

Specification of Microphone

RoHS Compliance & Halogen Free

LinkMems P/N: LUE1655LHN452FE-O6ATH02

Designed by	Checked by	Approved by
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Customer Approval

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Electret Condenser Microphone

1. Introduction

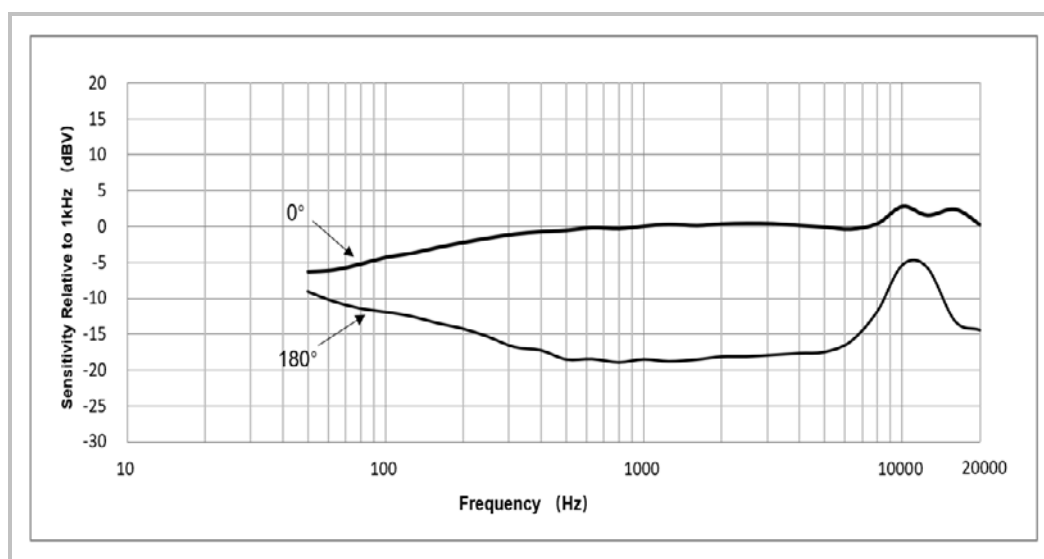
This document is the technical specification of electret condenser (ECM) Uni-Directional Microphone.

2. Electrical Characteristics

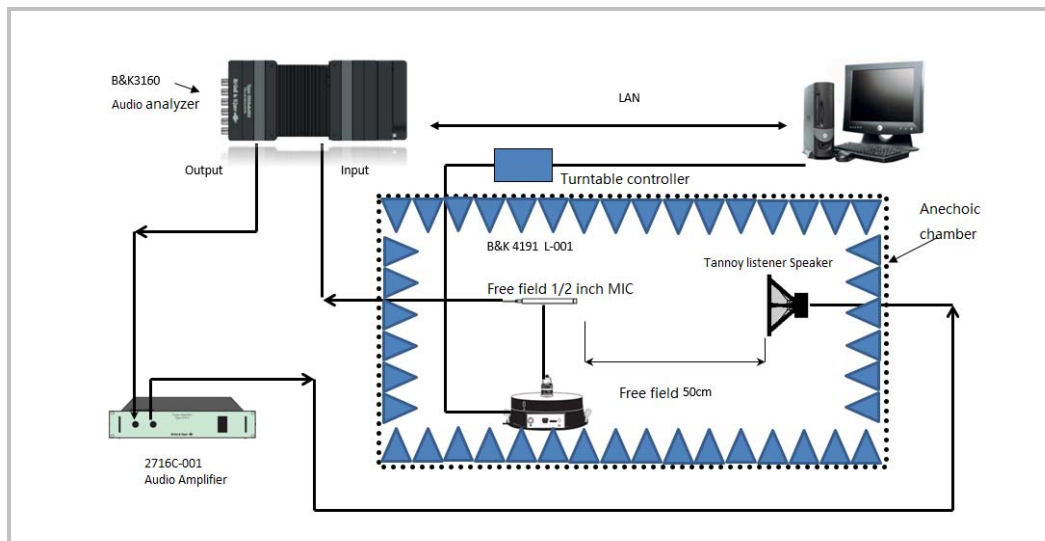
Test Condition: $V_{DD}=3.0V$, $R_L=5.6k\Omega$, $23\pm 2^{\circ}C$, $55\pm 20\%R.H.$, unless otherwise specified.

Specification	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Directivity			Uni-directional			
Sensitivity Range	S	94dBSPL @1kHz	-47	-45	-43	dB
Output Impedance	Z_{out}	94dBSPL @1kHz			2.0	$k\Omega$
Current Consumption	I				500	μA
S/N Ratio	SNR	94dBSPL @1kHz A-Weighted		72		dB(A)
Operating Voltage	V_s		1.0	3.0	10.0	V
Sensitivity vs. Voltage	ΔS	94dBSPL @1kHz $V_s=3V$ to $2V$			-3	dB
Maximum Input Sound Pressure Level	S.P.L	THD $\leq 3\%$		130		dB

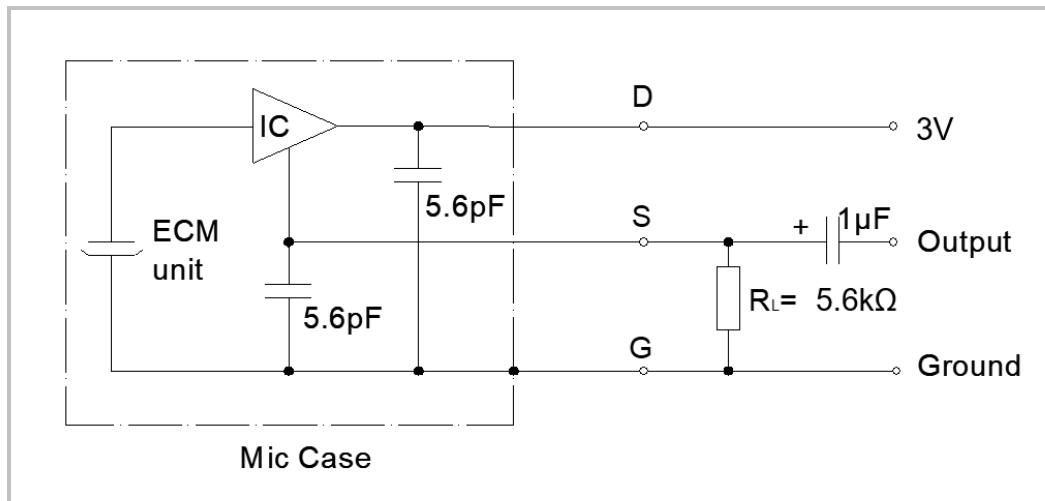
3. Frequency Response Curve



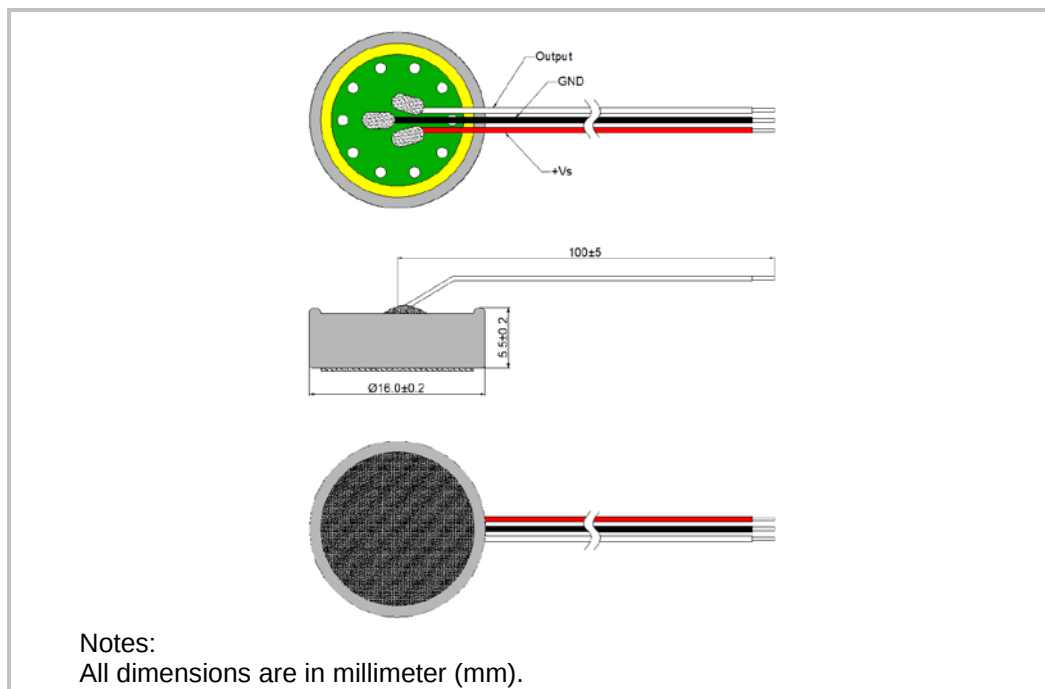
4. Test Setup (Sensitivity Test in Anechoic Room)



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

TBD

9. Reliability Test

The samples should be placed in the room with $20\pm2^{\circ}\text{C}$, $65\pm5\%\text{R.H.}$ 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°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°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.	$\pm 3 \text{ dB}$

Specification Revisions

Revision	Description	Approved	Date
1.1	New Version Released	Hary	11/03/2025