**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 Web: www.taisaw.com

# Product Specifications Approval Sheet

Product Name: 140 MHz 10MHz BW SMD 13.3 x 6.5 mm SAW IF Filter

TST Parts No.: TB0203A

Customer Parts No.:_____

Customer signature required

Company:_____

Division:_____

Approved by :_____

Date:_____

Checked by:_____ Kazuma Lee _____

Approval by:_____ Bob Chau _____

Date:_____ 09 / 04 / 2014 _____

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.

# TAI-SAW TECHNOLOGY CO., LTD.

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Low-Loss 140 MHz IF SAW Filter (SMD 13.3x6.5 mm)
Model No.: TB0203A Rev. No.:4

RoHS Compliant
Lead free
Lead-free soldering

**E**lectrostatic **S**ensitive **D**evice

## A. Maximum Rating:

1. Input Power Level: +20 $dB_m$
2. Operating Temperature: -55°C to +85°C
3. Storage Temperature: -55°C to +85°C

## B. Electrical Characteristics:

Operating Temperature: -10°C to +70°C

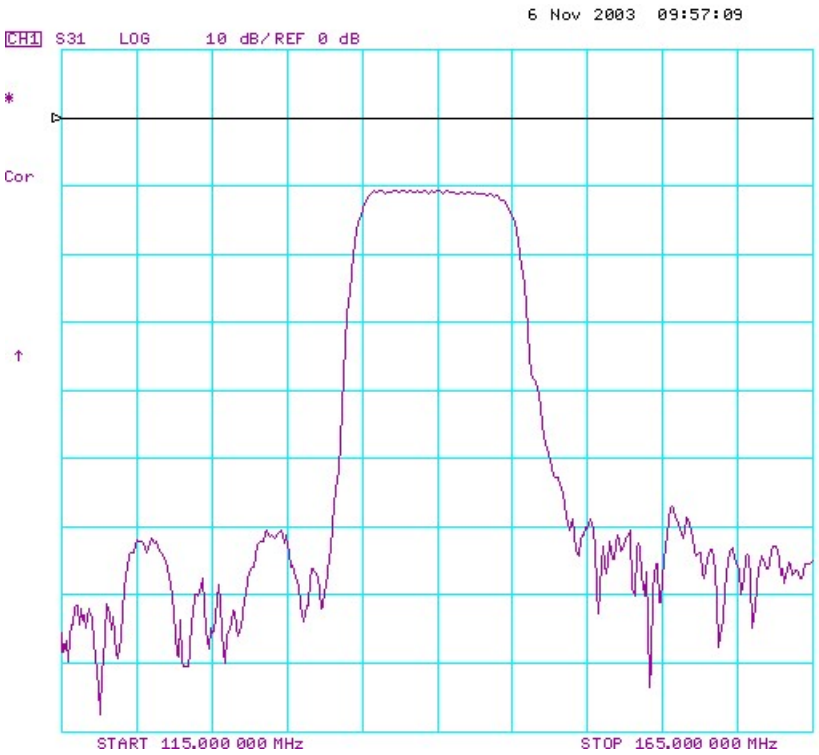
| Parameters | Unit | Min. | Typical | Max. |
|---|---|---|---|---|
| Center frequency, **Fc** | MHz | 139.6 | 140 | 140.4 |
| Insertion Loss, **IL** | dB | - | 10.5 | 11.5 |
| 1.5 dB Bandwidth | MHz | 8.9 | 9.3 | - |
| 3 dB Bandwidth | MHz | 9.4 | 9.9 | - |
| 35 dB Bandwidth | MHz | - | 13.5 | 14.5 |
| Relative Attenuation: | | | | |
| 10 to 132 MHz | dB | 45 | 50 | |
| 149 to 260 MHz | dB | 40 | 47 | |
| Amplitude ripple within Fc ± 3.6 MHz | dB | - | 0.65 | 1.0 |
| Group Delay ripple within Fc ± 3.6 MHz | nsec | - | 60 | 150 |
| Substrate Material | - | - | YZ-LN | - |
| Temperature Coefficient of frequency | ppm/ °C | - | -94 | - |

Operating Temperature: -55°C to +85°C

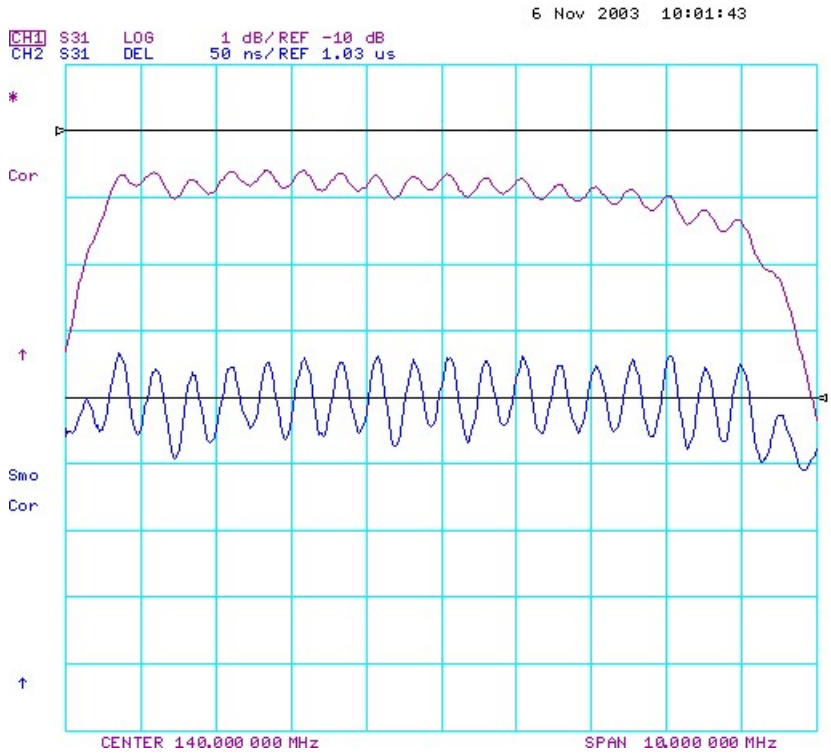
| Parameters | Unit | Min. | Typical | Max. |
|---|---|---|---|---|
| Center frequency, **Fc** | MHz | 139.6 | 140 | 140.4 |
| Insertion Loss, **IL** | dB | - | 10.5 | 12.5 |
| 1.5 dB Bandwidth | MHz | 8.9 | 9.3 | - |
| 3 dB Bandwidth | MHz | 9.4 | 9.9 | - |
| 35 dB Bandwidth | MHz | - | 13.5 | 14.5 |
| Relative Attenuation: | | | | |
| 10 to 132 MHz | dB | 45 | 50 | |
| 149 to 260 MHz | dB | 40 | 47 | |
| Amplitude ripple within Fc ± 3.6 MHz | dB | - | 0.65 | 2.0 |
| Group Delay ripple within Fc ± 3.6 MHz | nsec | - | 60 | 150 |
| Substrate Material | - | - | YZ-LN | - |
| Temperature Coefficient of frequency | ppm/ °C | - | -94 | - |

## C. **Frequency Characteristics:**

(1) Frequency Response

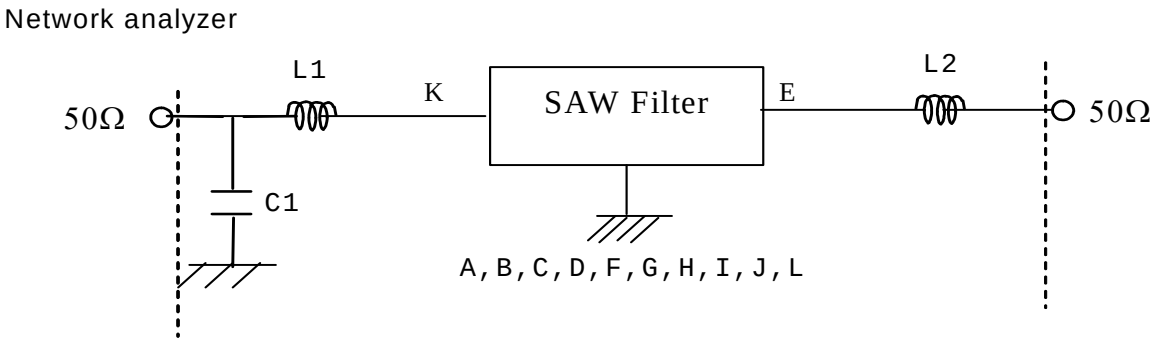


(2) Passband response and Group Delay Variation




## D. Measurement Circuit:

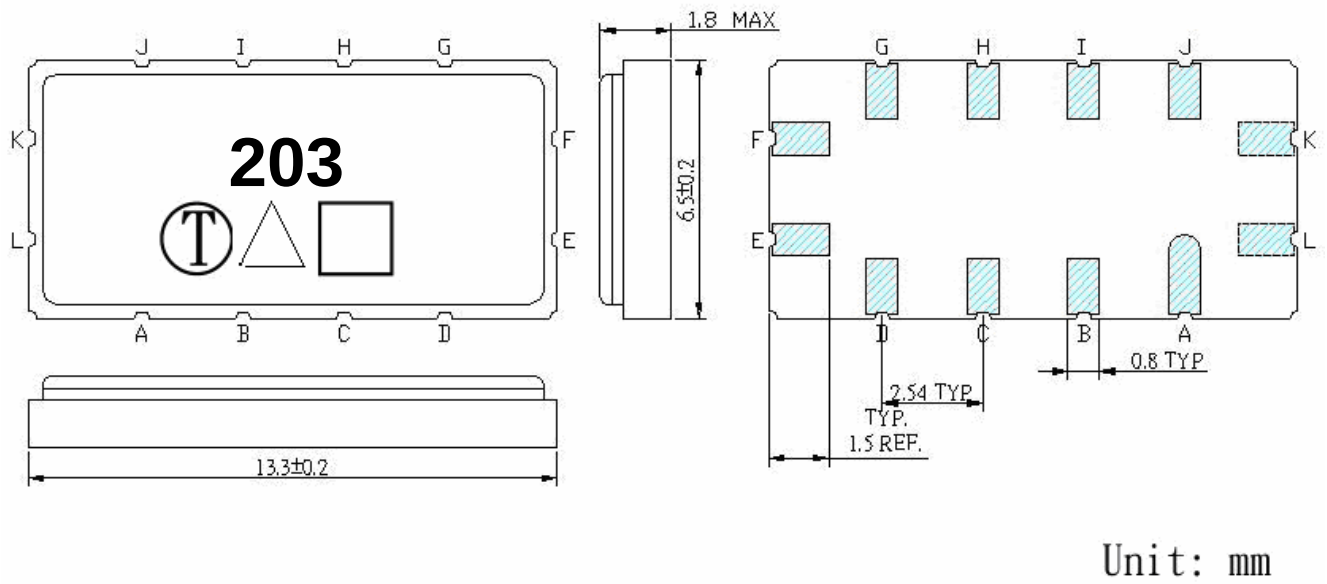
Source and load impedance: 50 Ω




Input: L1=82H, Q>40; C1=33 pF

Output: L2=56 nH, Q>40

## E. Outline Drawing:



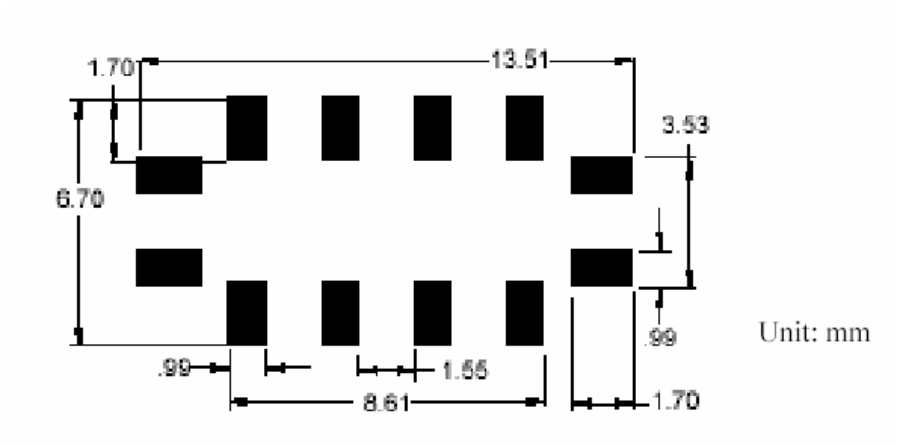

Pin K: RF Input
Pin E: RF Output
Pin L: Input Ground
Pin F: Output Ground
Pin A, B, C, D, G, H, I, J: To be Ground
□: Week Code
Unit: mm
△ : Product / Year Code

| Year | 2013<br>2017 | 2014<br>2018 | 2015<br>2019 | 2016<br>2020 |
|---|---|---|---|---|
| Product Code | B | b | B | b |

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 |

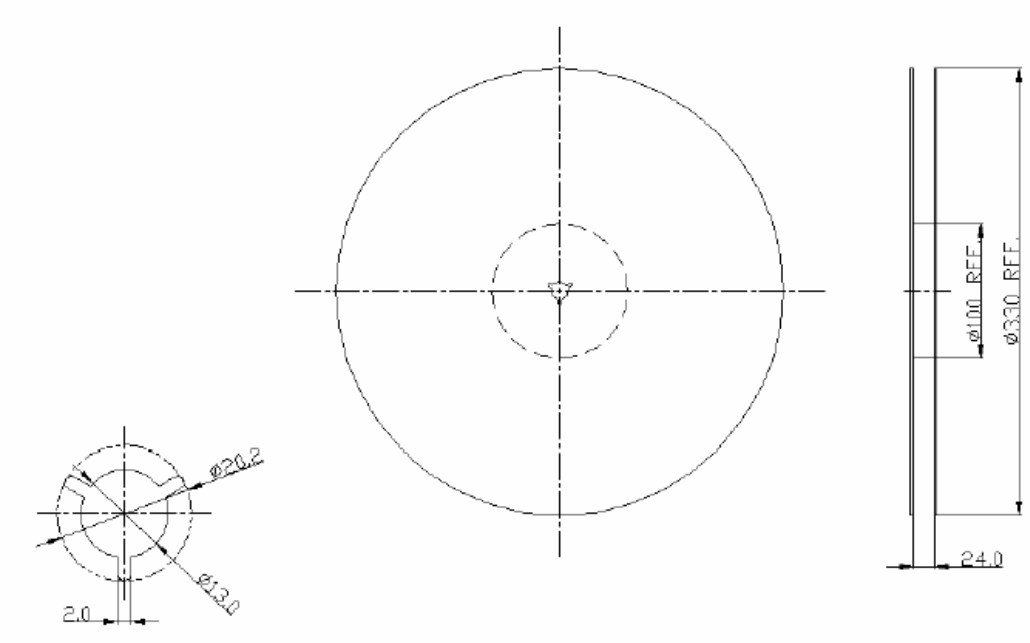
**F. PCB Footprint:**



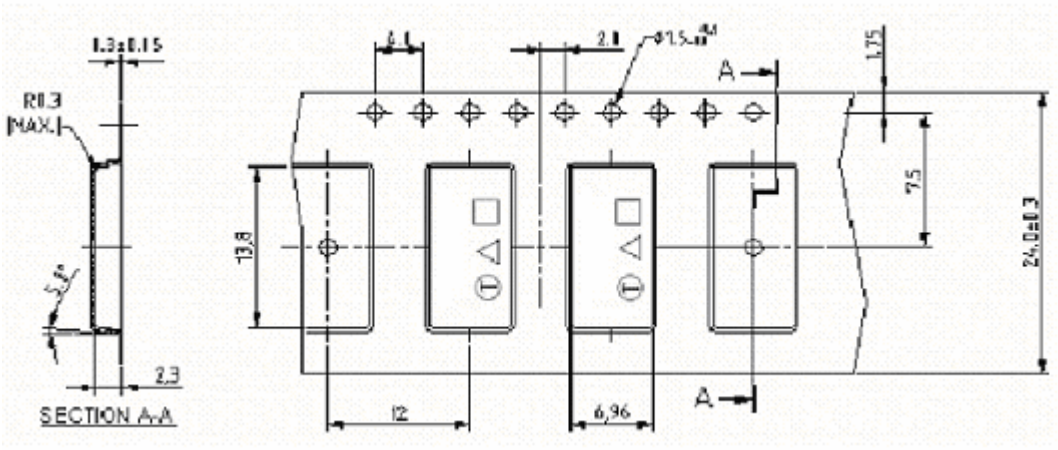

**G. PACKING:**

1. REEL DIMENSION

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



2. TAPE DIMENSION




Direction of feed

## H. RECOMMENDED REFLOW PROFILE :