

SPECIFICATIONS

FOR

APPROVAL

Part name : electret condenser microphone

Co Model(pssz) : HYLD9767

Model(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 | |

PRODUCT SPECIFICATION

TYPE: ECM

PART No: HYLD 9767

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1、Scope

The specifications should be applied to electret condenser microphone of DG09767CD

2、Storage And Judgement Conditions

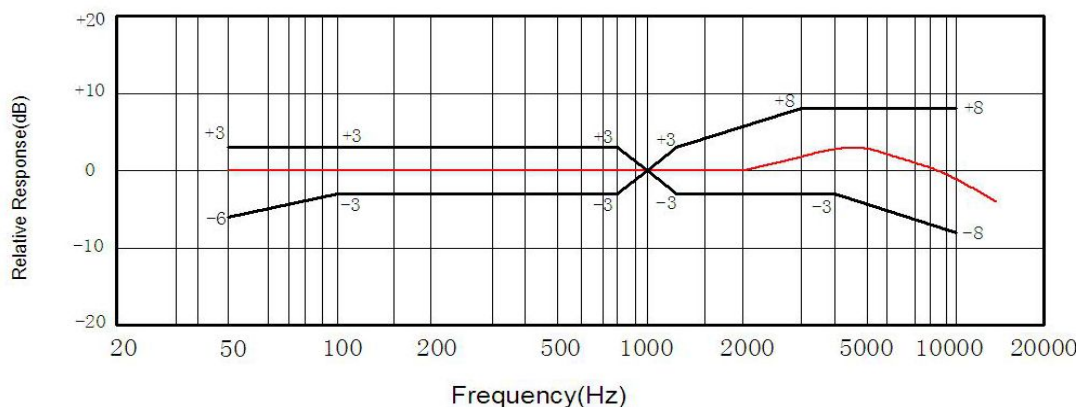
| | Temperature Range(° C) | Rel. Humidity (%) | Static Pressure (kPa) |
|-----------|------------------------|-------------------|-----------------------|
| Judgement | 19~21 | 60~70 | 86~106 |
| Storage | -30~70 | | |
| Operating | -20~60 | | |

3、Specifications

Test Conditions: $V_s=4.5V$, $R_L=2.2K\Omega$, $Temp=20\pm 2^\circ C$, $R.H=60\pm 5\%$

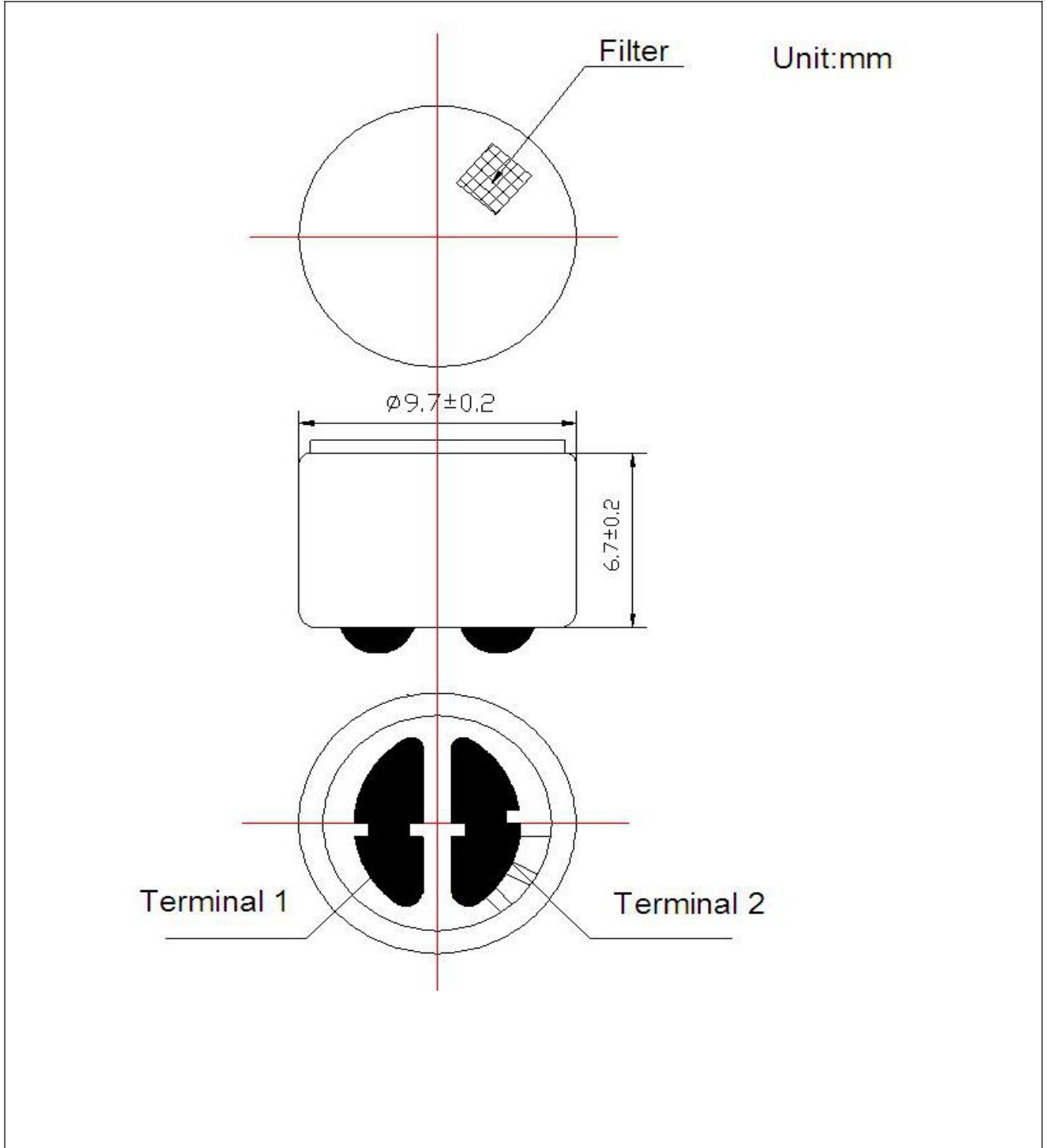
| ITEM | Symbol | Test Conditions | Min | Standard | Max | Unit |
|-----------------------------------|------------------|---------------------------------------|-----|----------|-----|-------------------------|
| Sensitivity | S | f=1KHz, S. P. L=1 μ Bar | -59 | -56 | -53 | dB 0dB=1V/ μ Bar |
| Impedance | Z | f=1KHz, S. P. L=1 μ Bar | | | 2.2 | K Ω |
| Directivity | Omni-directional | | | | | |
| Current Consumption | I | | | | 500 | μ A |
| Operation Voltage Range | VS | | 1.1 | 4.5 | 10 | V |
| S/N Ratio | S/N(A) | f=1KHz, S. P. L=1Pa A Curve | 55 | | | dB |
| Decreasing Voltage Characteristic | ΔS | f=1KHz, S. P. L=1Pa $V_s=4.5-3.0V$ | | | -3 | dB |
| Max. Input Sound Level | MISPL | f=1KHz, Distortion $\leq 3\%$ | | | 115 | dB |

4、Frequency Response



PRODUCT SPECIFICATION

5、APPEARANCE & DIMENSIONS



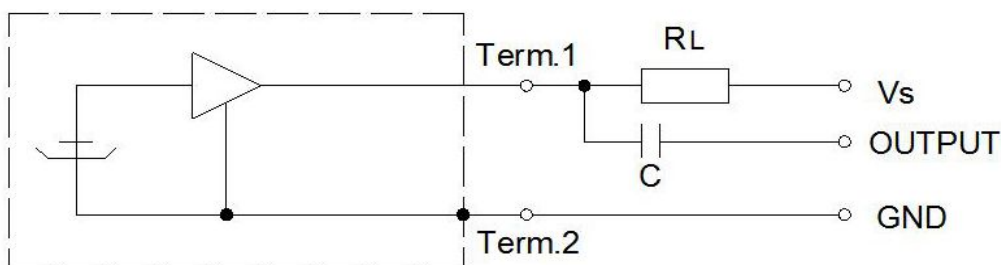
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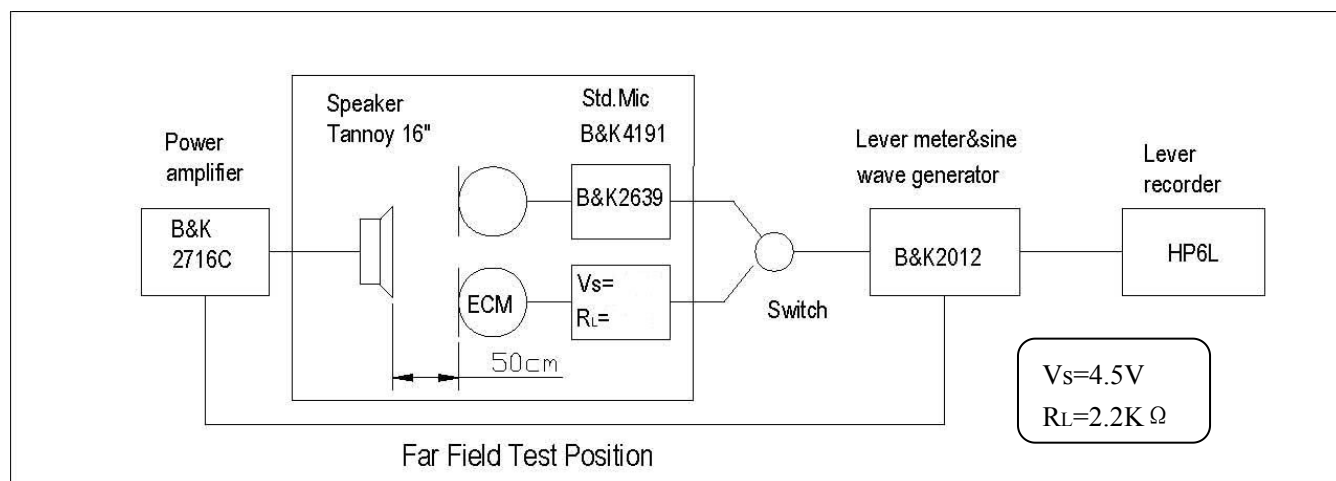
6、 Test Circuit

Measurement Circuit

Vs:Source Voltage 4.5V RL: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℃ , 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℃ |
| 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: | 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.

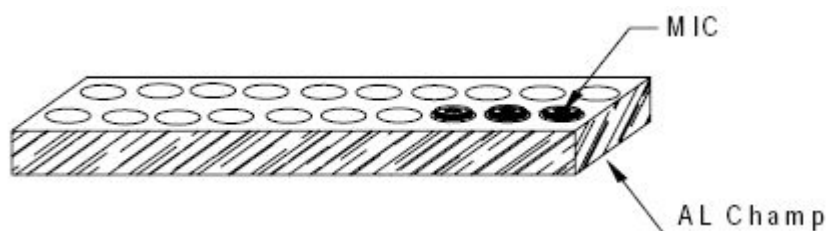
| | |
|---------|-------|
| Height: | 1.0 m |
| Cycle: | 6 |

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.



10、 List and Structure of Materials

The diagram shows an exploded view of an ECM assembly. The components are numbered 1 through 8. 1 is a PCB, 2 is a FET, 3 is a Holder, 4 is a Back plate, 5 is a Spacer, 6 is a Film, 7 is an Outer most shell, and 8 is a Cloth. The assembly is shown in a cross-sectional view, with the components stacked on top of each other.

| 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-1 | 1 | | | |
| 2 | FET | K596 | 1 | | | |
| 3 | Holder | ABS | 1 | | | |
| 4 | Back plate | Cu | 1 | | | |
| 5 | Spacer | Mylar | 1 | | | |
| 6 | Film | FEP | 1 | | | |
| 7 | Outer most shell | AL | 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 micphone(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°C and less 3 s ,the operators、 the solder fixtures and the soldering irons must be statically grounded under each soldering process.

