



# 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 19.48MHz BW SMD 13.3 x 6.5 mm SAW IF Filter

TST Part No.: TB0202B

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

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

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

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

Date: \_\_\_\_\_ 08 / 02 / 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 IF SAW Filter (SMD 13.3x6.5 mm)

Model No.: TB0202B

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

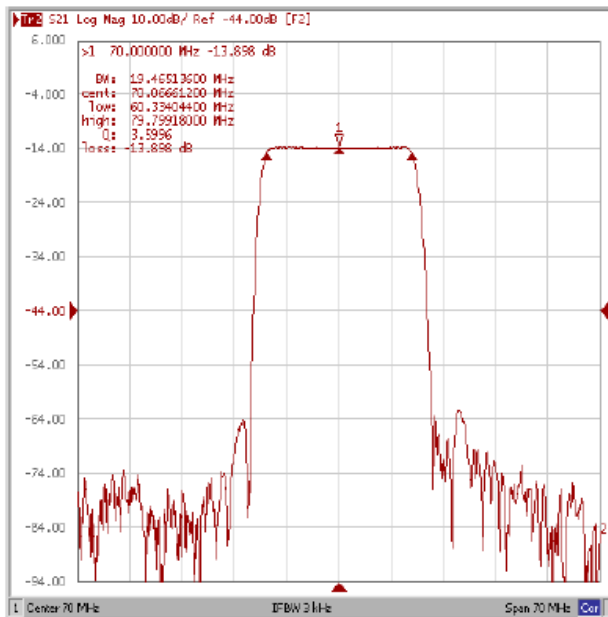
## B. Electrical Characteristics:

Ambient Temperature: 25°C

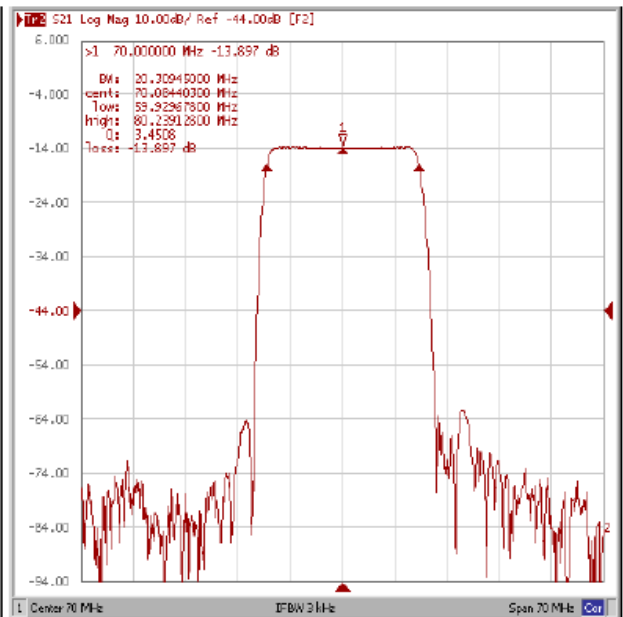
| Item                                        | Unit   | Min. | Type. | Max. | Note |
|---------------------------------------------|--------|------|-------|------|------|
| Center frequency, <b>F<sub>c</sub></b>      | MHz    | -    | 70    | -    |      |
| Insertion Loss, <b>IL</b>                   | 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 F <sub>c</sub> +/-8.2MHz    | dB     | -    | 0.45  | 1.0  |      |
| Group Delay ripple F <sub>c</sub> +/-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:

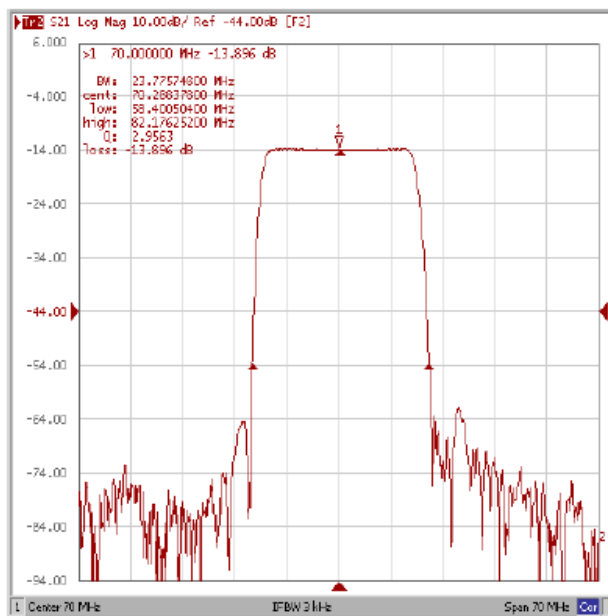
Bandwidth at -1.0 dB



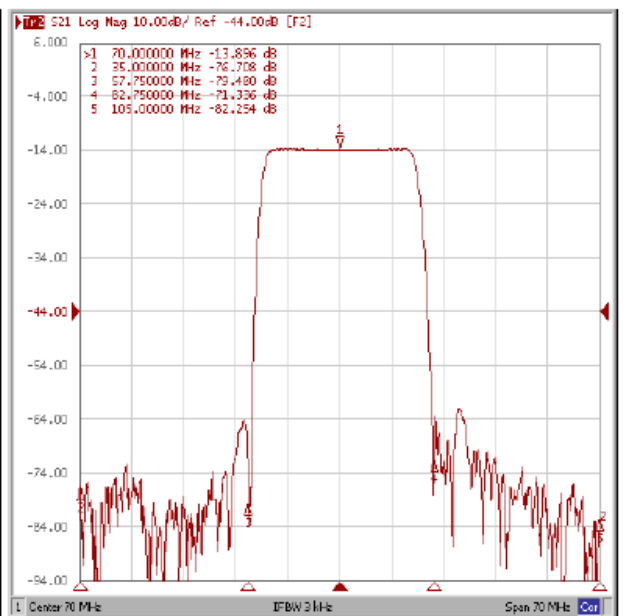
Bandwidth at -3.0 dB



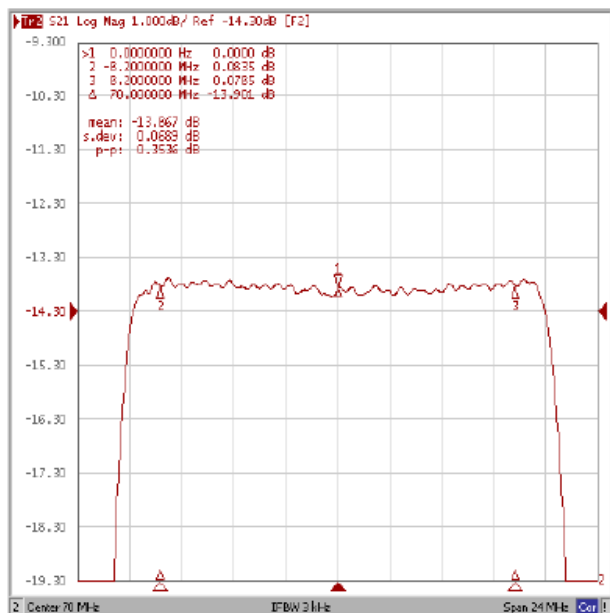
Bandwidth at -40 dB



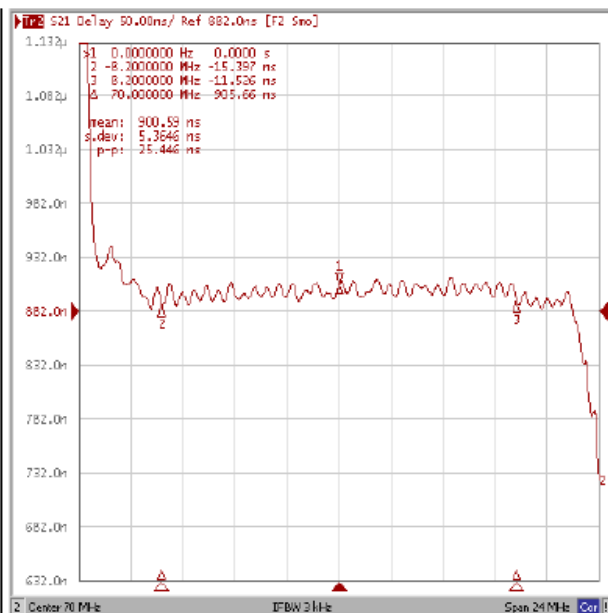
Relative Attenuation



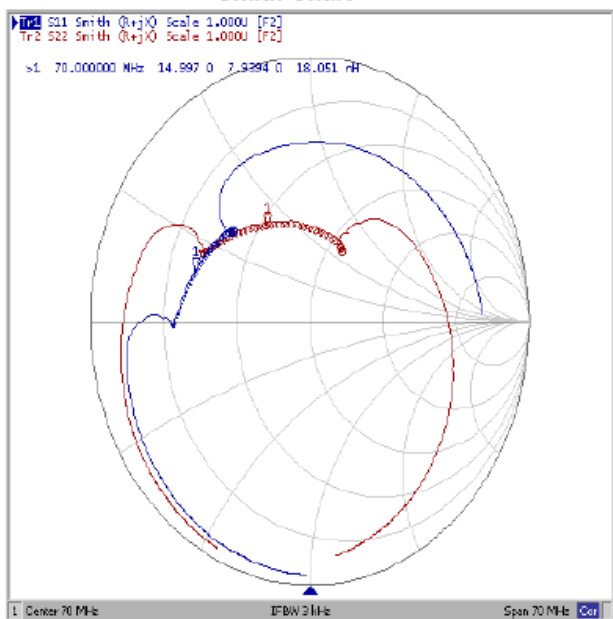
### Ripple Variation Fo±8.2MHz



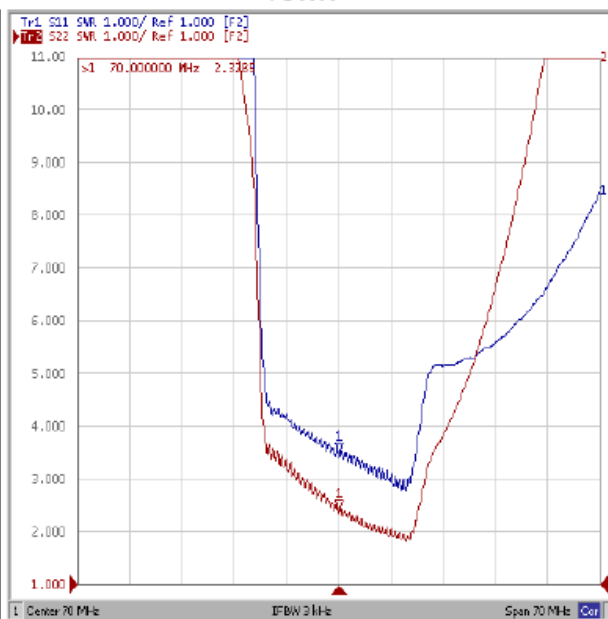
### Group Delay Variation Fo±8.2MHz



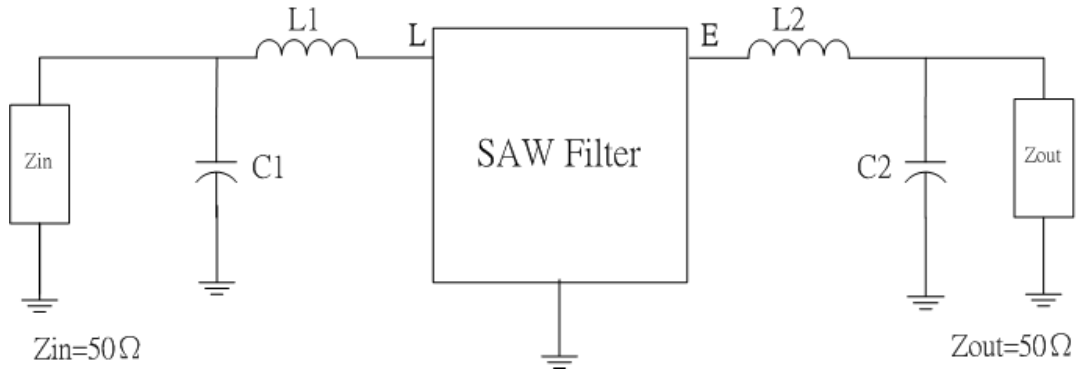
### Smith Chart



### VSWR

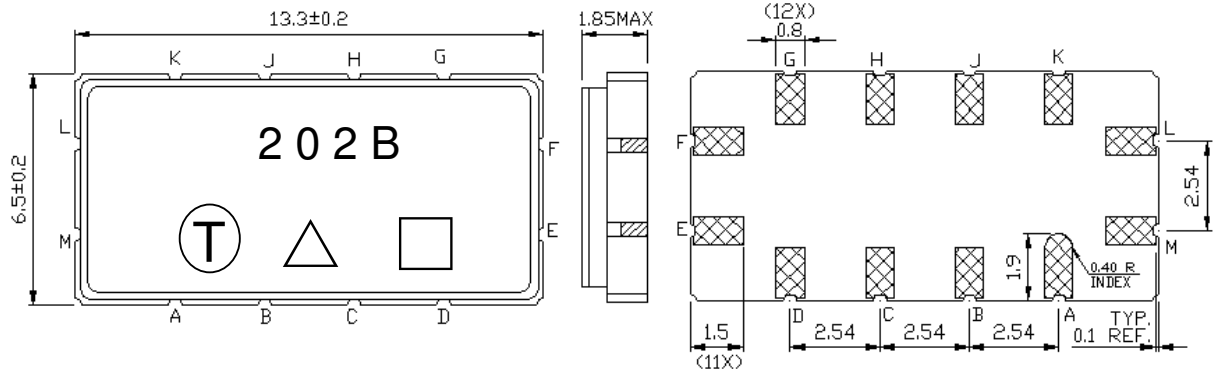


#### D. Measurement Circuit:



$$L1=120\text{nH} \quad L2=120\text{nH} \quad C1=24\text{pF} \quad C2=47\text{pF}$$

#### E. Outline Drawing:



Pin L: RF input

Pin E: RF output

Others: To be Ground

□ : Week Code

Unit : mm

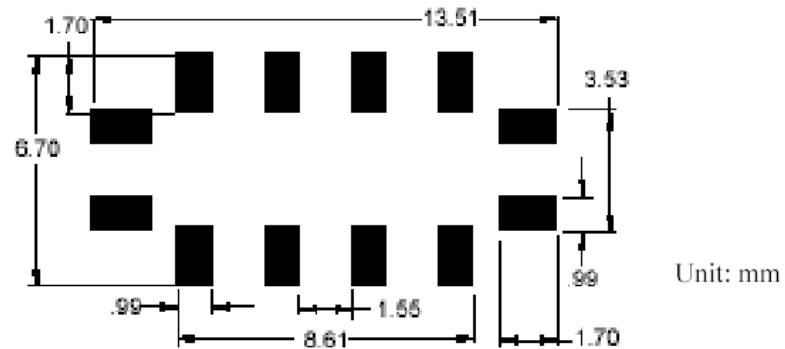
△ : Product / Year Code

| Year         | 2017<br>2021 | 2018<br>2022 | 2019<br>2023 | 2020<br>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    |

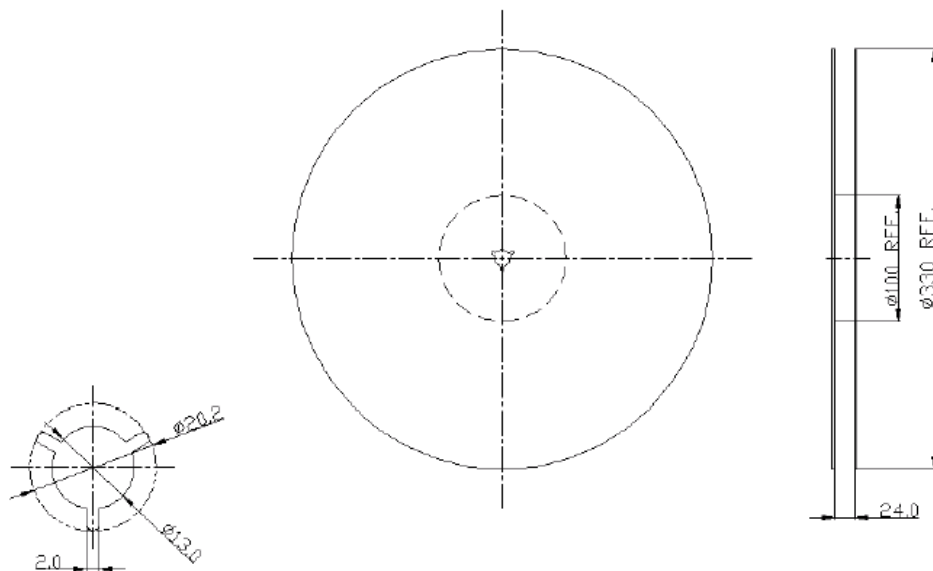
## F. PCB Footprint:



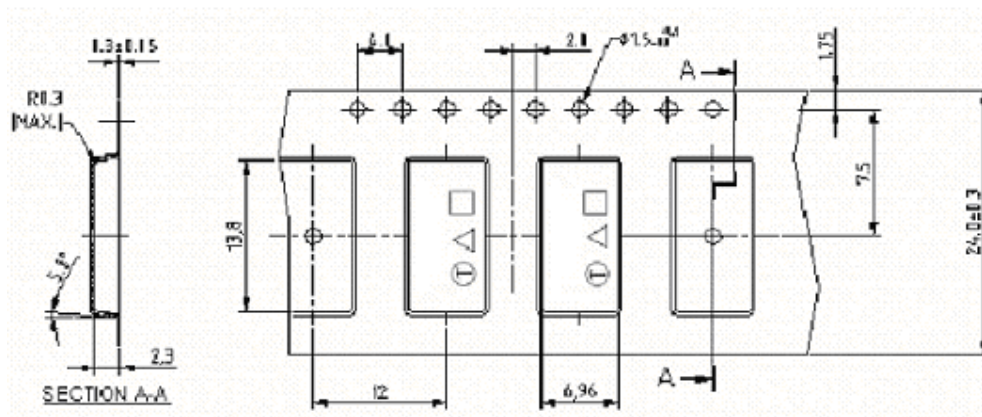
## G. Packing:

### 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.

