

SPECIFICATIONS

FOR

APPROVAL

Part name : electret condenser microphone

Model(KLS) : L-KLS3-MM9745PP-303

Mode(customer):

Doc.number :

Submit date :

PREPARED	CHECKED	APPROVED

Please be informed to return to us with your
Signature within 14 days.

DATE	
PREPARED BY	
AUTHORIZED BY	

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PRODUCT SPECIFICATION

TYPE: ECM

PART No: L-KLS3-MM9745PP-303

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1. Scope

The specifications should be applied to electret condenser microphone of L-KLS3-MM9745PP-303

2. Storage And Judgement Conditions

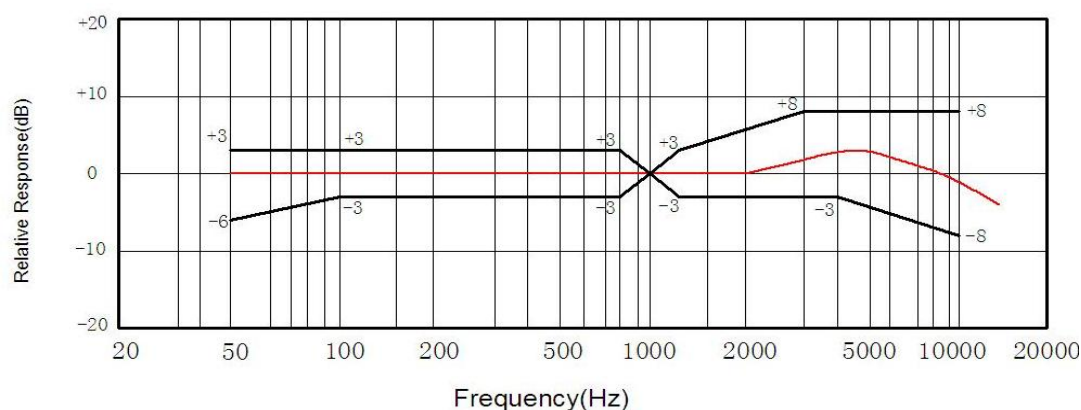
	Temperature Range(° C)	Rel. Humidity (%)	Static Pressure (kPa)
Judgement	19~21	60~70	86~106
Storage	-30~70		
Operating	-20~60		

3. Specifications

Test Conditions: $V_s=4.5V$, $R_L=2.2K\Omega$, $Temp=20\pm2^\circ C$, $R.H=60\pm5\%$

ITEM	Symbol	Test Conditions	Min	Standard	Max	Unit
Sensitivity	S	$f=1KHz$, $p_{in}=1\mu Bar$	-33	-30	-27	dB 0dB=1V/ μBar
Impedance	Z	$f=1KHz$, $p_{in}=1\mu Bar$			2.2	$K\Omega$
Directivity	Omni-directional					
Current Consumption	I				500	μA
Operation Voltage Range	V_s		1.0	4.5	10	V
S/N Ratio	S/N (A)	$f=1KHz$, $p_{in}=1Pa$ A Curve	55			dB
Decreasing Voltage Characteristic	$\triangle S$	$f=1KHz$, $p_{in}=1Pa$ $V_s=4.5-3.0V$			-3	dB
Max. Input Sound Level	MISPL	$f=1KHz$, Distortion $\leq 3\%$			115	dB

4. Frequency Response



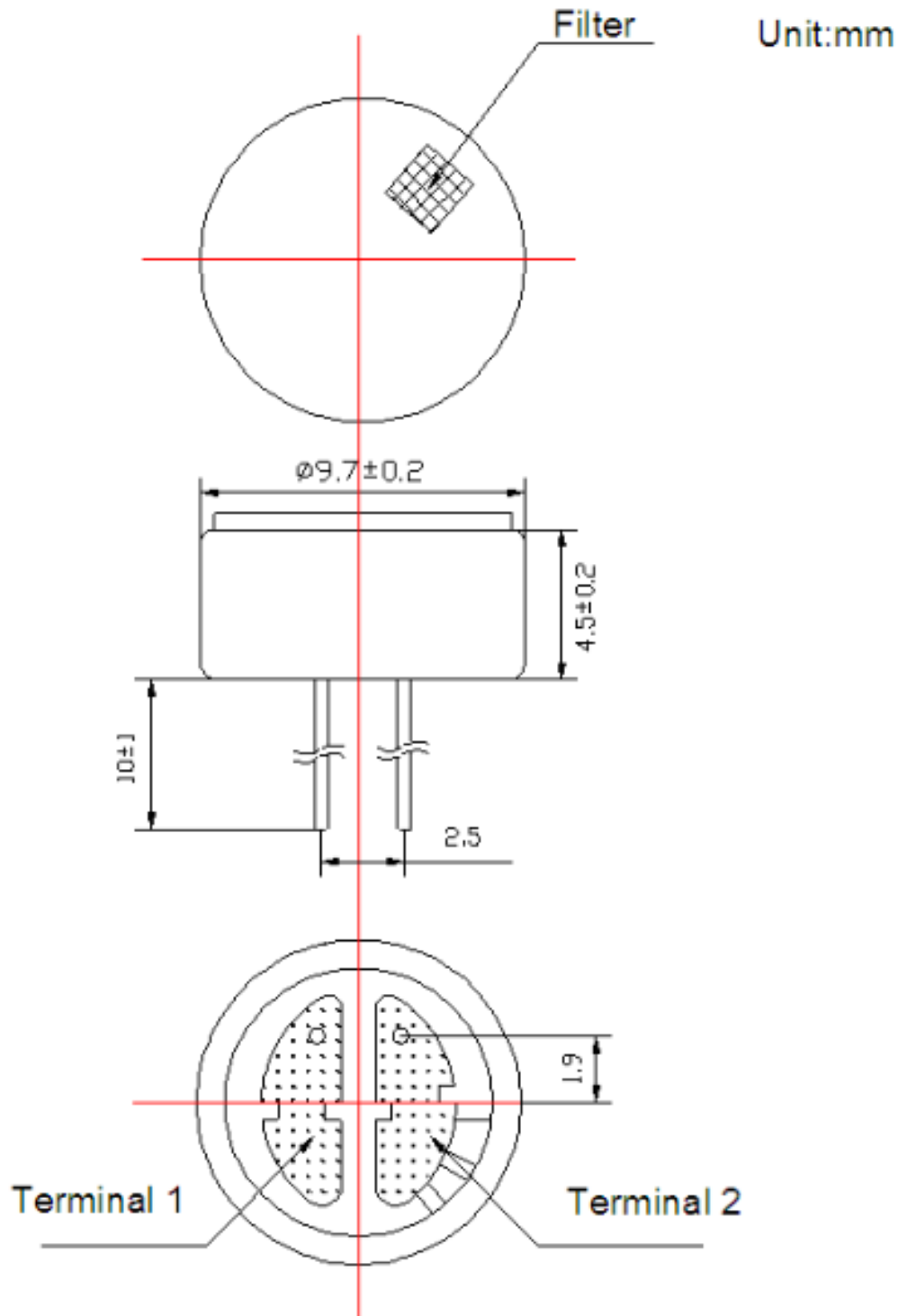
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5. APPEARANCE & DIMENSIONS



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TYPE: ECM

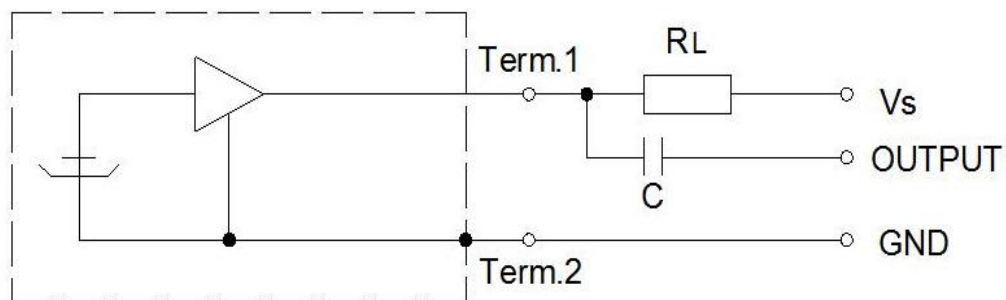
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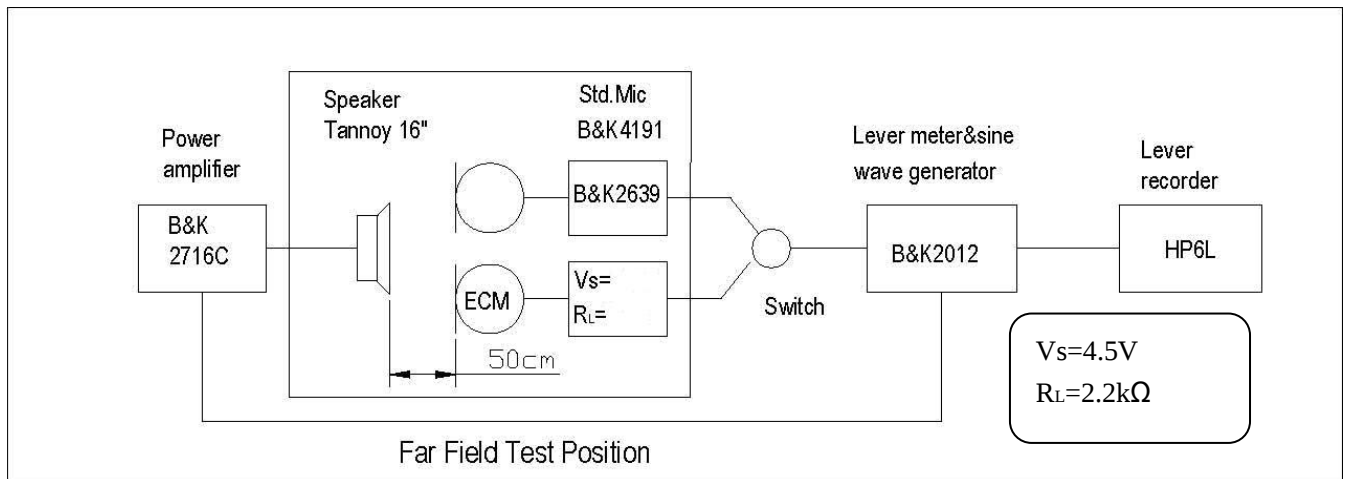
6. Test Circuit

Measurement Circuit

V_s :Source Voltage 4.5V R_L :Load Resistance 2.2K Ω



7. Test Setup Drawing



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8. Reliability Test

All tests should be done after 2 hours of conditioning at 20°C, R. H65% , while the sensitivity is to be within $\pm 3\text{dB}$ from the initial sensitivity after the following experiments.

8.1 High Temperature Test

High temperature:	+60°C
Duration:	72 hours

8.2 Low Temperature Test

Low temperature:	-40°C
Duration:	72 hours

8.3 Temperature Cycle Test (See in Fig.1)

Low temperature:	-25°C
High temperature:	+60°C
Changeover time:	10min
Duration:	30min
Cycle:	32

8.4 Statical Humidity Test

Temperature:	+40°C
Relative humidity:	90 ~ 95%
Duration:	72hours

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8.5 Vibration Test

Amplitude : 1.52mm
Duration: 1minutes /plane
Freq.range: 10~55 Hz
Total time: 2 hours

8.6 Dropping Test

Drop a unit unpacked onto a board of 20mm thick.

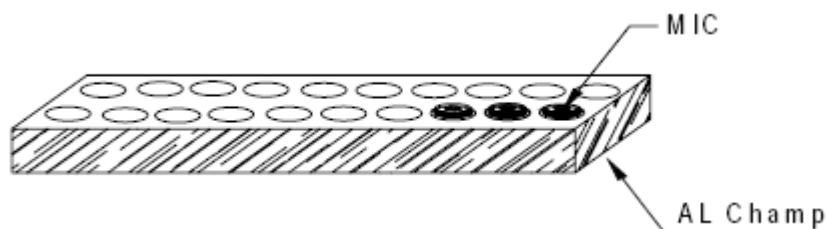
Height: 1.0 m
Cycle: 6

8.7 ESD Test

The microphone under test must be discharged between each ESD exposure without ground.
(contact: $\pm 6KV$, air: $\pm 8KV$) There is no interference in operation after 10 times exposure.

9. Regarding the Soldering operation

- Use 15~ 20W soldering iron and maintain $290^{\circ}C \sim 310^{\circ}C$ in operation.
- Operators who work in the solder fixture and the soldering iron must be statically grounded under each soldering process.
- Soldering should be accomplished within two seconds at each terminal so as not to be overheated.
- Optimal design for heat sink pad is same as below.



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10. List and Structure of Materials

An exploded view diagram of an ECM assembly. The components are numbered 1 through 8. 1 is a PCB at the top. 2 is a FET mounted on the PCB. 3 is a Holder below the FET. 4 is a Back plate below the holder. 5 is a Spacer below the back plate. 6 is a Film below the spacer. 7 is the Outer most shell, which is a large U-shaped frame. 8 is a Cloth, shown as a rectangular piece at the bottom. Arrows indicate the assembly sequence and relative positions of the parts.

NO.	PARTS
1	PCB
2	FET
3	Holder
4	Back plate
5	Spacer
6	Film
7	Outer most shell
8	Cloth

NO	Part name	Material Type	Qty	Origin	Manufacture	Remarks
1	PCB	FR-4	1			
2	FET	CSK596	1			
3	Holder	ABS	1			
4	Back plate	Cu	1			
5	Spacer	Mylar	1			
6	Film	FEP	1			
7	Outer most shell	Magal	1			
8	Cloth	Fabrics	1			

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11. HANDLING INSTRUCTION

1、Assembly process

- a)、After connector and holder are once disassembled , they should not be re-used.
- b)、Do not touch outer springs directly(except for PCB or proper terminal set at nominal height.
- c)、Do not give any mechanical shocks to the microphone(e.g. dropping to floor)

2、General information

2-1: This microphone shall not be operated or stored in following environment.

- >where liquid(water,solvent and so on)splashes.
- >where the air has a high concentration of corrosive gas .
- >where is too dusty.
- >where temperature changes rapidly.

2-2: Frequency response especially in high frequency region is dependent on the structure of enclosure.

Please remove additional acoustic mass or cavity in front of the microphone to the utmost.

2-3:do not put mechanical pressure more than 2 kg to the microphone.

2-4: microphone should not be in state of outgoing packing for a long-term storage.

2-5: all the soldering procedures upon microphone must be complete in a metallic device,the temperature of the soldering irons must be limited as 320℃ and less 3 s ,the operators、 the solder fixtures and the soldering irons must be statically grounded under each soldering process.