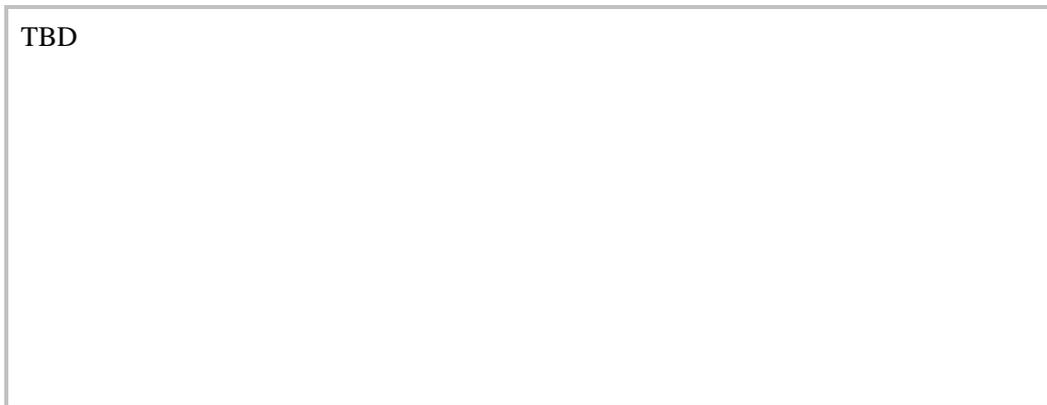
### 7.2 Storage Condition

7.2.1 Keep ECM in warehouse with humidity less than 75%R.H. and without sudden temperature change, acid air, any other harmful air or strong magnetic field.

7.2.2 Please protect products against moist, shock, sunburn and pressure.

7.2.3 MSL Please take proper measures against ESD in the process. Please use the shipment package for long-term storage.

## 8. Packaging Information



## 9. Reliability Test

The samples should be placed in the room with  $20\pm 2^{\circ}\text{C}$ ,  $65\pm 5\%\text{R.H.}$  for 3 hours at least before final measurement, unless otherwise specified.

Item	Detail	Standard
High temperature Test	After exposure at $+80^{\circ}\text{C}$ for 100 hours.	$\pm 3\text{ dB}$
Low temperature Test	After exposure at $-40^{\circ}\text{C}$ for 100 hours.	$\pm 3\text{ dB}$
Humidity & Heat Test	After exposure at $+55^{\circ}\text{C}$ and 85% RH for 100 hours.	$\pm 3\text{ dB}$
Thermal Shock	The microphone unit must be subjected to following condition [ $+80^{\circ}\text{C}$ 0.5H $\rightarrow$ room temp 1H $\rightarrow$ $-40^{\circ}\text{C}$ 0.5H $\rightarrow$ room temp 1H] at 10cycle and exposed to room temp for 3 Hours.	$\pm 3\text{ dB}$
Vibration Test	The microphone unit must be subjected to a procedure that be vibrating for two hours from each of the Three directions(x y z) with a frequency of 10-55Hz and a 1.52mm-high amplitude.	$\pm 3\text{ dB}$
Drop 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.	$\pm 3\text{ dB}$

