



# TAI-SAW TECHNOLOGY CO., LTD.

No. 3, Industrial 2nd Rd., Ping-Chen Industrial District,  
Taoyuan, 324, Taiwan, R.O.C.

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## Product Specifications Approval Sheet

Product Description: Multi-layer Filter 5550MHz Size 1.6X0.8mm (BW 800MHz)

TST Part No.: TL0046AA0092

Customer Part No.: \_\_\_\_\_

Customer signature required
Company: _____
Division: _____
Approved by : _____
Date: _____

Checked by: \_\_\_\_\_ Nina Chen *Nina Chen*

Approved by: \_\_\_\_\_ Kazuma Lee *Kazuma Lee*

Date: \_\_\_\_\_ 2023/02/06

1. Customer signed back is required before TST can proceed with sample build and receive orders.
2. Orders received without customer signed back will be regarded as agreement on the specifications.
3. Any specifications changes must be approved upon by both parties and a new revision of specifications shall be released to reflect the change



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## Multi-layer Filter 5550MHz Size 1.6X0.8mm (BW 800MHz)

MODEL NO.: TL0046AA0092

REV.2

### A. MAXIMUM RATING:

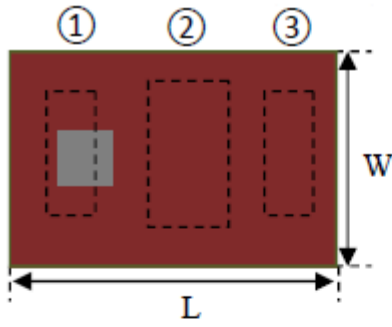
1. Input Power: 2W
2. Operating temperature range: -40°C to +85°C
3. Storage temperature range: -40 °C to +85 °C
4. Moisture Sensitive Level: Level 1

RoHS Compliant  
Lead free  
Lead-free soldering

### B. ELECTRICAL CHARACTERISTICS:

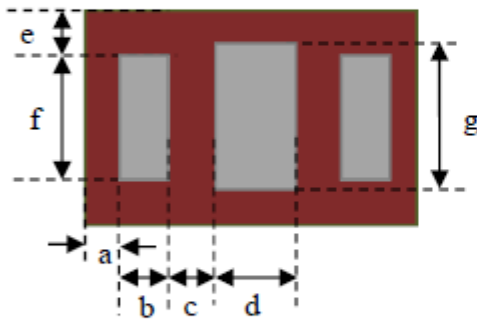
Item	Specifications
Frequency range 頻率範圍	5150 ~ 5950 MHz
Insertion Loss 插入衰耗	$\leq 0.9\text{dB}$ (25 °C) $\leq 1.05\text{ dB}$ (-40~105 °C)
Return Loss 回波損耗	$\geq 10\text{dB}$
In/Output Impedance 輸入/輸出阻抗	50Ω
Attenuation 阻帶衰耗	$\geq 40\text{dB}$ (30 ~ 2700 MHz)
	$\geq 35\text{dB}$ (3400 ~ 3800 MHz)
	$\geq 20\text{dB}$ (@6900 MHz)
	$\geq 18\text{dB}$ (7250 ~ 7800 MHz)
	$\geq 20\text{dB}$ (10300 ~ 11700 MHz)
Operation Temperature Range 溫度範圍	-40°C ~ 85°C
Permissible 輸入功率 (MAX) Input Power	2W

**C. DIMENSION:**



(Top View)

Number	Terminal Name
①	INPUT
②	GND
③	OUTPUT



(Bottom View)



(Side View)

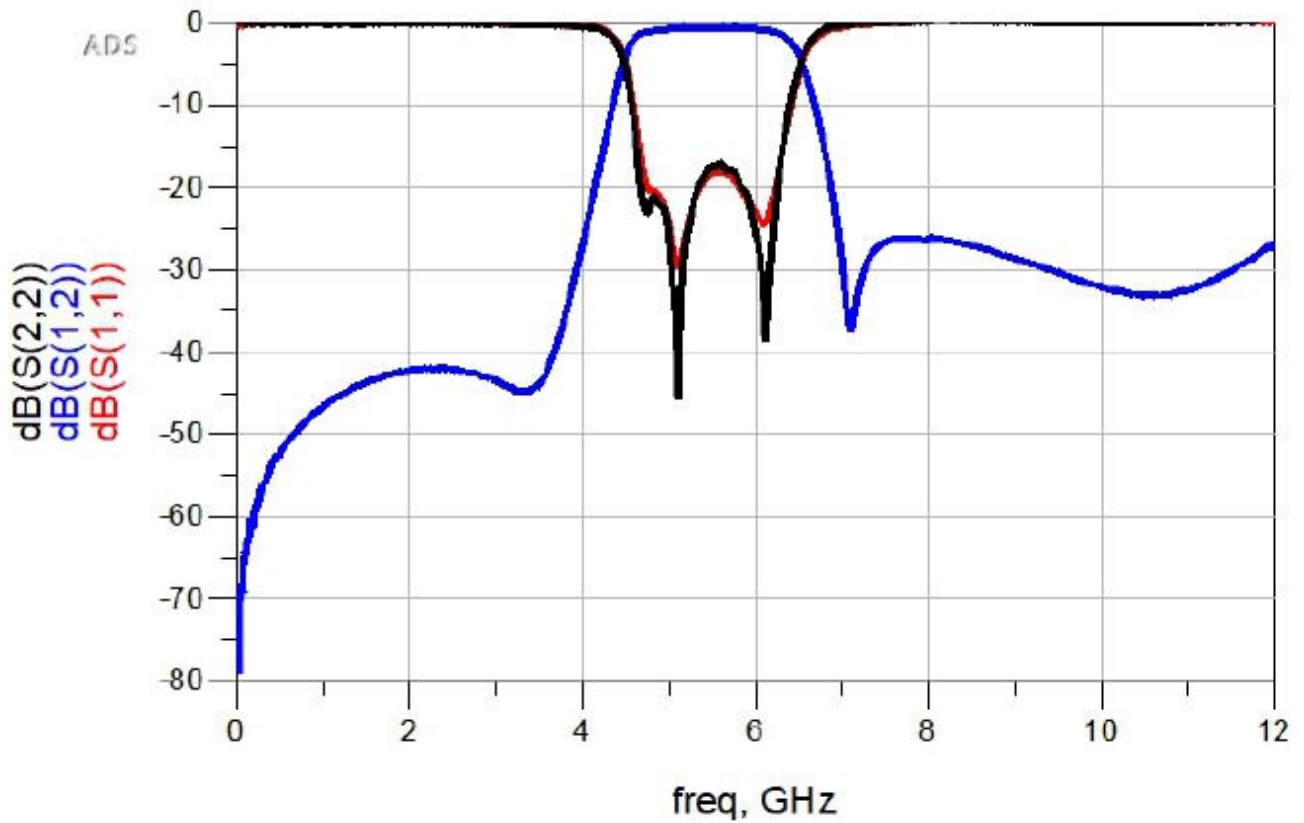


(Side View)

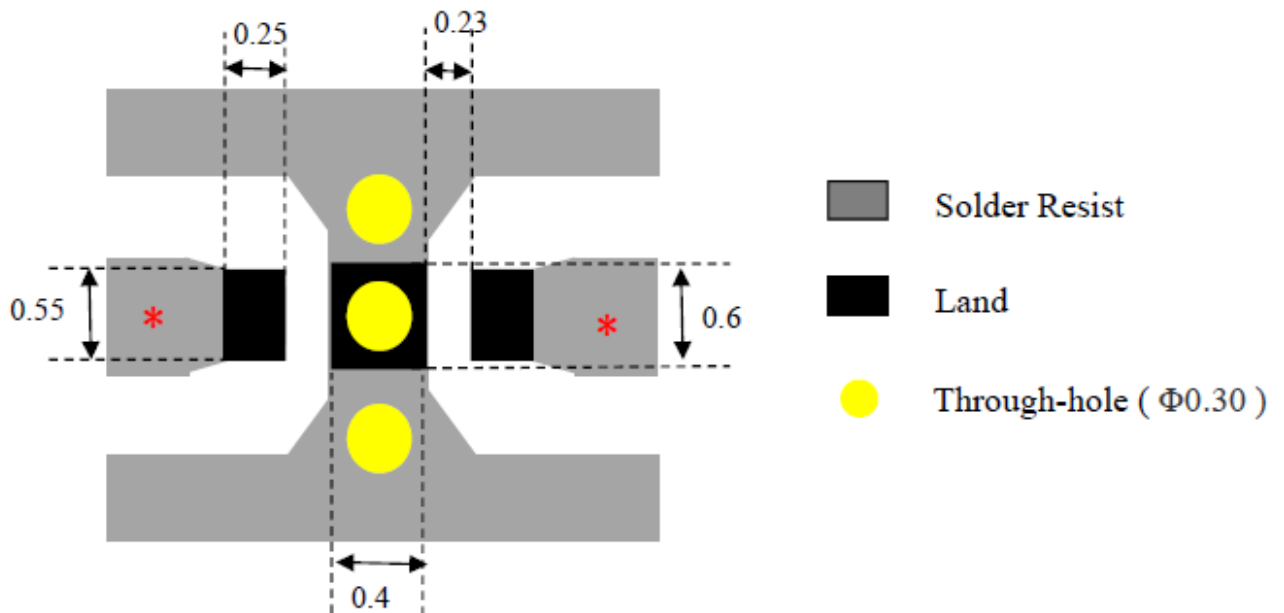
(Unit: mm)

Symbols	L	W	T	a	b	c	d	e	f	g
Dimension	1.6+/-	0.8+/-	0.6+/-	0.12+/-	0.25+/-	0.23+/-	0.4+/-	0.125+/-	0.55+/-	0.6+/-
s	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

**D. FREQUENCY CHARACTERISTICS:**



**E. PCB FOOTPRINT:**

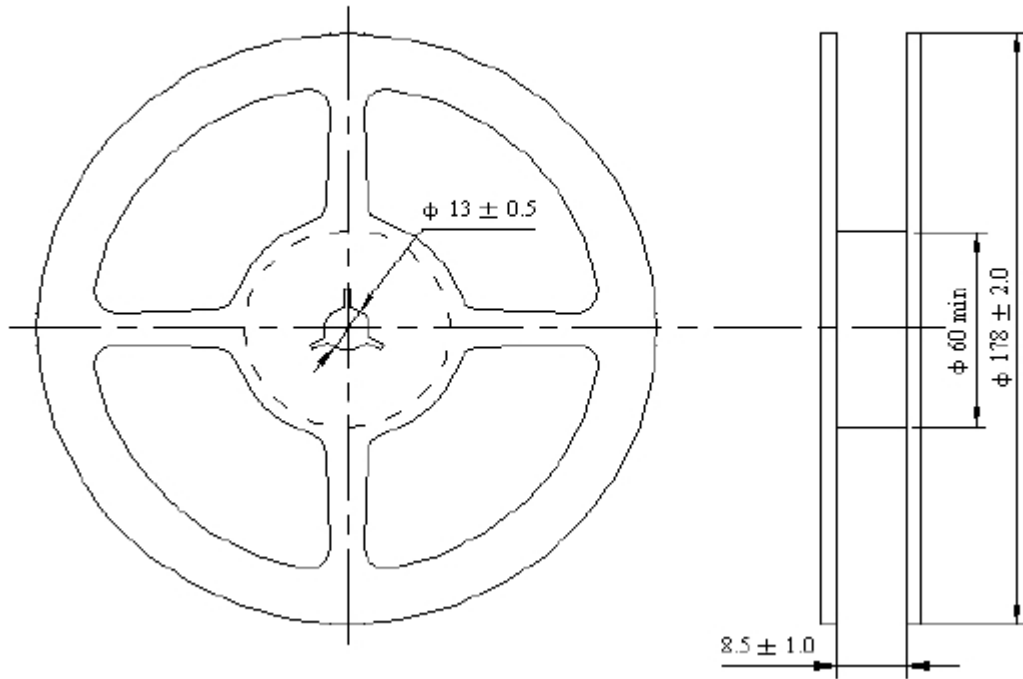


\*Line width should be designed to match 50Ω characteristic impedance, depending on PCB material and thickness

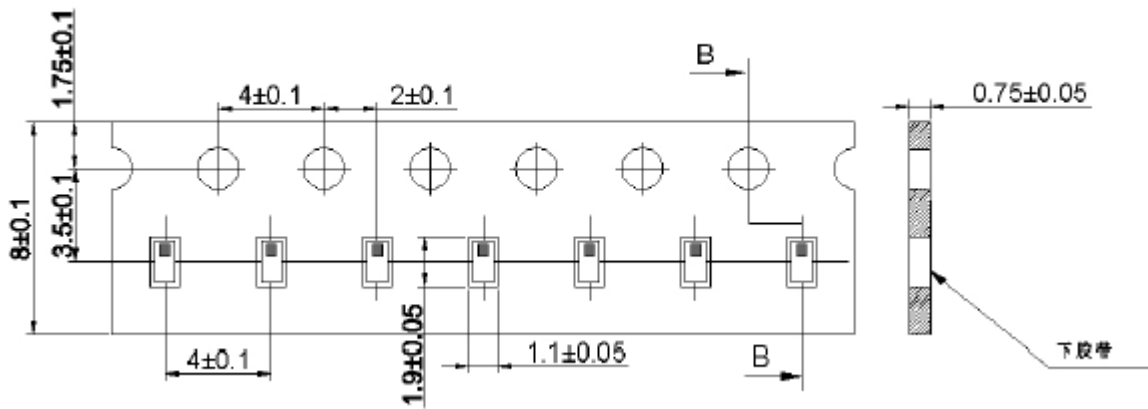
**F. PACKING:**

1. REEL DIMENSION:

(6000 pcs/Reel)



2. TAPE DIMENSION:



## **G. Reliability Test:**

### **Vibration Resist**

The device should fulfill the electrical specification after applied to the vibration of 10 to 55Hz with amplitude of 1.5mm for 2 hours each in X , Y and Z directions.

### **Drop Shock**

The device should have no mechanical damage after dropping onto the hard wooden board from the height of 100cm for 3 times each facet of the 3 dimensions of the device.

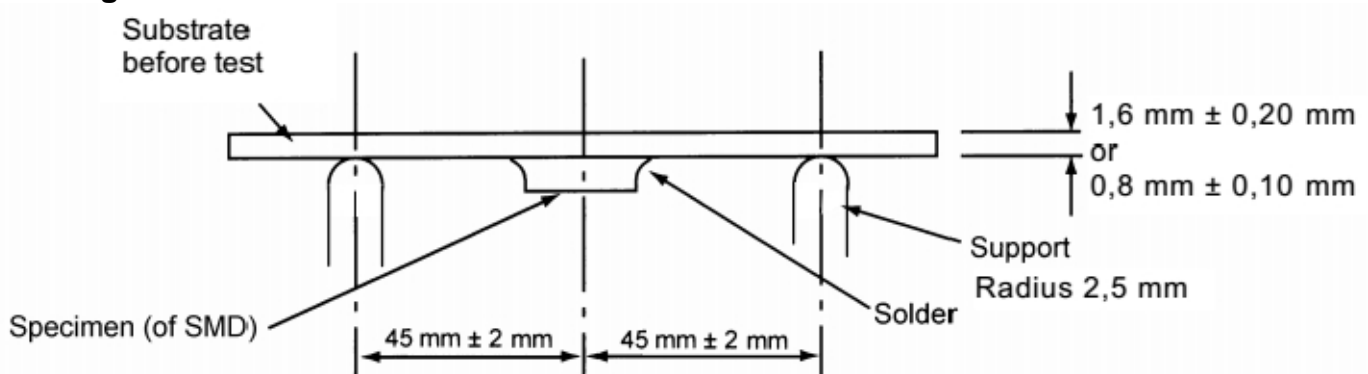
### **Solder Heat Proof**

The device should be satisfied after preheating at  $120^{\circ}\text{C} \sim 150^{\circ}\text{C}$  for 120 seconds and dipping in soldering Sn at  $255^{\circ}\text{C} + 10^{\circ}\text{C}$  for  $5 \pm 0.5$  seconds , or electric iron  $300^{\circ}\text{C} - 10^{\circ}\text{C}$  for  $3 \pm 0.5$  seconds , without damage.

### **Adhesive Strength of Termination**

The device have no remarkable damage or removal of the termination after horizontal force of  $5\text{N} (\leq 0603)$  ;  $10\text{N} (>0603)$  with  $10 \pm 1$  seconds.

### **Bending Resist Test**



Weld the product to the center part of the PCB with the thickness  $1.6 \pm 0.2 \text{ mm}$  or  $0.8 \pm 0.1 \text{ mm}$  as the illustration shows, and keep exerting force arrow-ward on it at speed of  $1 \text{ mm/S}$  , and hold for  $5 \pm 1 \text{ S}$  at the position of  $1.5 \text{ mm}$  bending distance , so far , any peeling off of the product metal coating should not be detected .

### **Moisture Proof**

The device should fulfill the electrical specification after exposed to the temperature  $60 \pm 2^{\circ}\text{C}$  and the relative humidity  $90 \sim 95\% \text{ RH}$  for 96 hours and 1~2 hours recovery time under normal condition.

### **High Temperature Endurance**

The device should fulfill the electrical specification after exposed to temperature  $85 \pm 5^{\circ}\text{C}$  for  $96 \pm 2$  hours and 1~2 hours recovery time under normal temperature.

### **Low Temperature Endurance**

The device should fulfill the electrical specification after exposed to the temperature  $-40^{\circ}\text{C} \pm 5^{\circ}\text{C}$  for  $96 \pm 2$  hours and to 2 hours recovery time under normal temperature.

## Temperature Cycle Test

The device should fulfill the electrical specification after exposed to the low temperature  $-40^{\circ}\text{C}$  and high temperature  $+85^{\circ}\text{C}$  for  $30 \pm 2$  min each by 5 cycles and 1 to 2 hours recovery time under normal temperature.

### H. RECOMMENDED REFLOW PROFILE:

1. Preheating shall be fixed at  $150 \sim 180^{\circ}\text{C}$  for 60~90 seconds.
2. Ascending time to preheating temperature  $150^{\circ}\text{C}$  shall be 30 seconds min.
3. Heating shall be fixed at  $220^{\circ}\text{C}$  for 50~80 seconds and at  $260^{\circ}\text{C} +0/-5^{\circ}\text{C}$  peak (20~40sec).
4. Time: 2 times.

