



Product Specification

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| | |
|---------------|----------------------|
| Product Name: | SMD Piezo Transducer |
| Part Number: | SFM-9019-03A |
| Version: | 1.04 |
| Date: | 2024-3-11 |
| Note: | |

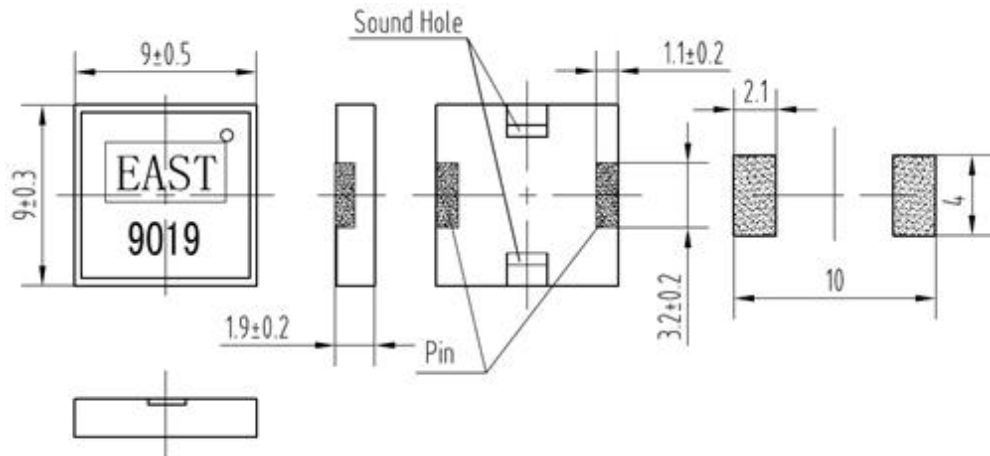
East is an ISO 9001 , IATF16949 and ISO 14001 Certified Company

Revision History

| Rev. | Description | Author/Date | Checked By | Approver |
|------|---------------------------------------|-------------------|------------|----------|
| 1.04 | adding a quality guarantee period | 司徒晓东 2024-3-11 | 胡汇峰 | 王建成 |
| 1.03 | Update the capacitance specification. | 胡汇峰 2022-2-8 | 汤礼东 | 王建成 |
| 1.02 | Quality management system revised | 汤礼东 2019-11-7 | 吕文斌 | 王建成 |

1. Part Number SFM-9019-03A

2. Dimension Drawing (Unit: mm)



SFM-TERMINAL VERSION

RECOMMENDED SMD FOOT PATTERN

Solder paste thickness is not below 0.2mm

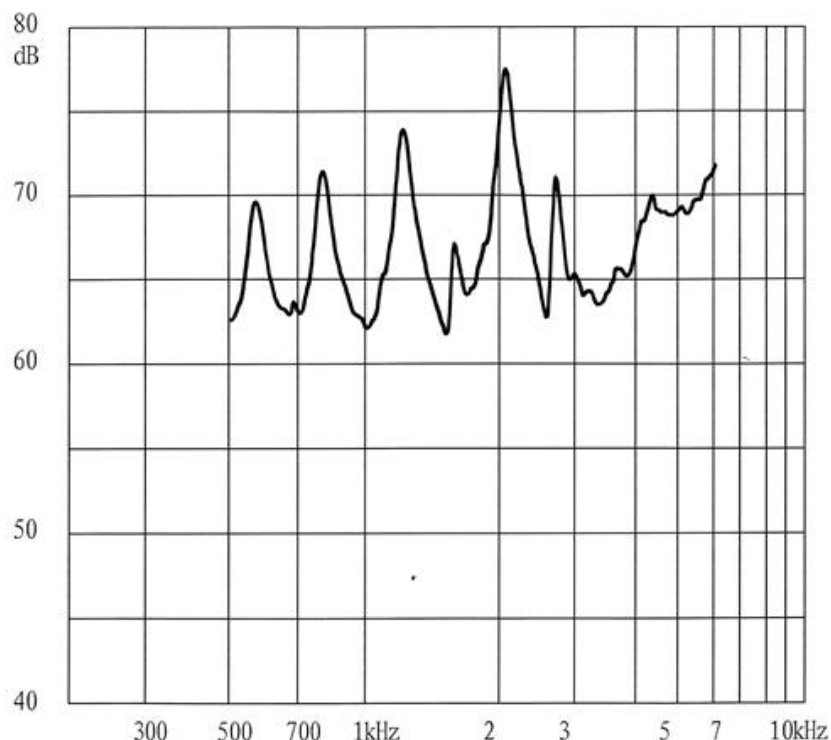
3.Specification

| No. | Item | Specification |
|------|---------------------------|--|
| 3-1 | Min. Sound Pressure Level | 65dB(A)/4.0kHz/3Vp-p square wave /10cm |
| 3-2 | Rated Voltage | 3Vp-p |
| 3-3 | Allowed Input Voltage | 1~20Vp-p |
| 3-4 | Capacitance | 12±30% nF(At 100Hz/1V) |
| 3-5 | Max. Consumption | 5mA/4.0kHz/3Vp-p square wave |
| 3-6 | Resonant Frequency | 4.0±0.5KHz |
| 3-7 | Operating Temperature | -40~+85℃ |
| 3-8 | Storage Conditions | +5~+40℃,20~70% RH Please use with in 6 months |
| 3-9 | Case Material /Color | LCP/Black |
| 3-10 | Pin Material Plating | Cu/Sn |
| 3-11 | Weight | 0.2g |

NOTES:

Test should be made under the conditions of room temperature (20±10℃), normal humidity (60±20%) and normal atmospheric pressure. In this case, however, that the judgment is questionable, the test conditions are to be changed to room temperature 20±2℃, relative humidity 60~70% and normal atmospheric pressure

4. Typical Frequency Response Curve



Note: Input Voltage 3Vp-p square wave
Distance 10 cm

5. Reliability Test

| No. | Item | Method of Test | Tolerance after Testing |
|-----|---------------------------------------|--|---|
| 5-1 | Operating Temperature | -40~+85°C | Sound pressure level initial value ± 10 dB (A) Max. consumption value $\pm 20\%$ Capacitance value $\pm 20\%$ |
| 5-2 | Storage in high temperature | Storage in +85°C test box 96 hours then exposed to the room temperature for 2 hours | |
| 5-3 | Storage in low temperature | Storage in -40°C test box 96 hours then exposed to the room temperature for 2 hours | |
| 5-4 | Life test in the room temperature | Operate the product continuously 5 seconds on 5 seconds off 96 hours at rated voltage | |
| 5-5 | Temperature / humidity cycle test | Storage in +40°C, 93 \pm 3%RH test box 96 hours then exposed to the room temperature for 2 hours | |
| 5-6 | Temperature (high and low) cycle test | Conduct the test for 5 cycles without applying power then expose to the room temperature for 2 hours.(See Figure 5-6) | |
| 5-7 | Vibration test | Conduct the test for the directions of X Y and Z for 0.5 hour each (total 1.5 hours). To-and Fri sweep time(from 10 to 55Hz and then 55 to 10) under single amplitude of 0.75mm is 3 minute, then expose to the room temperature for 2 hours | |

| | | | |
|------|----------------------------------|---|--|
| 5-8 | Drop test | Drop a product naturally from the height of 700mm onto the surface of 100mm thick wooden board. Two directions: upper and side of the product are to be applied for this drop test once respectively | |
| 5-9 | Reflow soldering heat resistance | a) Pre-heating conditions shall be $+140^{\circ}\text{C}$ to 160°C for 160 to 200 seconds. (See Figure5-9) b) Heating conditions shall be within 60 seconds at $+200^{\circ}\text{C}$ min., but peak temperature shall be lower than $+260^{\circ}\text{C}$. (See Figure 5-9) | |
| 5-10 | Test of soldering | Dip the connecting pins in soldering at $255\pm 5^{\circ}\text{C}$ for 3 ± 0.5 seconds | Solder shall be attached around over 95% of the dipped portion |

NOTE: The pins are allowed to deform after drop test.

Figure 5-6

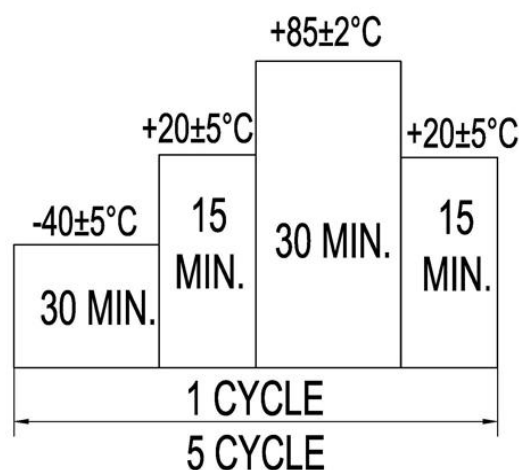
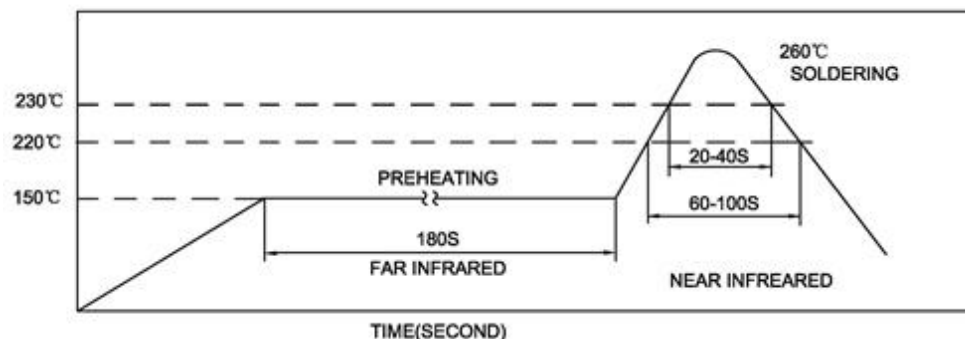
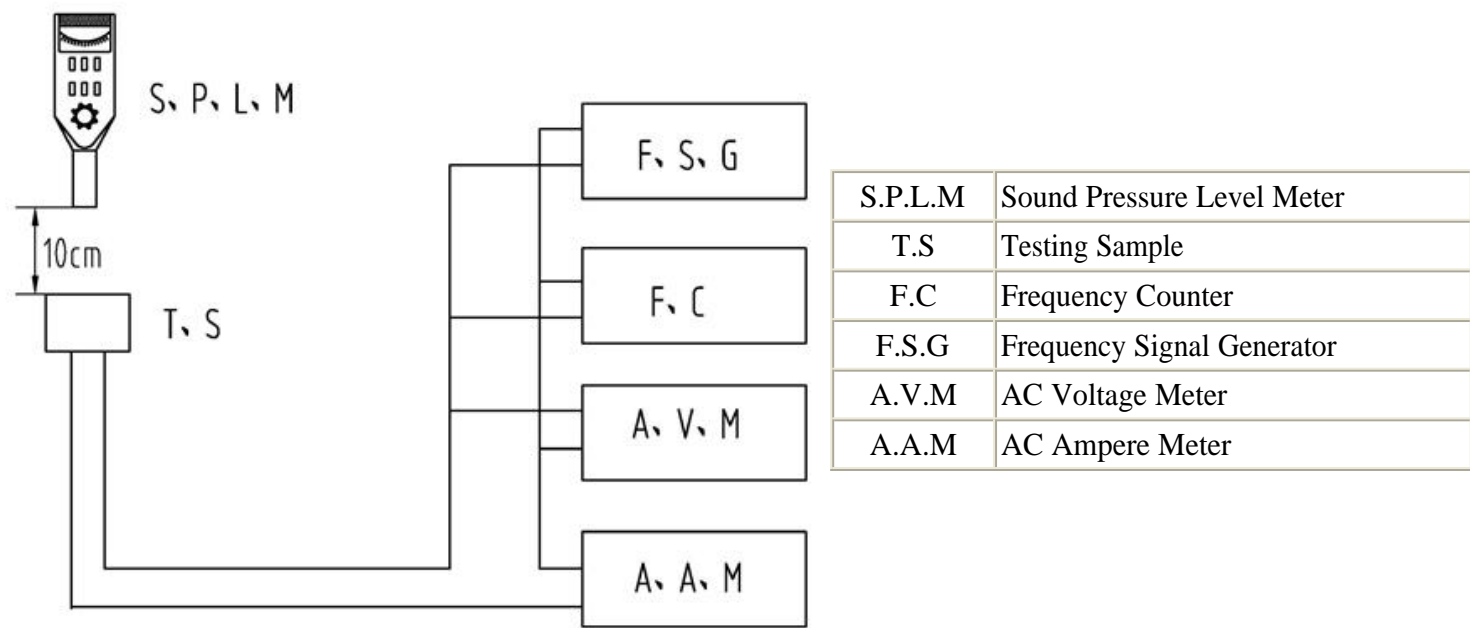


Figure 5-9



6. Electrical Testing Method



7. Packing Information

| No. | Item | Description |
|-----|---------------------------------|---|
| 7-1 | Tape type information | a) The design for such tape packing was executed under standard IEC - 286-3 b) The material of the tape is polystyrene in black color. Detailed dimensions are as below: (See Figure7-1) |
| 7-2 | Dimensions of the rolling plate | a) The material of the rolling plate is plastic. b) The dimensions of the rolling plate are as below(See Figure7-2) |
| 7-3 | Packing dimensions and quantity | a) The rolling plate is packed with2,500 pcs of the transducer per plate. b) The dimension of the outer carton is 320X 350X 350mm containing 10 inner boxes (340X 335X 27mm)with a total quantity of 25000 pcs of transducer. c) The total gross weight per carton is 6.5Kgs, while net weight is 5 Kgs. |

Figure 7-1

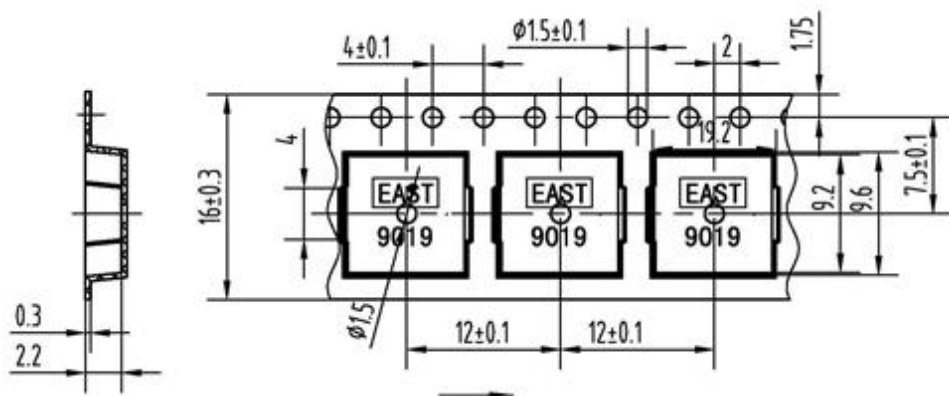


Figure 7-2

