



Product Specification

Ningbo East Electronics Limited

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Product Name:	SMD External-Driven Piezo Transducer
Part Number:	SFM-1820E
Version:	1.0
Date:	2022-4-25
Note:	

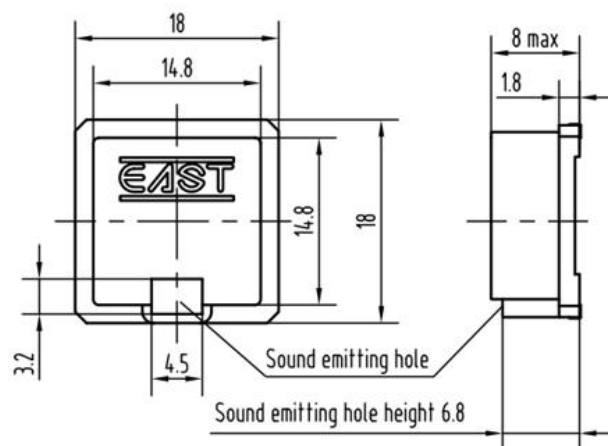
East is an ISO 9001 , IATF16949 and ISO 14001 Certified Company

Revision History

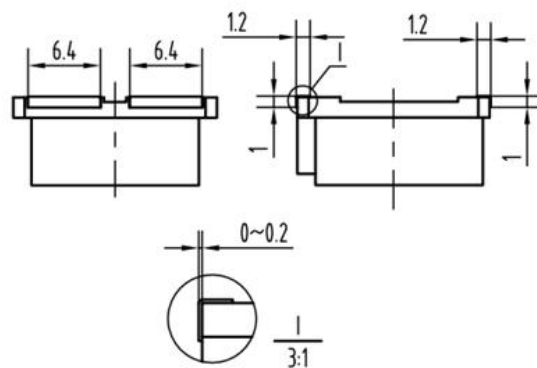
Rev.	Description	Author/Date	Checked By	Approver
1.0	Released	胡汇峰 2022-4-25	汤礼东	王建成

1. Part Number SFM-1820E

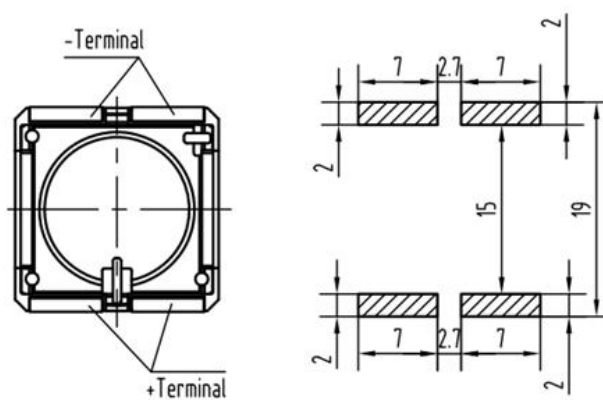
2. Dimension Drawing (Unit: mm)



PLASTIC PARTS SIZE



PIN SIZE



RECOMMENDED SMD FOOT PATTERN

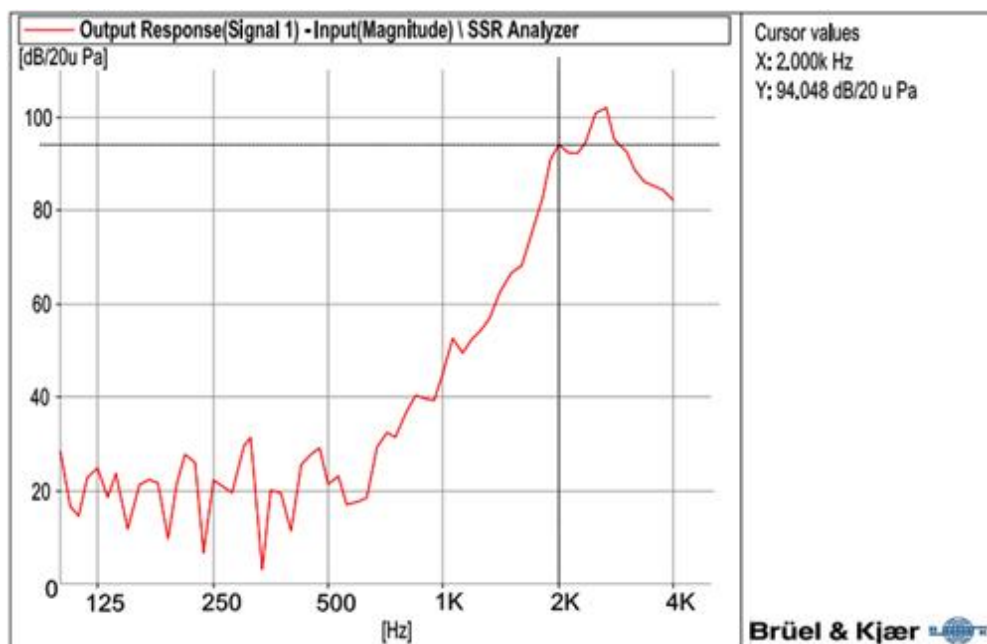
3.Specification

No.	Item	Specification
3-1	Typ. Sound Pressure Level	100dB(A)/2.0kHz/12Vp-p square wave /10cm
3-2	Min. Sound Pressure Level	90dB(A)/2.0kHz/12Vp-p square wave /10cm
3-3	Allowed Input Voltage	20Vp-p
3-4	Max. Consumption	3mA/2.0kHz/12Vp-p square wave
3-5	Resonant Frequency	2.0± 0.5kHz
3-6	Operating Temperature	-40~+105°C
3-7	Storage Temperature	-40~+105°C
3-8	Case Material /Color	LCP/Black
3-9	Pin Material /Plated	Cu/Sn
3-10	Weight	0.9g

NOTES:

Test should be made under the conditions of room temperature ($20\pm10^{\circ}\text{C}$), normal humidity ($60\pm20\%$) and normal atmospheric pressure. In this case, however, that the judgment is questionable, the test conditions are to be changed to room temperature $20\pm2^{\circ}\text{C}$, relative humidity 60~70% and normal atmospheric pressure

4.Typical Frequency Response Curve



Note: Input Voltage 12Vp-p square wave
Distance 10cm

5. Reliability Test

No.	Item	Method of Test	Tolerance after Testing
5-1	Operating temperature	-40~+105°C	Sound pressure level initial value $\pm 10\text{dB}$ Max. consumption value $\pm 20\%$
5-2	Storage in high temperature	Storage in +105°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 300 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°C to 160°C for 160 to 200 seconds. (See Figure5-9) b) Heating conditions shall be within 60 seconds at +200°C min., but peak temperature shall be lower than +260°C. (See Figure 5-9)	
5-10	Test of soldering	Dip the connecting pins in soldering at 230 \pm 5°C for 3 \pm 0.5 seconds	Solder shall be attached around over 95% of the dipped portion

Figure 5-6

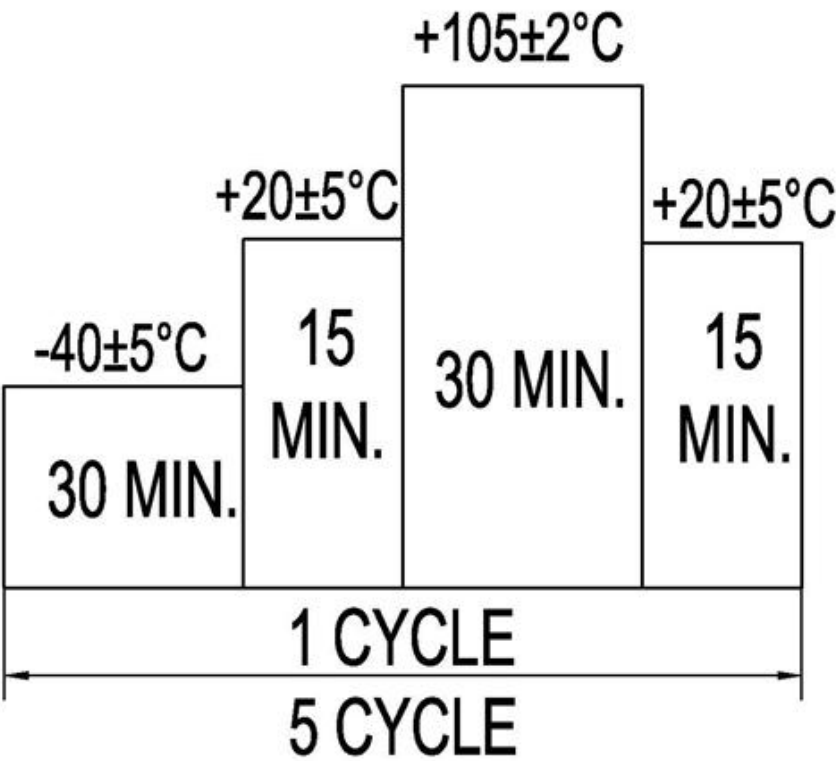
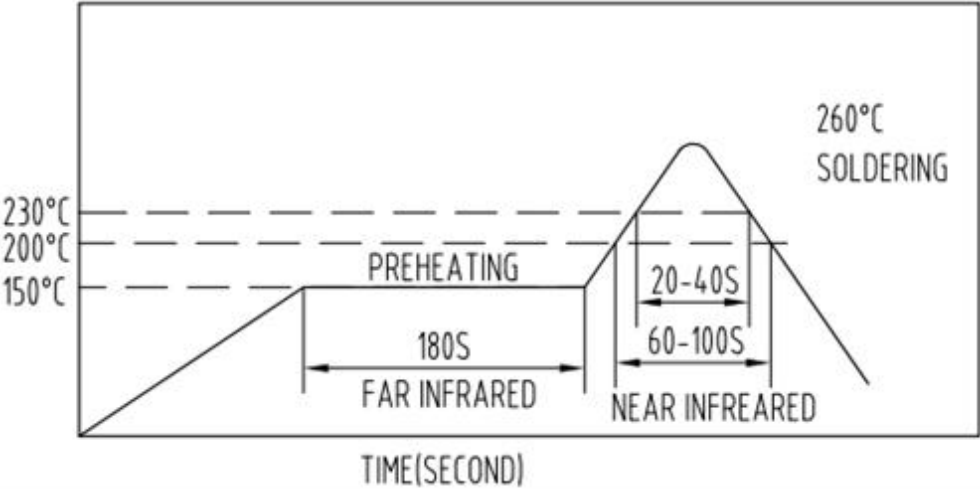
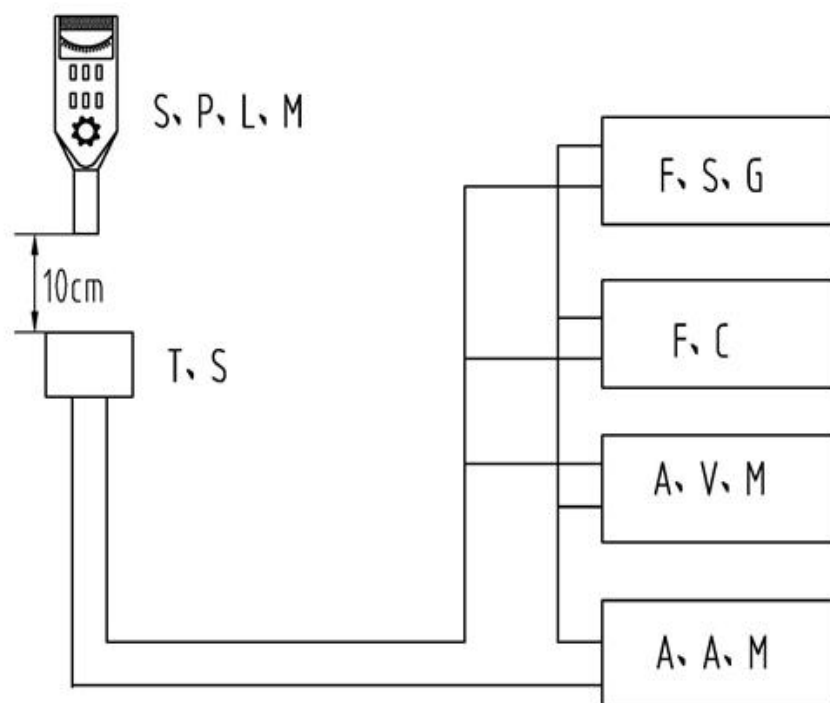


Figure 5-9



6. Electrical Testing Method



S.P.L.M	Sound Pressure Level Meter
T.S	Testing Sample
F.C	Frequency Counter
F.S.G	Frequency Signal Generator
A.V.M	AC Voltage Meter
A.A.M	AC Ampere Meter

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 put into a 340X340X45mm inner packing box and is packed with 300pcs of transducer per plate. b) The dimension of the outer carton is 460X 350X 350mm containing 10 inner boxes with a total quantity of 3000 pcs of transducer. c) The total gross weight per carton is 8.1Kgs, while net weight is 2.7Kgs.

Technical drawing of a rectangular plate with two 'EAST' labels. The drawing includes a side view on the left and a top view on the right. The side view shows a plate with a thickness of 0.5 and a width of 8.3. The top view shows a plate with a length of 24 and a width of 17.5. The plate has two 'EAST' labels, each with a width of 14.25 and a height of 14.25. The labels are positioned 4.0 ± 0.1 from the top and bottom edges. The plate has a central hole with a diameter of 15.0 ± 0.1. The plate is surrounded by a border of 2.0. The plate is made of a material with a thickness of 0.5 and a width of 8.3.