TIANGXI COMPONENTS 田溪電子元器件

PRODUCT SPECIFICATION Part No：TX58S9767-2V

1、Scope

The specifications should be applied to electret condenser microphone of TX58S9767-2V

2、Storage And Judgement Conditions

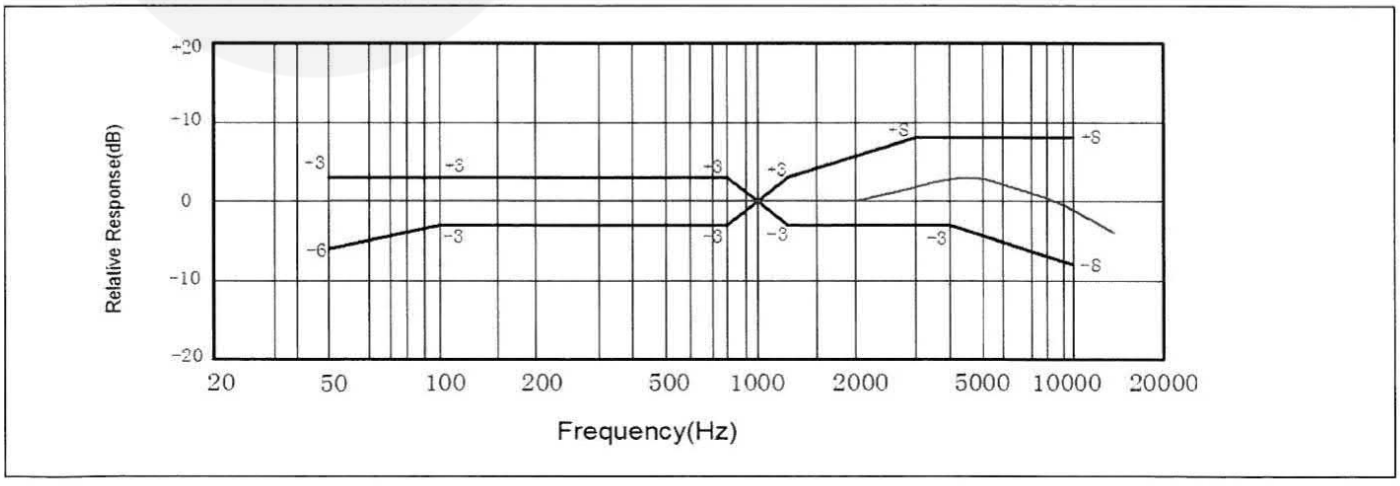
	Temperature Range(° C)	Rel. Humidity (%)	Static Pressure (kPa)
Judgement	19～21	60～70	86～106
Storage	-30～70		
Operating	-20～60		

3、Specifications

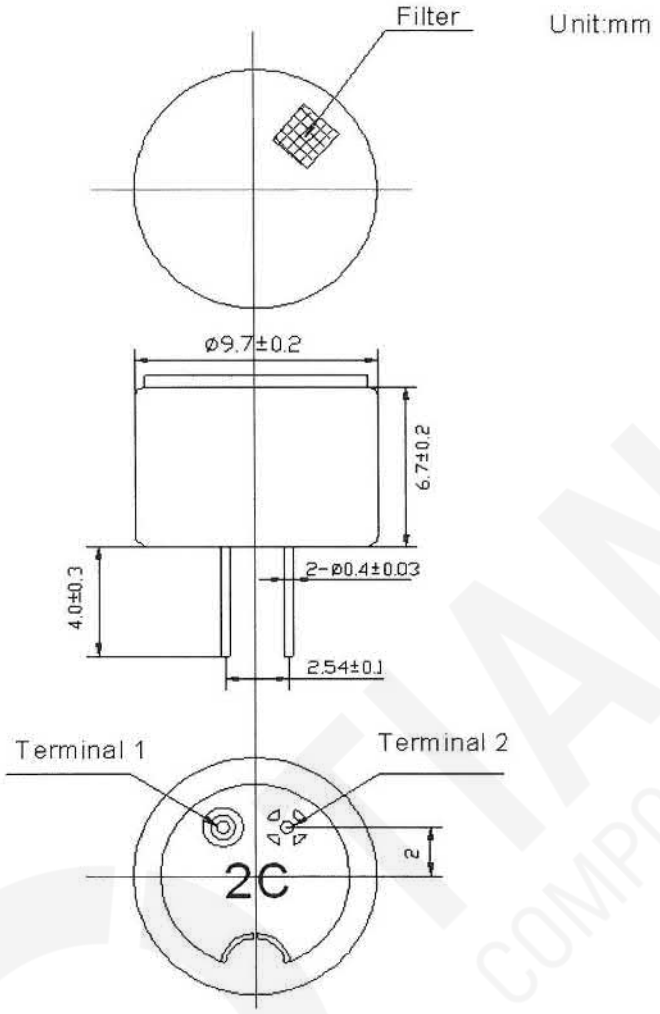
Test Conditions：Vs=2.0V，RL=2.2KΩ，Temp=20±2° C，R.H=60±5%

ITEM	Symbol	Test Conditions	Min	Standard	Max	Unit
Sensitivity	S	f=1KHz, S.P.L=1μBar	-61	-58	-55	dB 0dB=1V/μBar
Impedance	Z	f=1KHz, S.P.L=1μBar			2.2	KΩ
Directivity	Omni-directional					
Current Consumption	I				500	μA
Operation Voltage Range	Vs		1.0	2.0	10	V
S/N Ratio	S/N(A)	f=1KHz, S.P.L=1Pa A Curve	55			dB
Decreasing Voltage Characteristic	△S	f=1KHz, S.P.L=1Pa Vs=2.0-1.5V			-3	dB
Max.Input Sound Level	MISPL	f=1KHz, Distortion≤3%			115	dB

4、Frequency Response



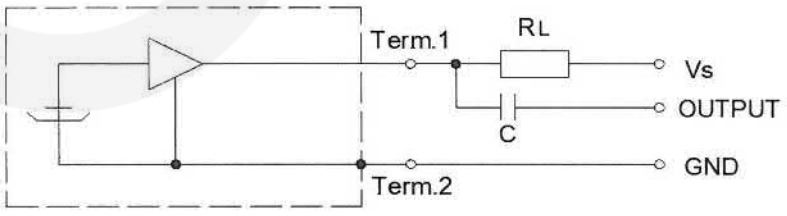
5、APPEARANCE & DIMENSIONS



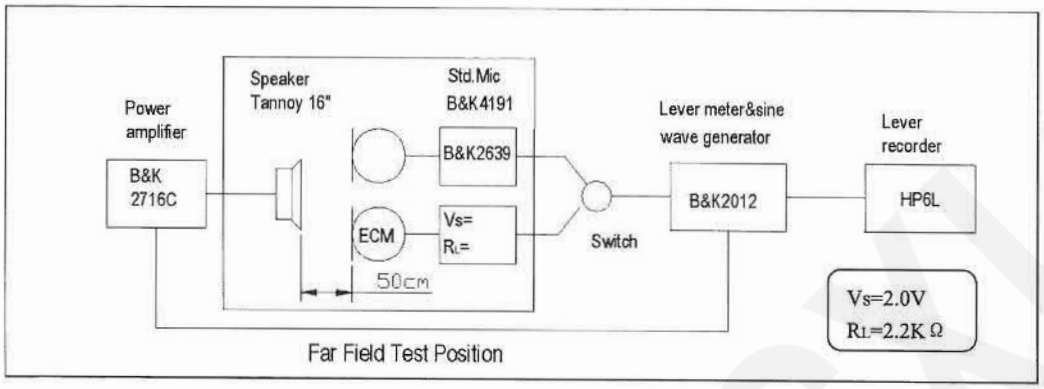
6、Test Circuit

Measurement Circuit

Vs: Source Voltage 2.0V R_L: Load Resistance 2.2KΩ



7、Test Setup Drawing



8、 Reliability Test

All tests should be done after 2 hours of conditioning at 20℃， R. H65%, while the sensitivity is to be within ±3dB from the initial sensitivity after the following experiments.

8.1 High Temperature Test

High temperature:	+60℃
Duration:	72 hours

8.2 Low Temperature Test

Low temperature:	-40℃
Duration:	72 hours

8.3 Temperature Cycle Test (See in Fig.1)

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

8.4 Statical Humidity Test

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

8.5 Vibration Test

Amplitude:	1.52mm
Duration:	1 minutes / 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: ±6KV, air: ±8KV) There is no interference in operation after 10 times exposure.

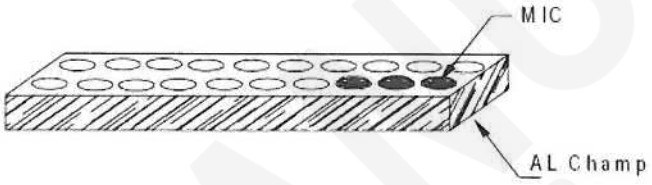
9、 Regarding the Soldering operation

a. Use 15~ 20W soldering iron and maintain 290℃~310℃ in operation.

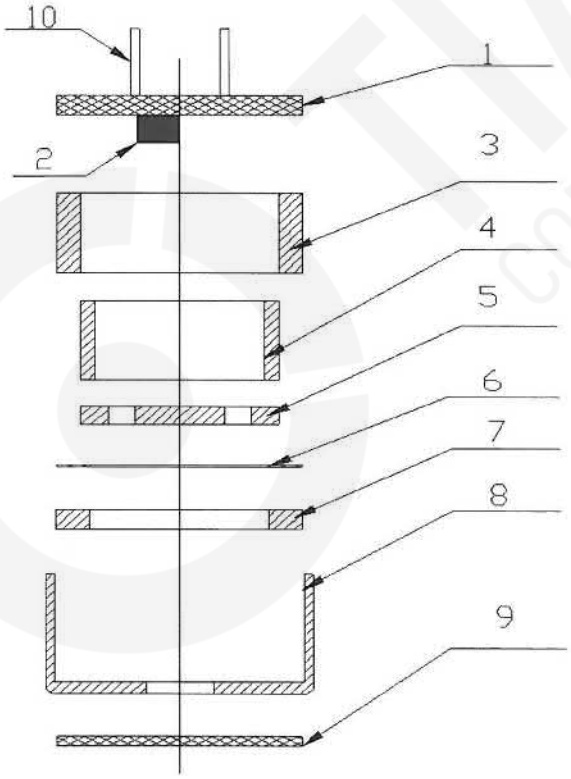
b. Operators who work in the solder fixture and the soldering iron must be statically grounded under each soldering process.

c. Soldering should be accomplished within two seconds at each terminal so as not to be overheated.

d. Optimal design for heat sink pad is same as below.



10、 List and Structure of Materials



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

NO.	Part name	Material Type	Qty	Origin	Manufacture	Remarks
1	PCB	FR-4	1			
2	FET	2SP1109（国产）	1			
3	Holder	POM	1			
4	Copper ring	Cu	1			
5	Back plate	Cu	1			
6	Spacer	Mylar	1			
7	Film	FEP	1			
8	Outer most shell	AL	1			
9	Cloth	Fabrics	1			
10	Pin	Brass wire TZY6	2			

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 3s, the operators、the solder fixtures and the soldering irons must be statically grounded under each soldering process.