



# TAI-SAW TECHNOLOGY CO., LTD.

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

TEL: 886-3-4690038 FAX: 886-3-4697532

E-mail: [tstsales@mail.taisaw.com](mailto:tstsales@mail.taisaw.com) Web: [www.taisaw.com](http://www.taisaw.com)

## Product Specifications Approval Sheet

Product Description:LTCC Diplexer Filter 1653.5/4625MHz BW 2073/2450

Size 2.5x2.0mm

TST Part No.: TL0050AA0092

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

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

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

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

Date: \_\_\_\_\_ 2022/07/05

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



# TAI-SAW TECHNOLOGY CO., LTD.

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

TEL: 886-3-4690038 FAX: 886-3-4697532

E-mail: [tstsales@mail.taisaw.com](mailto:tstsales@mail.taisaw.com) Web: [www.taisaw.com](http://www.taisaw.com)

## LTCC Diplexer Filter 1653.5/4625MHz BW2073/2450 Size 2.5x2.0mm

MODEL NO.: TL0050AA0092

REV.1

### 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

**Electrostatic Sensitive Device (ESD)**

### B. Electrical Characteristics:

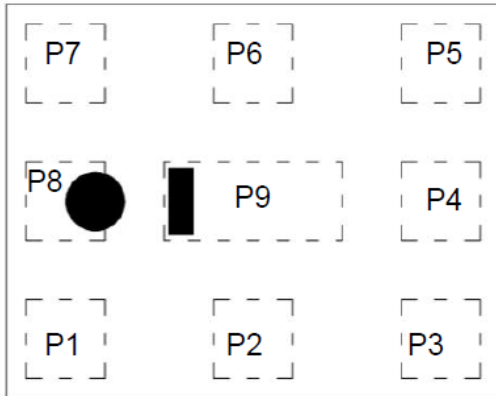
Item		Unit	Spec
Center frequency	617~2690MHz	MHz	1653.5
Insertion Loss (at +25°C)	617~960MHz	dB	0.40(max)
	1427~1661 MHz	dB	0.45(max)
	1710~2170 MHz	dB	0.45(max)
	2300~2496 MHz	dB	0.60(max)
	2496~2690 MHz	dB	0.85(max)
Insertion Loss (-40 °C to +85 °C)	617~960MHz	dB	0.60(max)
	1427~1661 MHz	dB	0.65(max)
	1710~2170 MHz	dB	0.65(max)
	2300~2496 MHz	dB	0.80(max)
	2496~2690 MHz	dB	1.05(max)
Return Loss	617~960MHz	dB	13(min)
	1427~1661 MHz	dB	13(min)
	1710~2170 MHz	dB	13(min)
	2300~2496 MHz	dB	13(min)
	2496~2690 MHz	dB	13(min)
Attenuation	3300~3400 MHz	dB	15(min)
	3400~3800 MHz	dB	21(min)
	5150~5925 MHz	dB	28(min)

Item		Unit	Spec
Center frequency	3400~5850MHz	MHz	4625
Insertion Loss (at +25°C)	3300~3400MHz	dB	1.20(max)
	3400~3600 MHz	dB	0.80(max)
	3600~3800 MHz	dB	0.70(max)
	5150~5925 MHz	dB	0.80(max)
Insertion Loss (-40 °C to +85 °C)	3300~3400MHz	dB	1.40(max)
	3400~3600 MHz	dB	1.00(max)
	3600~3800 MHz	dB	0.90(max)
	5150~5925 MHz	dB	1.00(max)
Return Loss	3300~3400MHz	dB	10(min)
	3400~3800 MHz	dB	11.7(min)
	5150~5925 MHz	dB	10(min)
Attenuation	617~960MHz	dB	29(min)
	1427~1511 MHz	dB	27(min)
	1710~2690 MHz	dB	22(min)
	10300~11700 MHz	dB	15(min)
	15450~17550 MHz	dB	5(min)

Item		Unit	Spec
Isolation	617~960 MHz	dB	29(min)
	1427~1661 MHz	dB	27(min)
	1710~2690 MHz	dB	23(min)
	3300~3400 MHz	dB	15(min)
	3400~3800 MHz	dB	23(min)
	5150~5925 MHz	dB	28(min)

**C. Outline Drawing:**

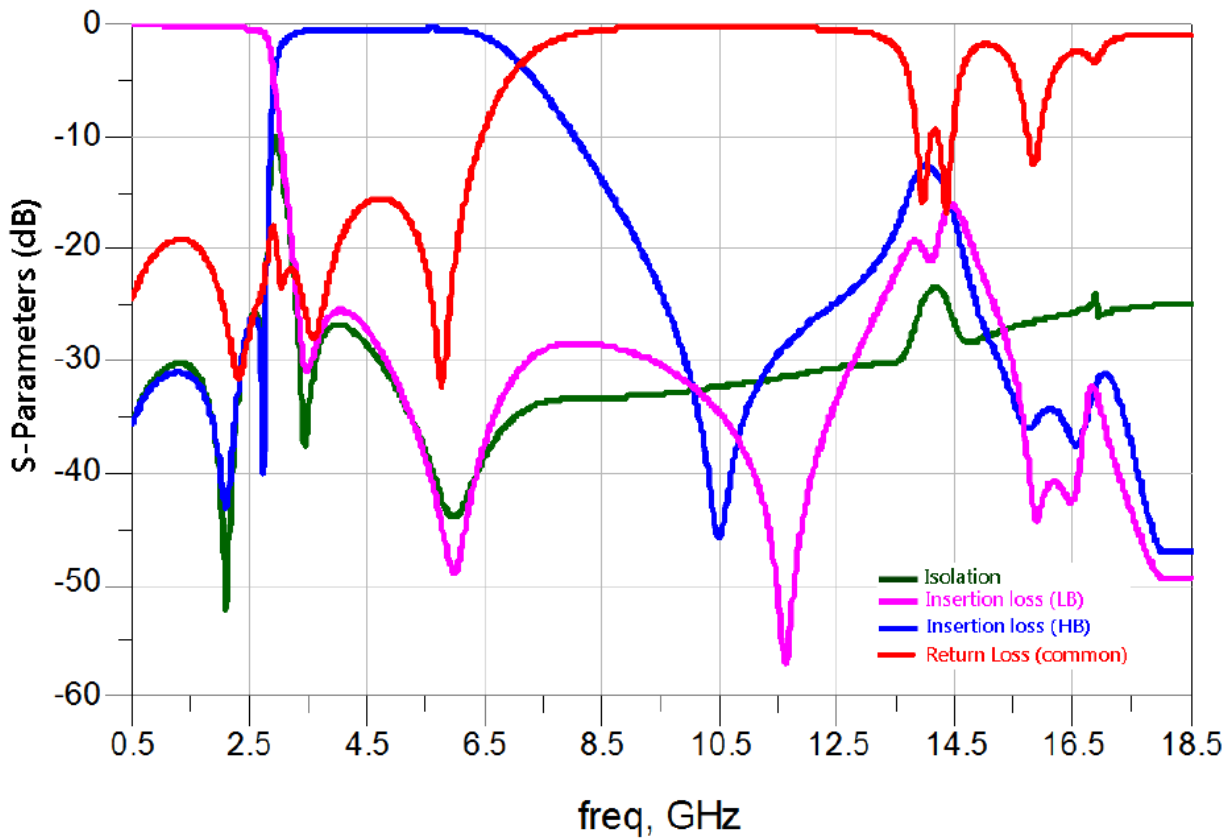
Top view



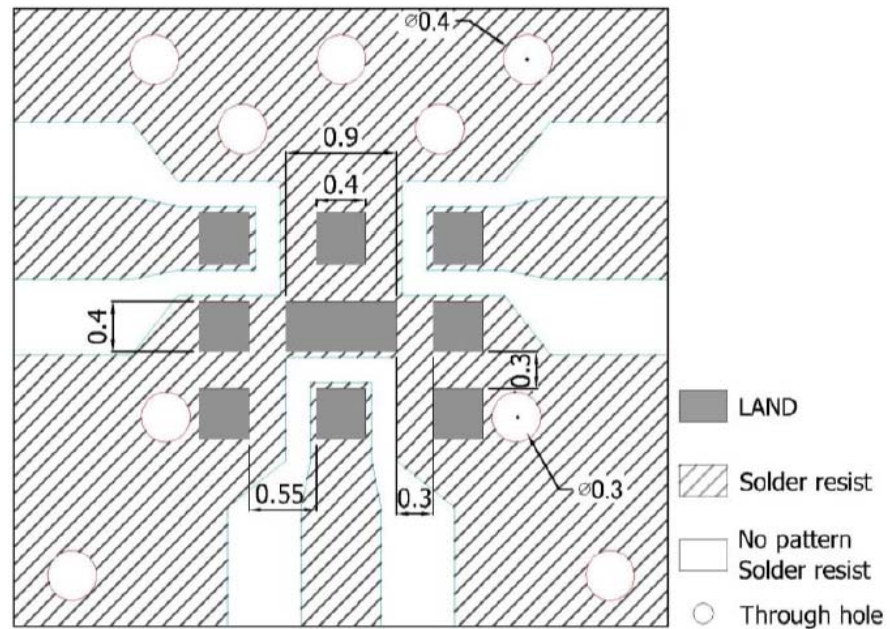
PIN	Connection
P1	GND
P2	Common Port
P3	GND
P4	GND
P5	High Band Port
P6	GND
P7	Low Band Port
P8	GND
P9	GND

Figure	Symbol	Dimension (mm)
<p>Top view</p> <p>Side view</p> <p>Side view</p> <p>Bottom view</p>	L	$2.50 \pm 0.15$
	W	$2.00 \pm 0.15$
	T	$0.65 \pm 0.10$
	A	$0.30 \pm 0.10$
	B	$0.40 \pm 0.10$
	C	$0.55 \pm 0.10$
	D	$0.40 \pm 0.10$
	E	$0.90 \pm 0.10$
	F	$0.30 \pm 0.10$

**D. Frequency Characteristics:**



**E. PCB Footprint:**

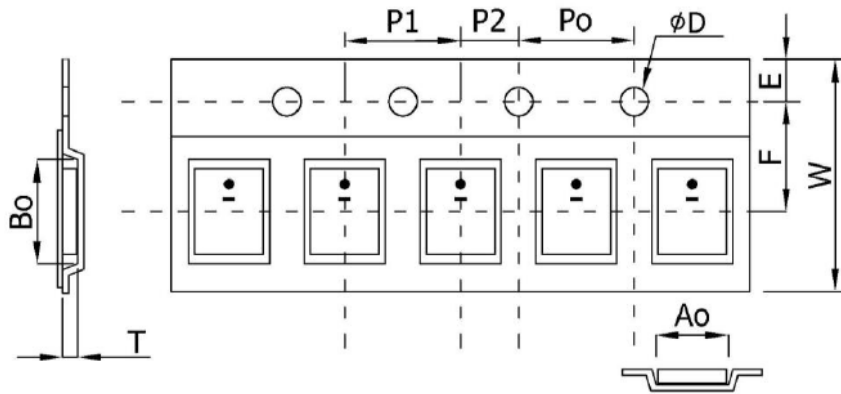


Unit : mm

Line width to be designed to match 50  $\Omega$  characteristic impedance, depending on PCB material and thickness.

**F. Packing:**

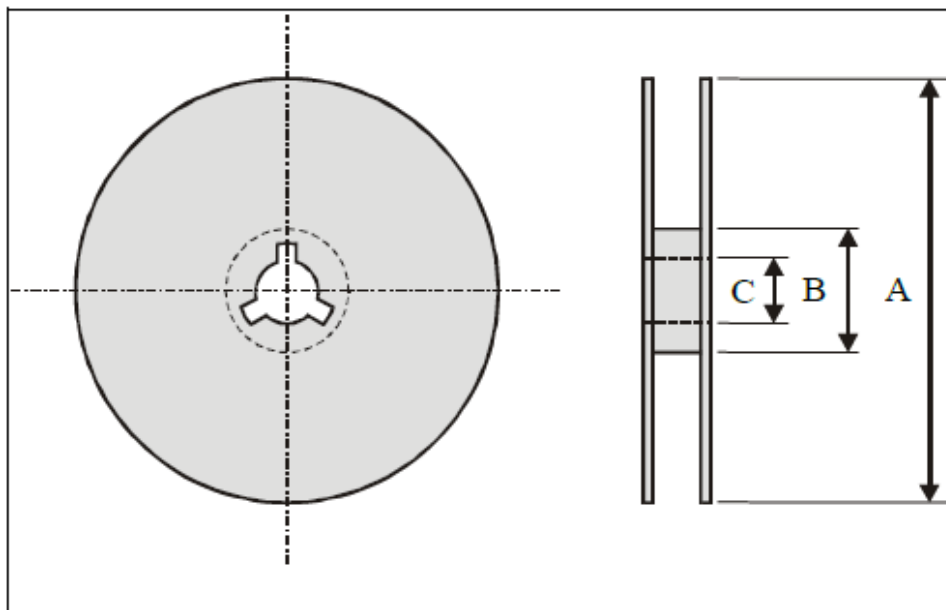
1. Tape Dimension



**Plastic Tape specifications (unit :mm)**

Index	Ao	Bo	φD	T	W
Dimension (mm)	2.30 ± 0.10	2.80 ± 0.10	1.55 ± 0.05	0.80 ± 0.10	8.00 ± 0.10
Index	E	F	Po	P1	P2
Dimension (mm)	1.75 ± 0.10	3.50 ± 0.05	4.00 ± 0.10	4.00 ± 0.10	2.00 ± 0.05

2. Reel Dimension



Index	A	B	C
Dimension (mm)	Φ178.0	Φ60.0	Φ13.0

Taping Quantity:2000 pieces per 7" reel

### G. Recommended Reflow Profile:

Typical examples of soldering processes that provide reliable joints without any damage are given in Fig 1, This product could sustain by reflow process three times, and the temperature below 260 °C.

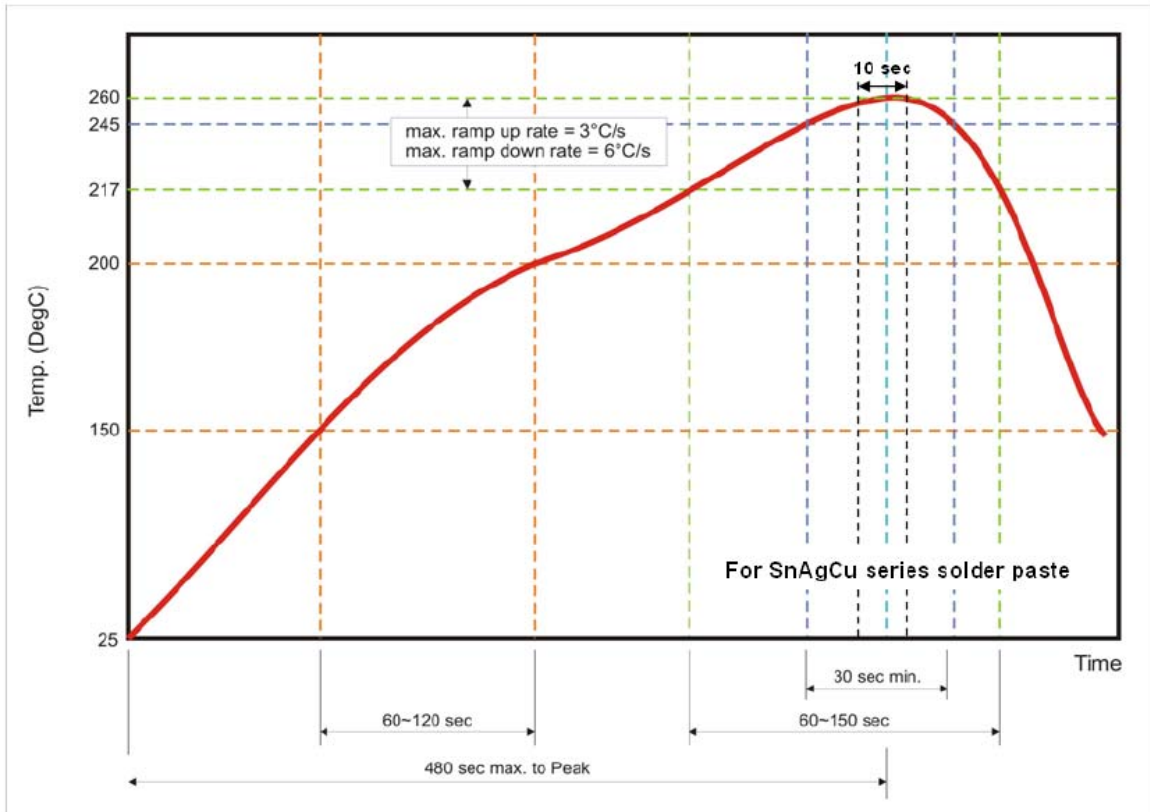


Fig 1. Infrared soldering profile