



# TAI-SAW TECHNOLOGY CO., LTD.

No.3, Industrial 2nd Rd., Ping-Chen Industrial District, Taoyuan, Taiwan, R.O.C.  
TEL : 886-3-4690038 FAX : 886-3-4697532

## Engineering Change Requirement

To:		ECR no.	ECR-201712006
Attn: CC:		Date:	12.22.2017
Fax No.		Issued by:	Kazuma Lee

Description & purpose of change:

Revising the TB0202A Data sheet from v4 to v5

Effect:

Measurement circuit of product.

Documentation requiring revision or change:

Data sheet TB0202A v4 → v5

Category :

Relative Doc.:

Data sheet TB0202A v5.

TST internal change Class:  Class A  Class B  Class C

Note: Class A: Need TST customer signature to return.

Class B: Inform TST customer, it doesn't need TST customer signature to return

Class C: Only TST internal changing for TST brand using not OEM business.

The changing:  Impact product  Not impact product

Applicable to:  Taiwan  Wuxi

Approved by:

Customer		TST	
Production		Production	
Engineering		Engineering	Andy
QA		QA	Kazuma Lee



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## Product Specifications Approval Sheet

Product Description: 70 MHz 19.48MHz BW SMD 13.3 x 6.5 mm SAW IF Filter

TST Part No.: TB0202A

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

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

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

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

Date: \_\_\_\_\_ 12 / 22 / 2017

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 IF SAW Filter (SMD 13.3x6.5 mm)

Model No.: TB0202A

Rev. No.:5

RoHS Compliant  
Lead free  
Lead-free soldering

## 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)

Electrostatic Sensitive Device

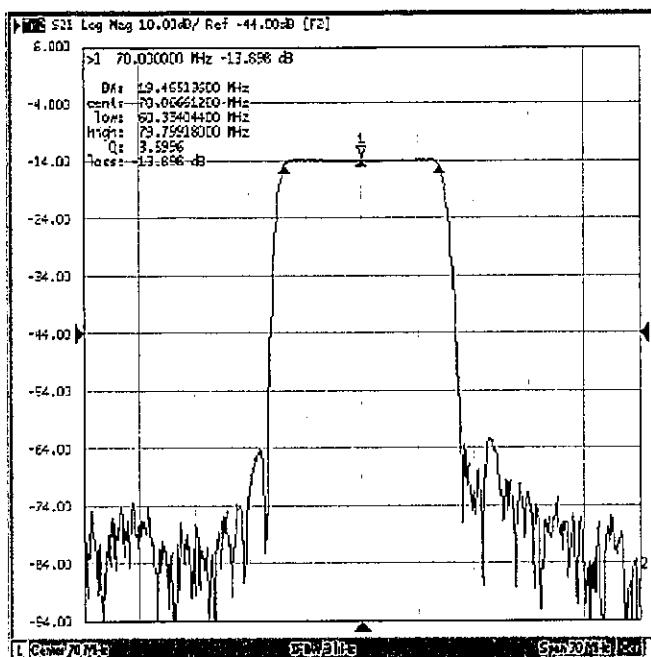
## B. Electrical Characteristics:

Ambient Temperature: 25°C

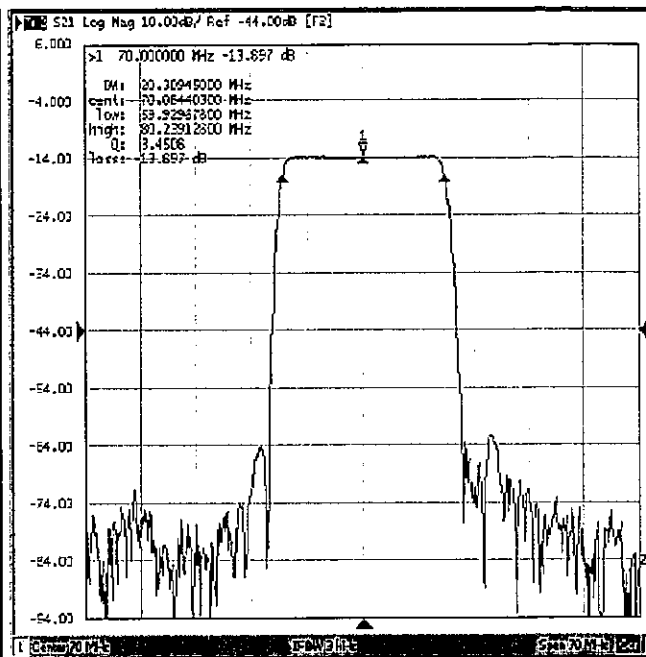
Item	Unit	Min.	Type.	Max.	Note
Center frequency, Fc	MHz	-	70	-	
Insertion Loss, IL	dB	-	14.5	16.5	
1dB Bandwidth	MHz	18.7	19.48	-	
3dB Bandwidth	dB	-	20.3	-	
40dB Bandwidth	MHz		20.8	25	
Passband ripple Fc+/-8.2MHz	dB	-	0.45	1.0	
Group Delay ripple Fc+/-8.2MHz	nS		25	60	
Absolute Delay	µS	-	0.9	-	
Attenuation Reference level from Min IL)					
35 MHz ~ 57.75MHz	dB	40	45	-	
82.75 MHz ~105MHz	dB	40	45	-	
Temperature Coefficient	ppm/°C	-	-86	-	

### C. Frequency Characteristics:

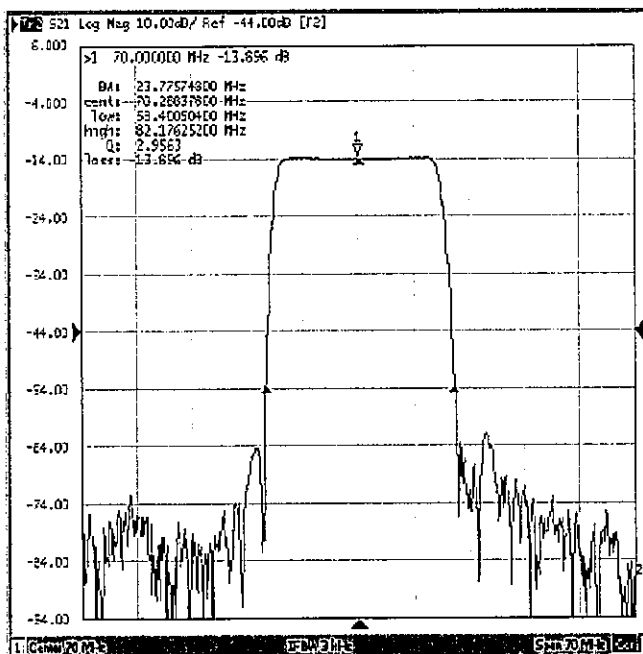
Bandwidth at -1.0 dB



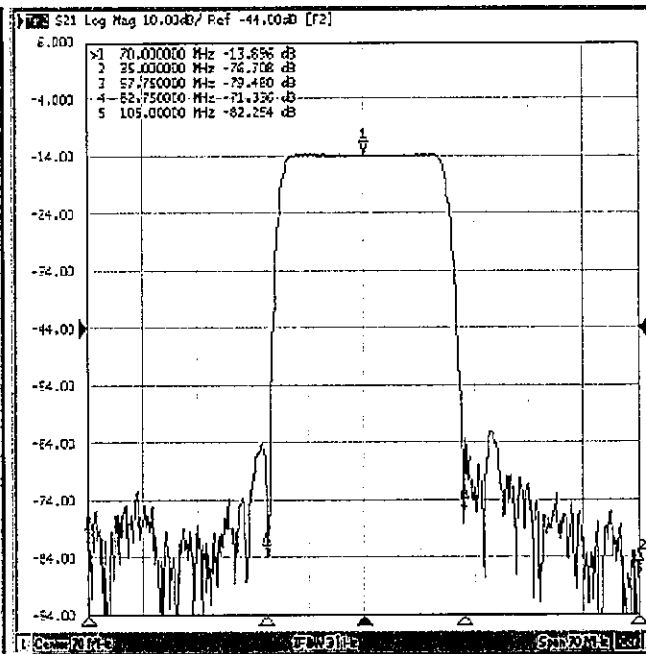
Bandwidth at -3.0 dB



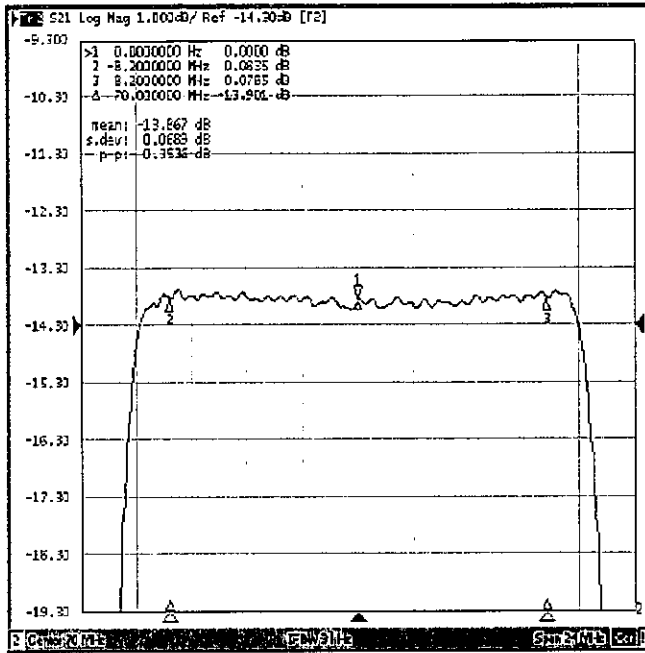
Bandwidth at -40 dB



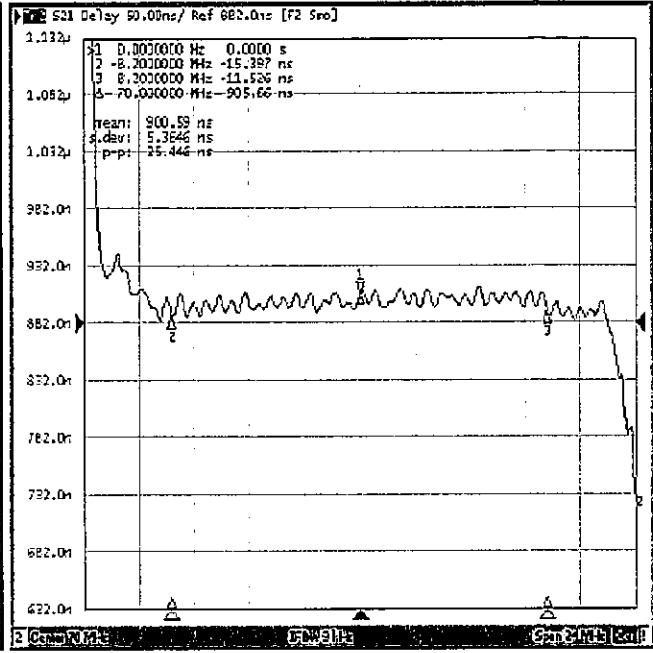
Relative Attenuation



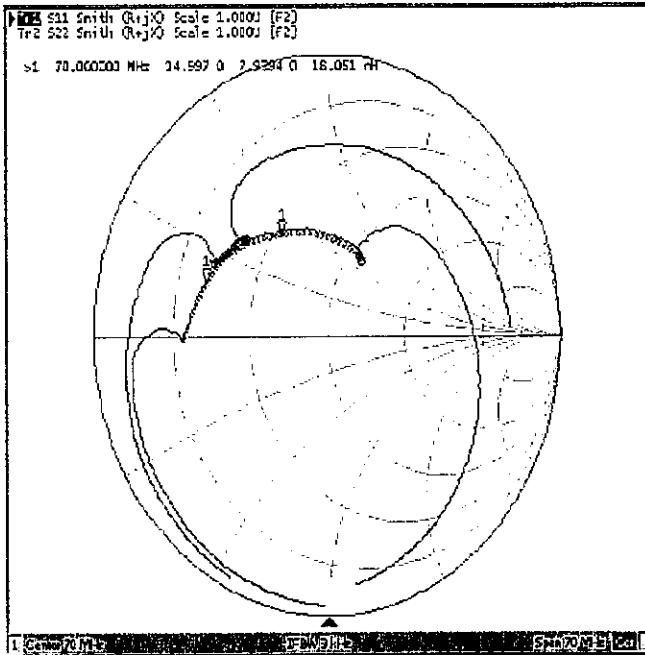
Ripple Variation Fo±8.2MHz



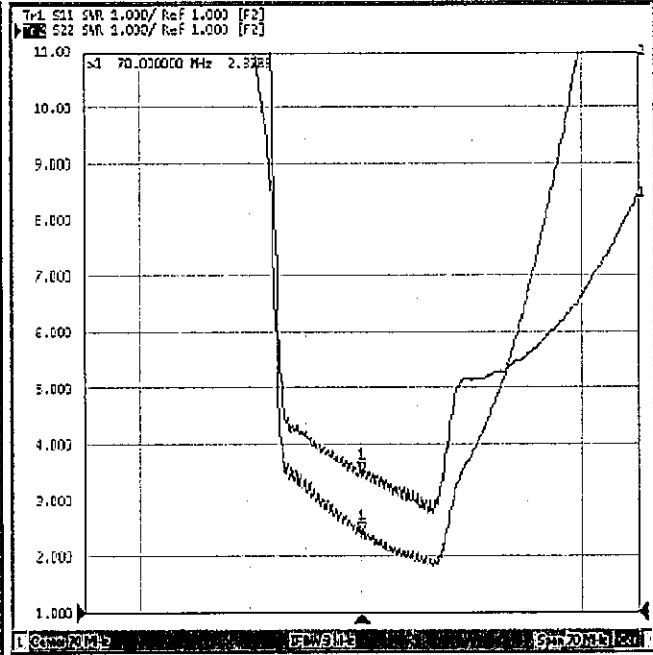
Group Delay Variation Fo±8.2MHz



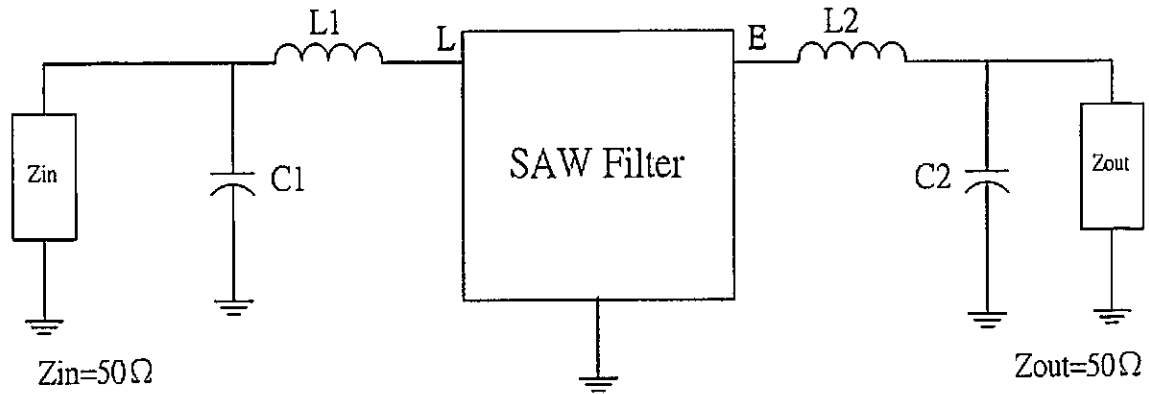
Smith Chart



VSWR

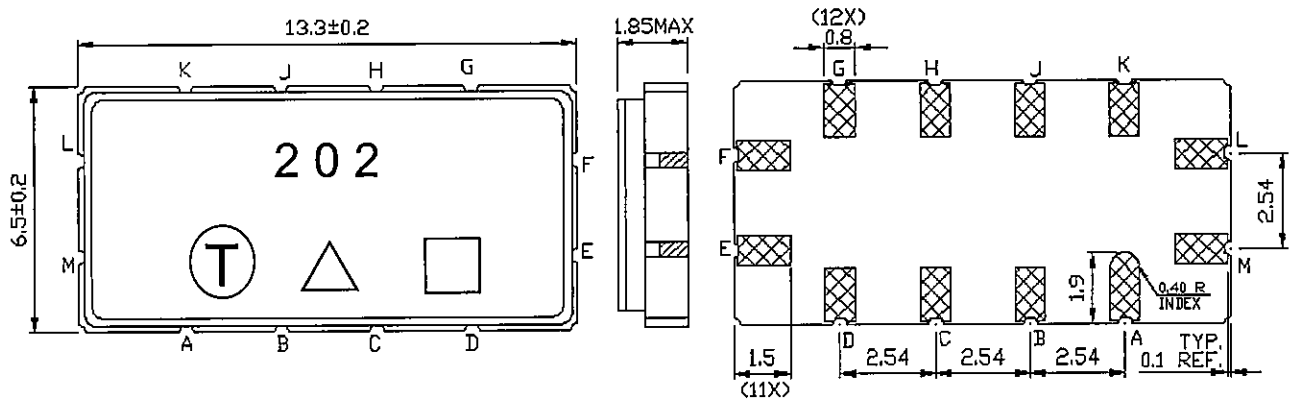


**D. Measurement Circuit:**



L1=120nH L2=120nH C1=24pF C2=47pF

**E. Outline Drawing:**



Pin L: RF input

Pin E: RF output

Others: To be Ground

□ : Week Code

Unit : mm

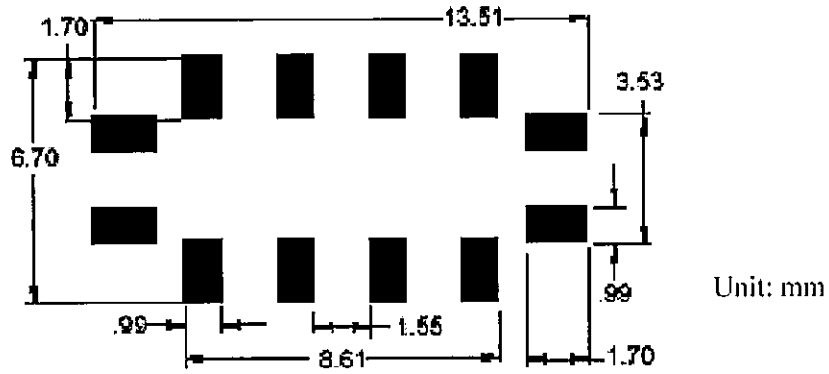
△ : Product / Year Code

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

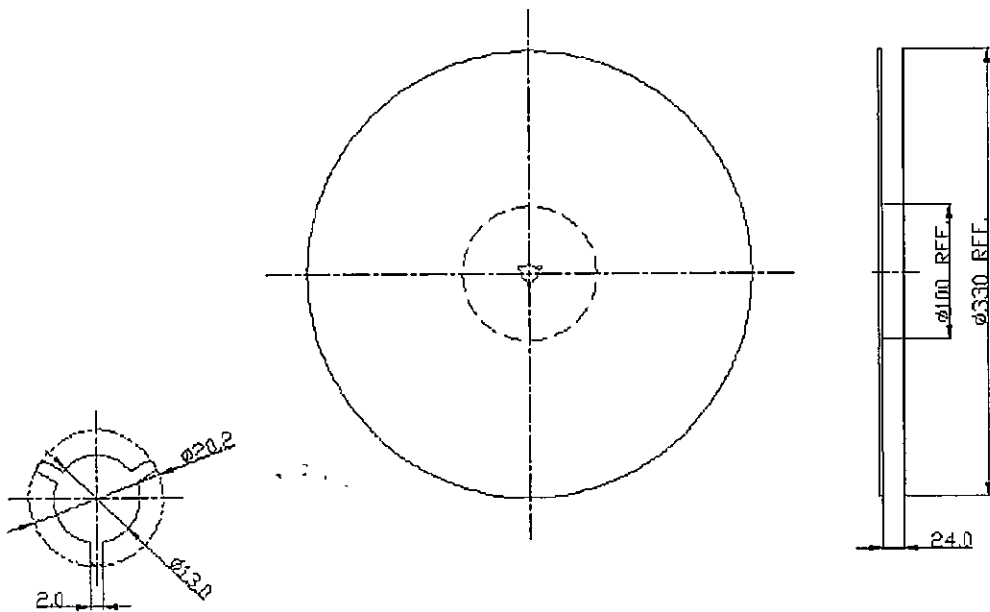
**F. PCB FOOTPRINT:**



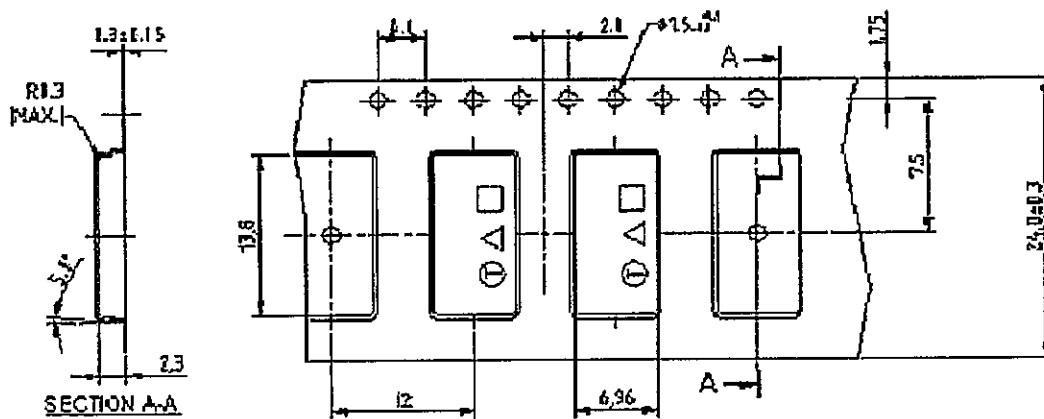
**G. PACKING:**

1. REEL DIMENSION

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



## 2. TAPE DIMENSION



Direction of feed →

### H. RECOMMENDED REFLOW PROFILE:

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

