



Product Specification

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|---------------|----------------------------------|
| Product Name: | External-Driven Piezo Transducer |
| Part Number: | TFM-51FAA |
| Version: | 1.04 |
| Date: | 2024-6-14 |
| Note: | |

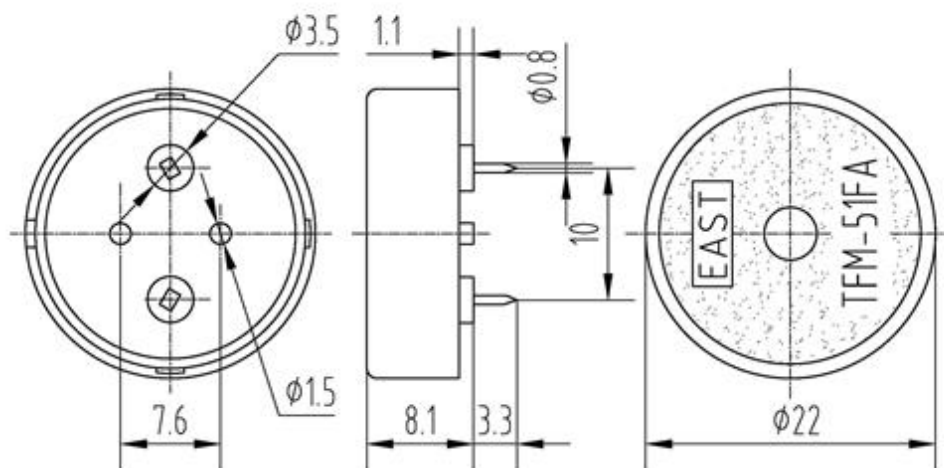
East is an ISO 9001 , IATF16949 and ISO 14001 Certified Company

Revision History

| Rev. | Description | Author/Date | Checked By | Approver |
|------|-----------------------------------|------------------|------------|----------|
| 1.04 | Revise the packing information | 吕文斌 2024-6-14 | 汤礼东 | 王建成 |
| 1.03 | Quality management system revised | 汤礼东 2019-8-20 | 吕文斌 | 王建成 |
| 1.02 | Packing quantity to 2800 pcs | 汤礼东 2016-8-10 | 俞凯 | 王建成 |

1. Part Number TFM-51FAA

2. Dimension Drawing (Unit: mm)



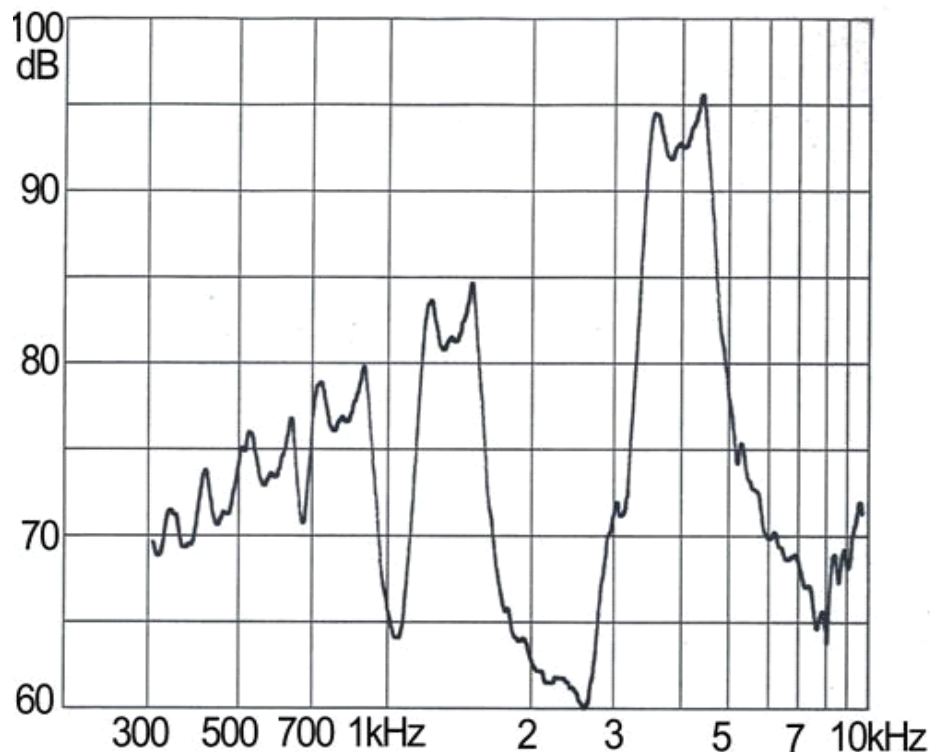
3.Specification

| No. | Item | Specification |
|-----|---------------------------|-------------------------------------|
| 3-1 | Min. Sound Pressure Level | 75dB/4.0kHz/3Vp-p square wave /10cm |
| 3-2 | Allowed Input Voltage | 30Vp-p |
| 3-3 | Capacitance | 24 \pm 30% nF(At 1000Hz) |
| 3-4 | Max. Consumption | 2mA/4.0kHz/3Vp-p square wave |
| 3-5 | Resonant Frequency | 4.0 \pm 0.5kHz |
| 3-6 | Operating Temperature | -40~+85°C |
| 3-7 | Case Material /Color | PA66/Black |
| 3-8 | Weight | 2.5g |
| 3-9 | Pin Strength | More than 10N |

NOTES:

Test should be made under the conditions of room temperature (20 \pm 10°C), normal humidity (60 \pm 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 \pm 2°C, relative humidity 60~70% and normal atmospheric pressure

4. Typical Frequency Response Curve



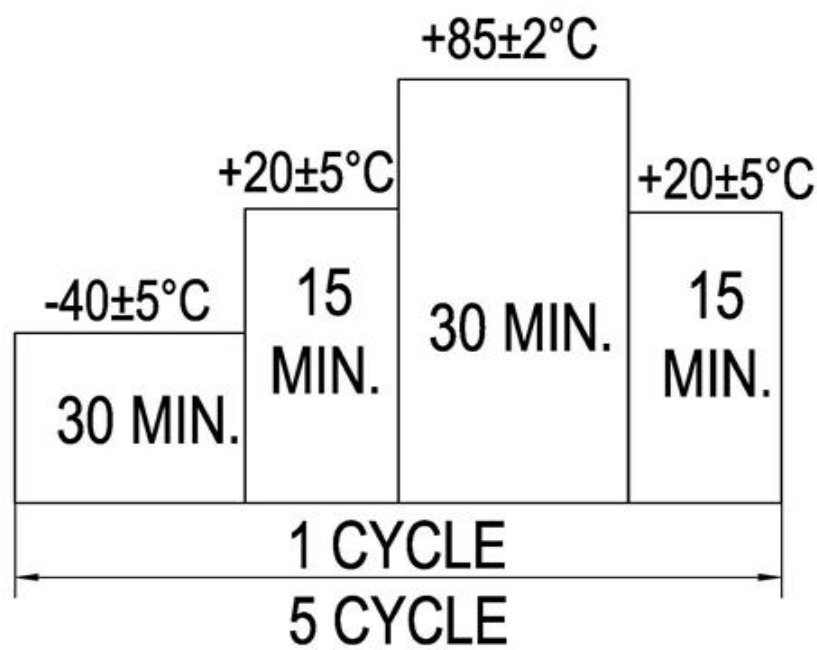
Note: Input Voltage 3Vp-p square wave
Distance 10 cm

5. Reliability Test

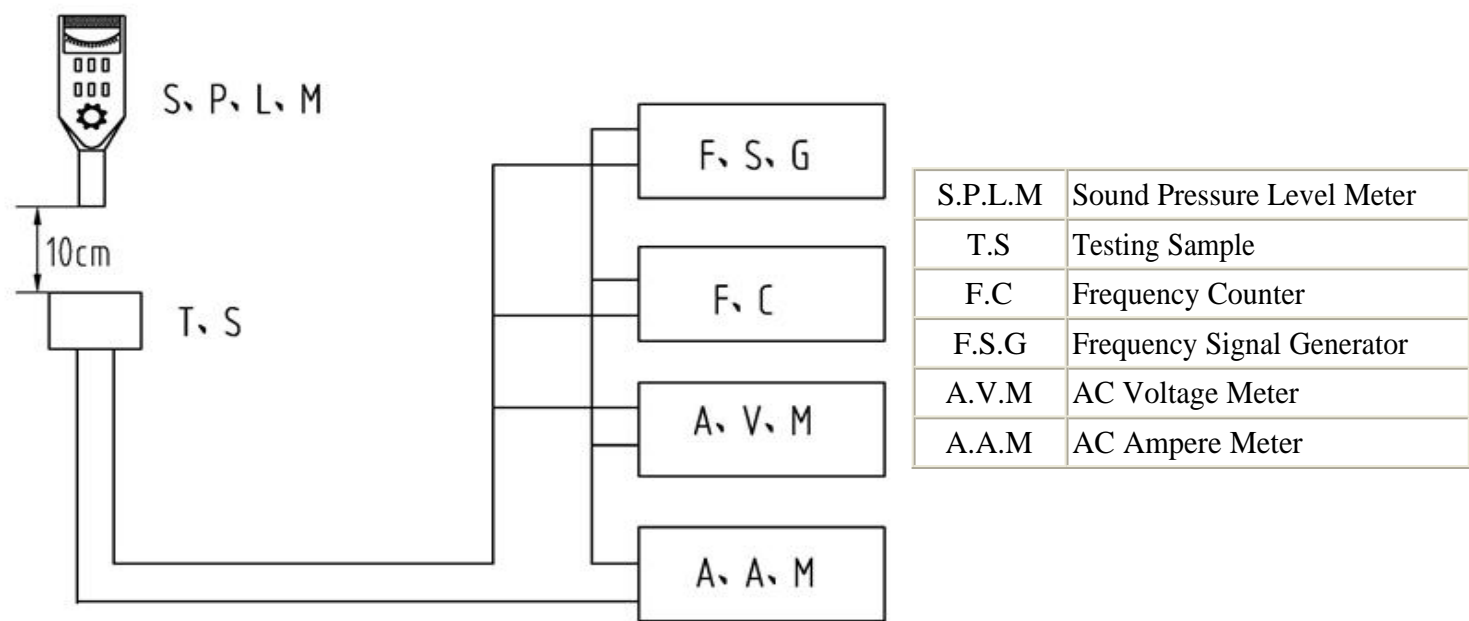
| No. | Item | Method of Test | Tolerance after Testing |
|-----|---------------------------------------|--|--|
| 5-1 | Operating Temperature | -40~+85℃ | Sound pressure level initial value $\pm 10\text{dB}$ Max. consumption value $\pm 20\%$ Capacitance value $\pm 20\%$ |
| 5-2 | Storage in high temperature | Storage in +85℃ test box 96 hours then exposed to the room temperature for 2 hours | |
| 5-3 | Storage in low temperature | Storage in -40℃ 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 300 hours at rated voltage | |
| 5-5 | Temperature / humidity cycle test | Storage in +40℃, 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 | Soldering heat resistance test | Dip the connecting pins in soldering at 260±5℃ for 10±1 seconds | |
| 5-10 | Test of soldering | Dip the connecting pins in soldering at 230±5℃ 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



6. Electrical Testing Method



7. Packing Information

Packing: 2800 pcs per export carton
Carton Size: 47× 30.5× 29 cm
G. Weight: 9.9 kgs N. Weight: 7.0 kgs