



# TAI-SAW TECHNOLOGY CO., LTD.

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## Product Specifications Approval Sheet

Product Description: 145MHz 41.9MHzBW SMD 5.0mm x 5.0mm SAW IF Filter

TST Parts No.: TB1286A

Customer Parts No.: \_\_\_\_\_

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

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

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

Date: \_\_\_\_\_ 10 / 30 / 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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SAW Filter 145MHz 41.9MHz BW (SMD 5.0×5.0 mm)

MODEL NO.: TB1286A

REV. NO.1

## A. MAXIMUM RATING:

1. Operating temperature range: -40℃ to 85℃
2. Storage temperature range: -40℃ to 85℃
3. Input Power Level : 15 dBm
4. Maximum DC Voltage : 10V
5. Moisture Sensitivity Level: Level 1(MSL1)

RoHS Compliant  
Lead free  
Lead-free soldering

Electrostatic Sensitive Device

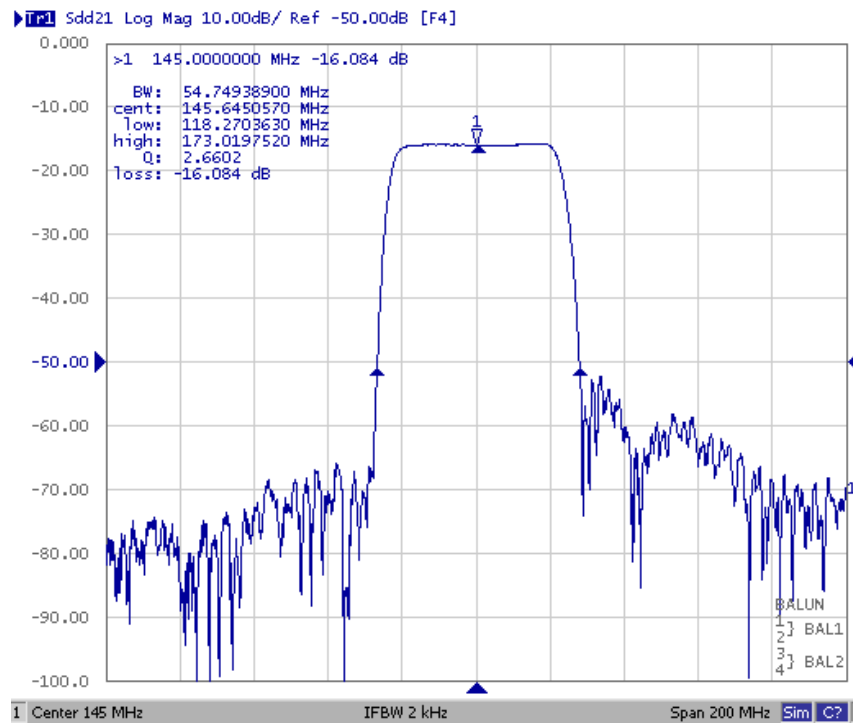
## B. CHARACTERISTICS:

Temperature range for specification: T = 25 °C

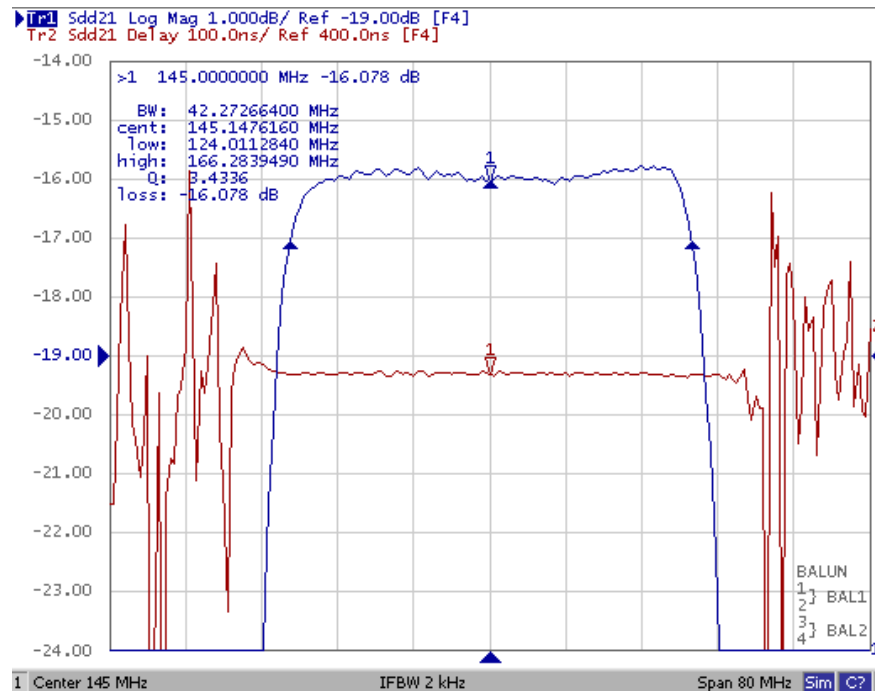
| Item                                           | Unit   | Min. | Type. | Max. |
|------------------------------------------------|--------|------|-------|------|
| Center frequency, <b>F<sub>c</sub></b>         | MHz    | -    | 145   | -    |
| Insertion Loss, <b>IL</b>                      | dB     | -    | 15.8  | 17.5 |
| -1dB bandwidth                                 | MHz    | 40.0 | 42.2  | -    |
| -3dB bandwidth                                 | MHz    | -    | 44.9  | -    |
| -35dB bandwidth                                | MHz    | -    | 54.7  | 60.5 |
| Passband Ripple F <sub>c</sub> +/- 19MHz       | dB     | -    | 0.45  | 1.0  |
| Group Delay Variation F <sub>c</sub> +/- 19MHz | ns     | -    | 12    | 60   |
| Absolute Delay at F <sub>c</sub>               | us     | -    | 0.36  | 0.4  |
| Attenuation:(Reference level from Min IL)      |        |      |       |      |
| 176 MHz ~ 186MHz                               | dB     | 30   | 36    | -    |
| Temperature Coefficient                        | ppm/°C | -    | -94   | -    |
| Source Impedance(Balanced)                     | Ohm    | -    | 200   | -    |
| Load Impedance(Balanced)                       | Ohm    | -    | 200   | -    |

## C. FREQUENCY CHARACTERISTICS:

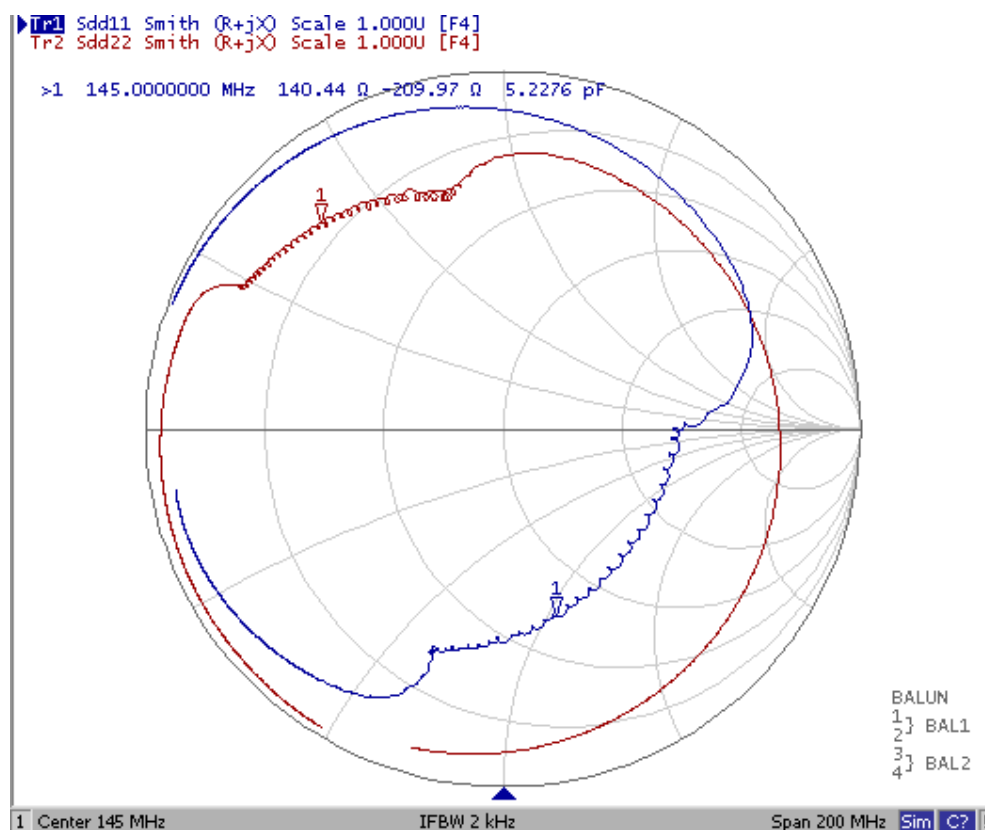
### (1) Wide Band Response:



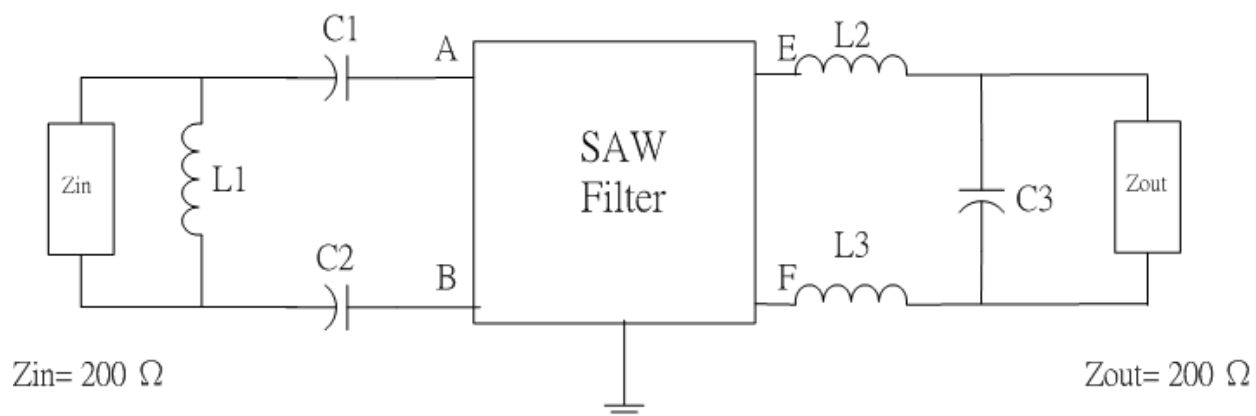
### (2) Pass Band Response and Group Delay Response:



(3) Smith Chart:

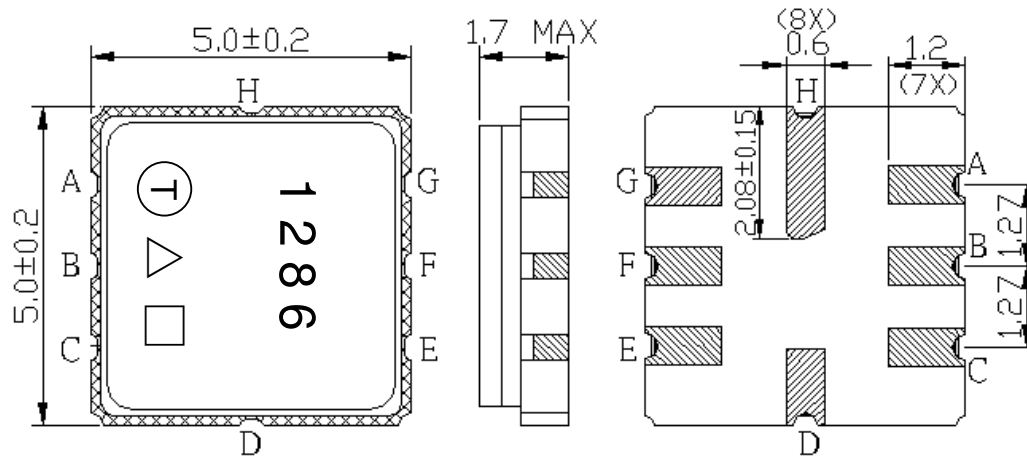


**D. MATCHING CIRCUIT:**



$$L1=100 \text{ nH } L2=L3=56 \text{ nH } C1=C2=82 \text{ pF } C3=6.8 \text{ pF}$$

## E. OUTLINE DRAWING:



#A: Input

#B: Balanced Input

#E: Output

#F: Balanced Output

#C,D,G,H : Ground

□: Week Code

Unit: mm

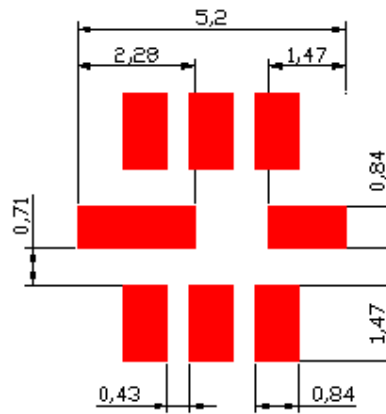
△: Product / Year Code

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

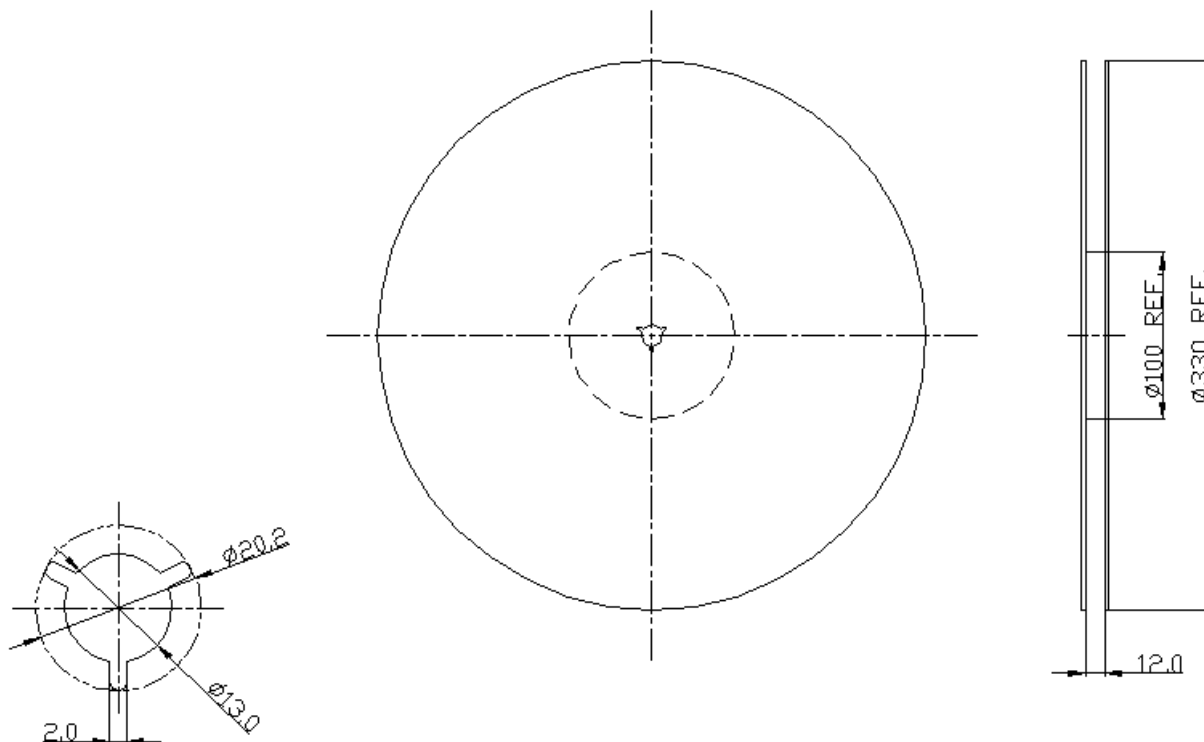
## F. PCB FOOTPRINT:



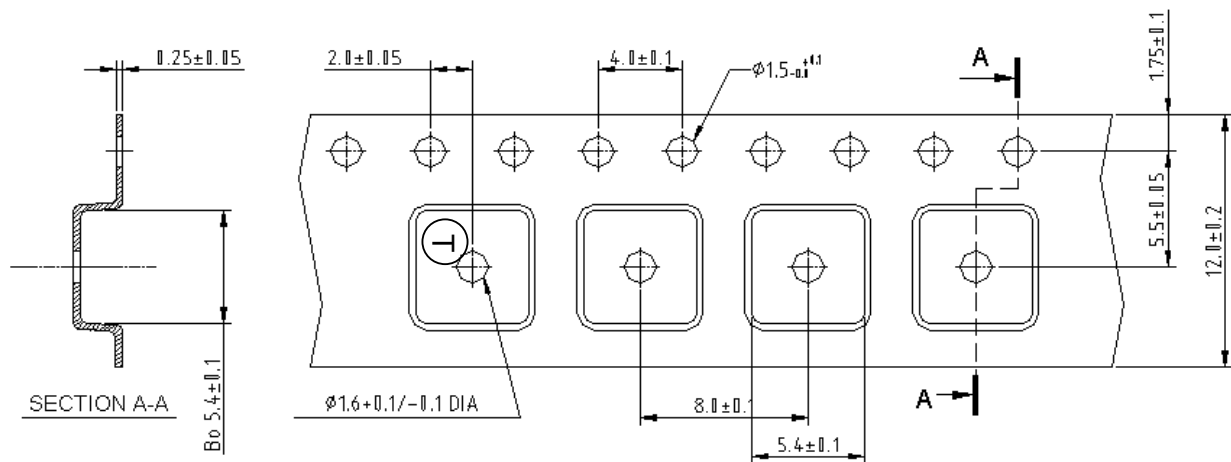
## G. PACKING:

### 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 60~90 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 50~80 seconds and at  $260^{\circ}\text{C} \pm 0/-5^{\circ}\text{C}$  peak (20~40sec).
4. Time: 2 times.

