



# 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: 70 MHz 5.1MHz BW SMD 13.3 x 6.5 mm SAW IF Filter

TST Part No.: TB0194B

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

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

Checked by: \_\_\_\_\_ Kazuma Lee *Kazuma Lee*

Approval by: \_\_\_\_\_ Andy Yu *Andy Yu*

Date: \_\_\_\_\_ 05 / 08 / 2018

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 changes.



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Low Loss 70 MHz SAW Filter (SMD 13.3×6.5 mm)

MODEL NO.: TB0194B

REV. NO.:1

## A. MAXIMUM RATING:

1. Input Power Level: 10 dBm
2. Operating Temperature: -40°C to +85°C
3. Storage Temperature: -40°C to +85°C
4. Moisture Sensitivity Level: Level1 (MSL1)

RoHS Compliant  
Lead free  
Lead-free soldering

Electrostatic Sensitive Device

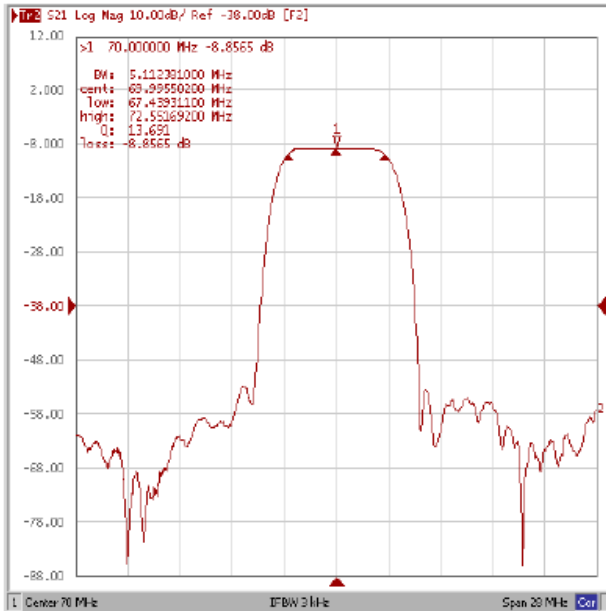
## B. ELECTRICAL CHARACTERISTICS:

Ambient Temperature: 25°C

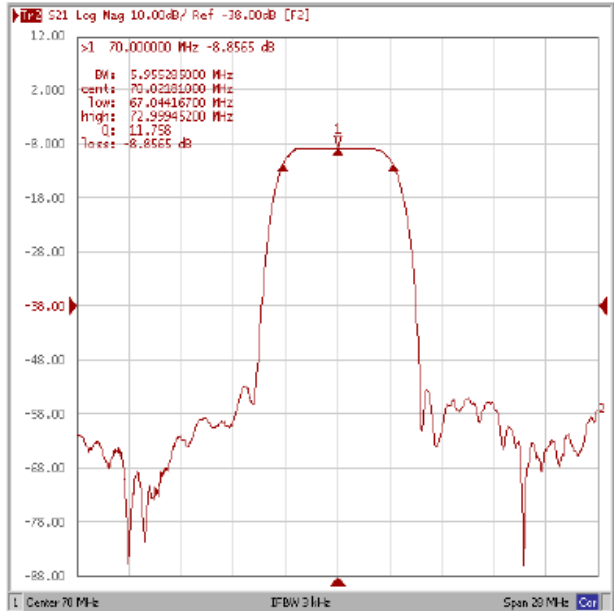
Item	Unit	Min.	Type.	Max.	Note
Center frequency, $F_c$	MHz	-	70	-	
Insertion Loss, IL	dB	-	9.0	11.0	
1dB Bandwidth	MHz	4.4	5.1	-	
3dB Bandwidth	dB	-	5.97	-	
35dB Bandwidth	MHz		8.55	9.0	
Passband ripple $F_{c\pm 1.7\text{MHz}}$	dB	-	0.3	1.0	
Group Delay ripple $F_{c\pm 1.7\text{MHz}}$	nS		40	100	
Absolute Delay	$\mu\text{S}$	-	0.88	-	
Attenuation Reference level from Min IL)					
56 MHz ~ 65.5MHz	dB	40	45	-	
74.5 MHz ~81.2MHz	dB	37	42	-	
81.2 MHz ~84MHz	dB	40	45	-	
Temperature Coefficient	ppm/°C	-	-86	-	

### C. FREQUENCY CHARACTERISTICS:

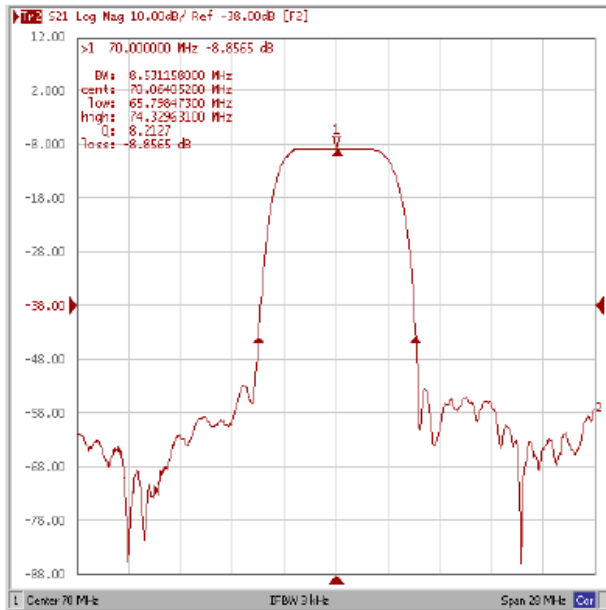
**Bandwidth at -1.0 dB**



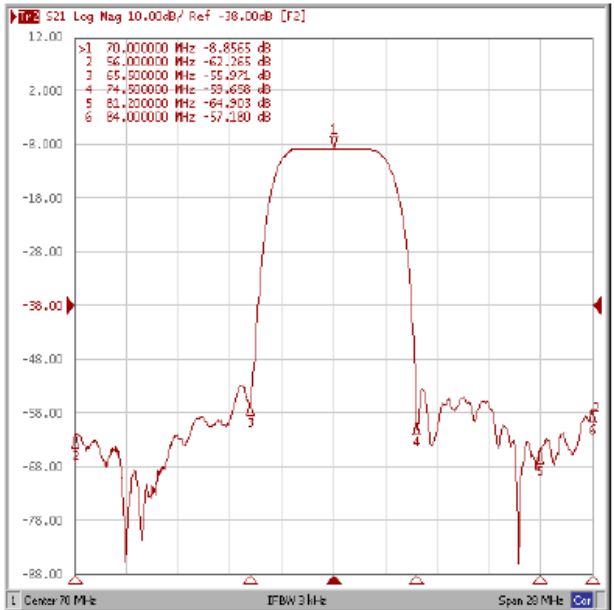
**Bandwidth at -3.0 dB**



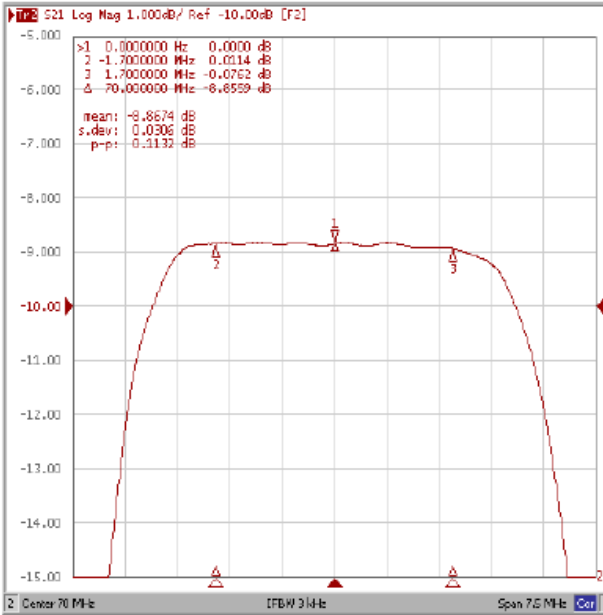
**Bandwidth at -35 dB**



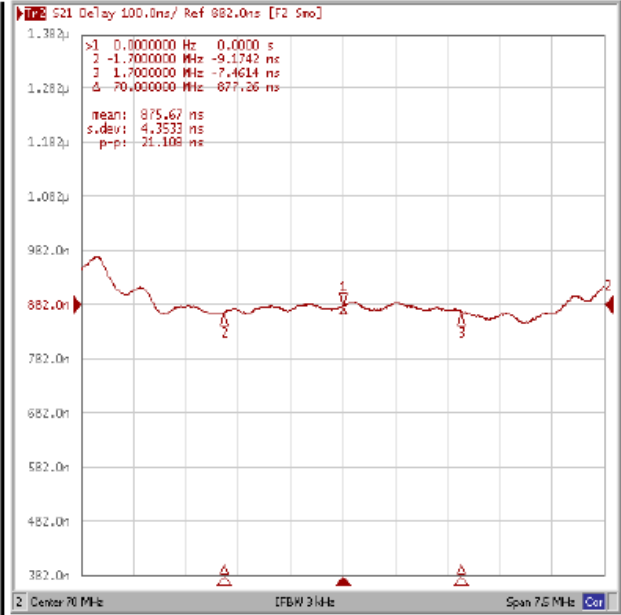
**Relative Attenuation**



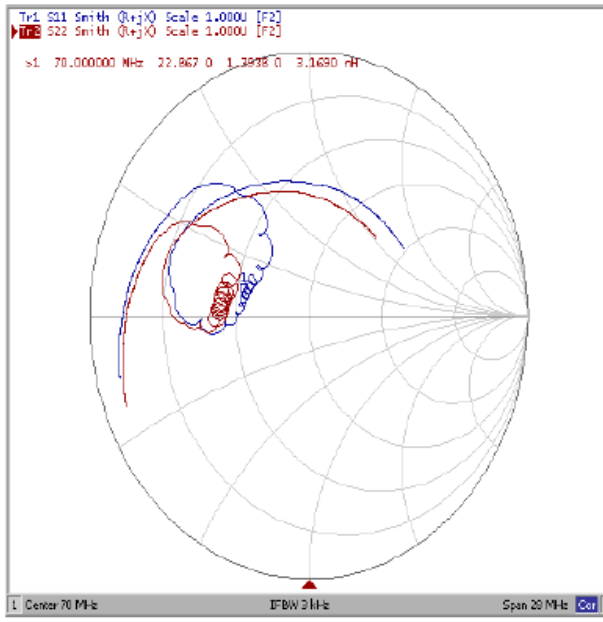
**Ripple Variation Fo±1.7MHz**



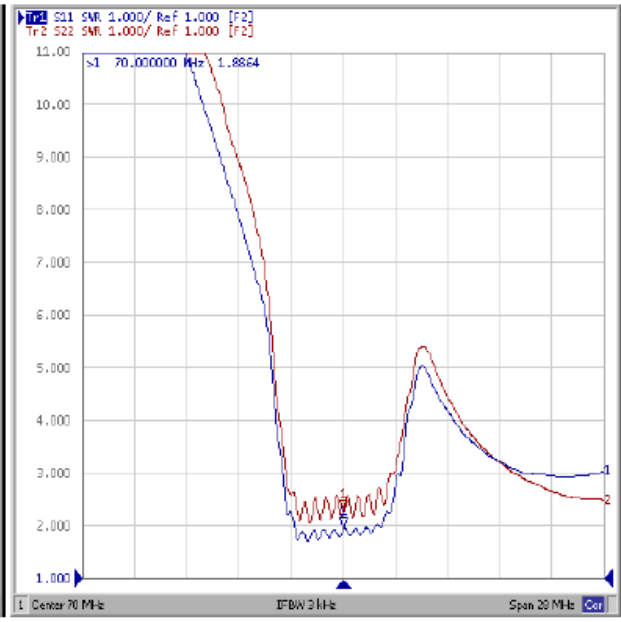
**Group Delay Variation Fo±1.7MHz**



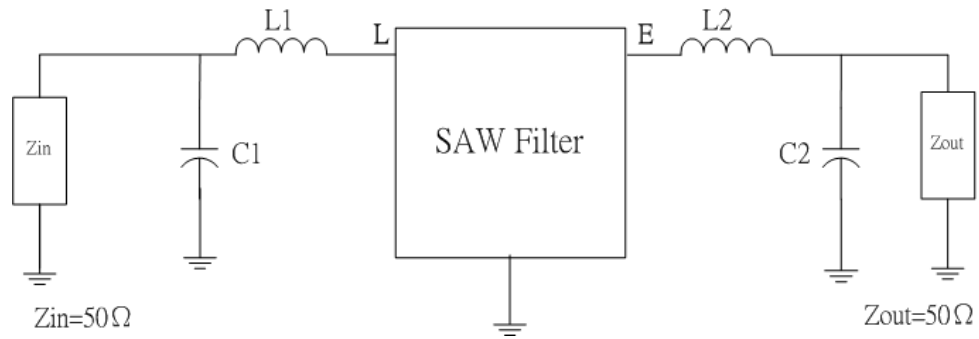
**Smith Chart**



**VSWR**

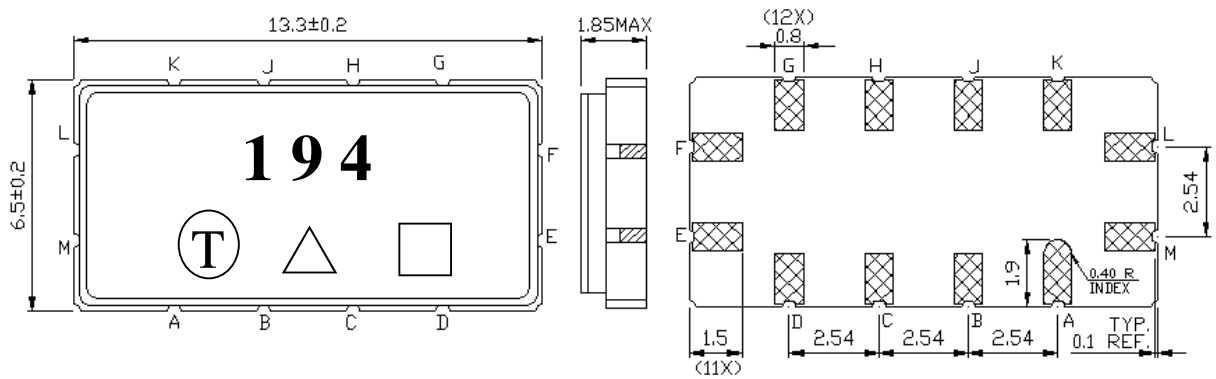


**D. MEASUREMENT CIRCUIT:**



L1=120nH L2=120nH C1=56pF C2=56pF

**E. OUTLINE DRAWING:**



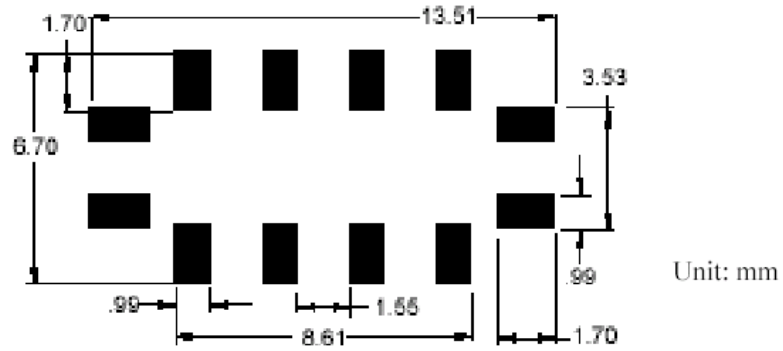
- Pin L: RF Input
- Pin E: RF Output
- Others: To be Ground
- : Week Code
- Unit: mm
- △ : Product / Year Code

Year	2017 2021	2018 2022	2019 2023	2020 2024
Product Code	B	b	<u>B</u>	<u>b</u>

**Week Code Table**

WK01	WK02	WK03	WK04	WK05	WK06	WK07	WK08	WK09	WK10	WK11	WK12	WK13
A	B	C	D	E	F	G	H	I	J	K	L	M
WK14	WK15	WK16	WK17	WK18	WK19	WK20	WK21	WK22	WK23	WK24	WK25	WK26
N	O	P	Q	R	S	T	U	V	W	X	Y	Z
WK27	WK28	WK29	WK30	WK31	WK32	WK33	WK34	WK35	WK36	WK37	WK38	WK39
a	b	c	d	e	f	g	h	i	j	k	l	m
WK40	WK41	WK42	WK43	WK44	WK45	WK46	WK47	WK48	WK49	WK50	WK51	WK52
n	o	p	q	r	s	t	u	v	w	x	y	z

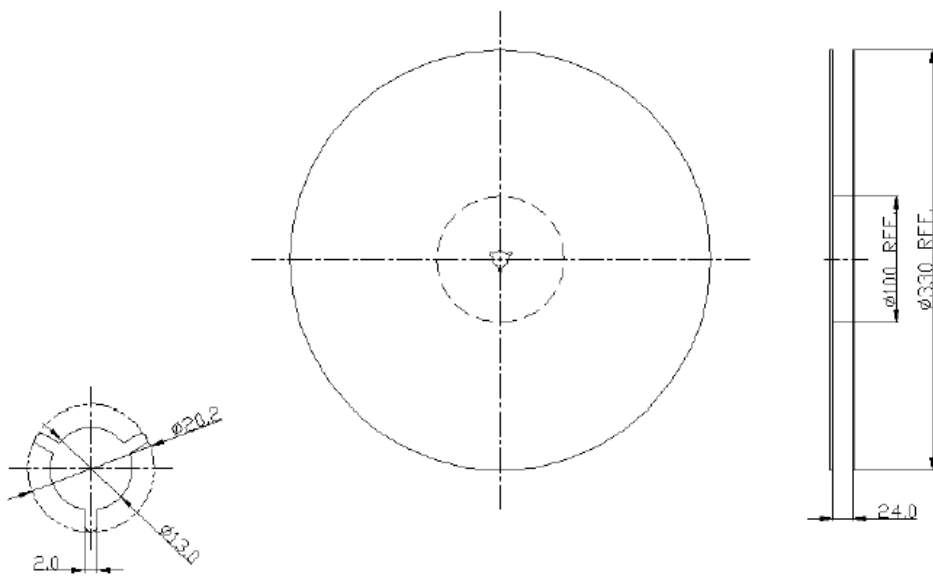
**F. PCB FOOTPRINT:**



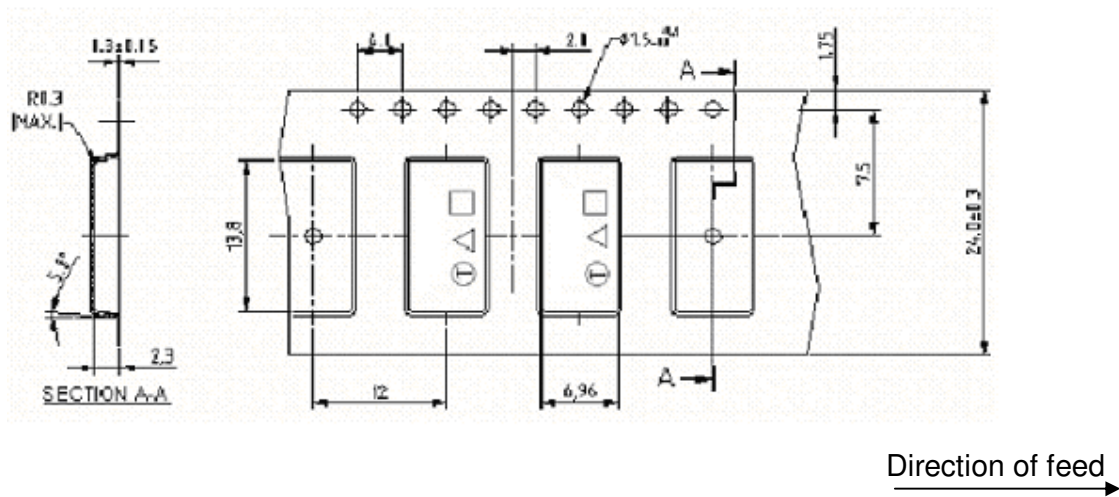
**G. PACKING:**

1. REEL DIMENSION

(Please refer to FR-75D10 for packing quantity and FR-75M03 for MSL)



## 2. TAPE DIMENSION



### H. RECOMMENDED REFLOW PROFILE:

1. Preheating shall be fixed at  $150 \sim 180^\circ\text{C}$  for  $60 \sim 90$  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  $50 \sim 80$  seconds and at  $260^\circ\text{C} \pm 0/-5^\circ\text{C}$  peak ( $20 \sim 40$ sec).
4. Time: 2 times.

