



## TAI-SAW TECHNOLOGY CO., LTD.

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# Product Specifications Approval Sheet

Product Description: 868.6MHz 1.2MHzBW SMD 3.0x3.0 mm SAW RF Filter

TST Parts No.:TA2315A (This part is compliance with AEC-Q200)

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

Company:\_\_\_\_\_

Division:\_\_\_\_\_

Approved by :\_\_\_\_\_

Date:\_\_\_\_\_

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

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

Date:\_\_\_\_\_ 04 / 12 / 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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## SAW Filter 868.6 MHz

MODEL NO.:TA2315A

REV. NO : 1.0

### A. MAXIMUM RATING:

1. Input Power Level: 15 dBm
2. DC Voltage : 6V
3. Operating Temperature: -45°C to +125°C
4. Storage Temperature: -45°C to +125°C
5. Moisture Sensitivity Level: Level 1(MSL1)

RoHS Compliant  
Lead free  
Lead-free soldering

Electrostatic Sensitive Device

### B. ELECTRICAL CHARACTERISTICS:

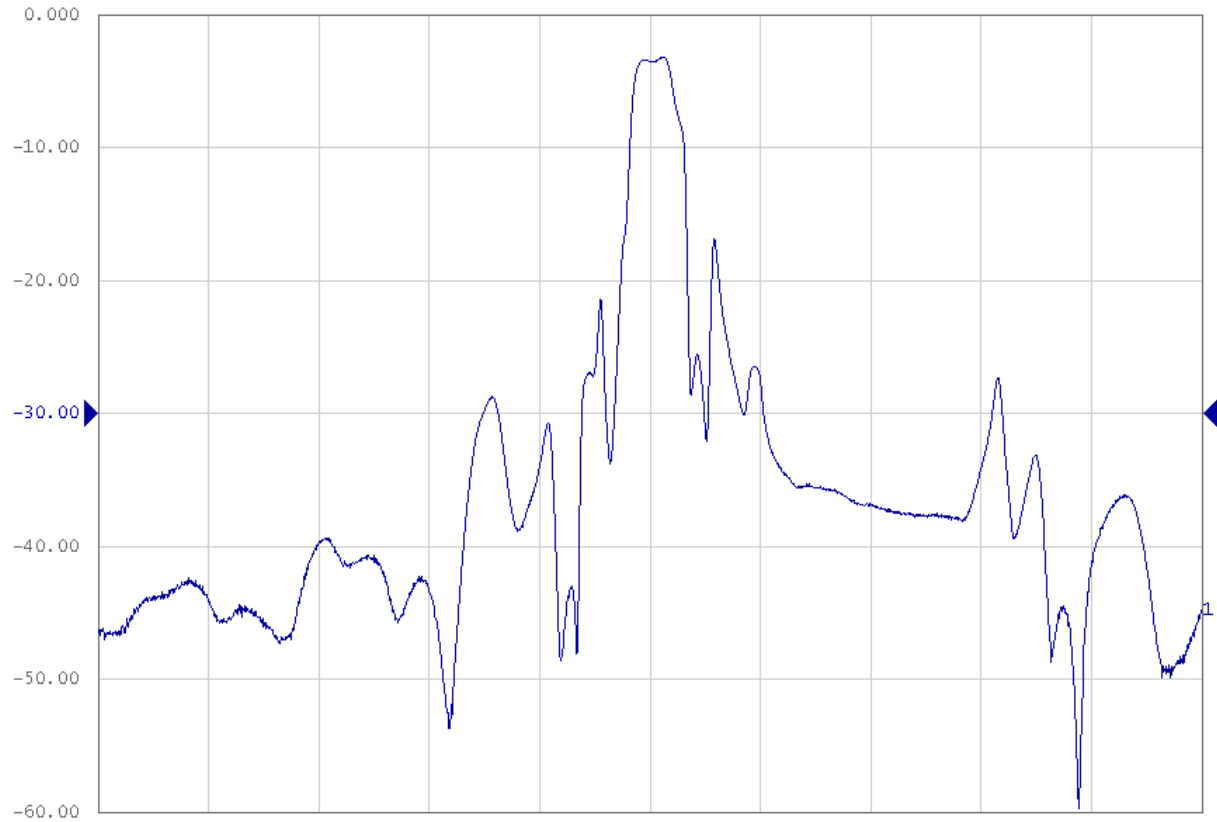
Temperature Range for Specification: -40°C to +95°C

Ambient Temperature: 25°C

| Item                                                                                          | Unit | Min.        | Typ.  | Max. |
|-----------------------------------------------------------------------------------------------|------|-------------|-------|------|
| Center frequency Fc                                                                           | MHz  | -           | 868.6 | -    |
| 3dB BW                                                                                        | MHz  | -           | 1.85  | -    |
| Minimum insertion loss IL(min)                                                                |      |             |       |      |
| Exclude loss in matching elements                                                             | dB   | -           | 2.9   | 3.4  |
| Incl. loss of matching elements                                                               | dB   | -           | 3.2   | 3.7  |
| Passband (relative to IL <sub>min</sub> )                                                     |      |             |       |      |
| 868 ~ 869.2 MHz                                                                               | dB   | -           | 1.0   | 3.0  |
| Attenuation (relative to IL <sub>min</sub> )                                                  |      |             |       |      |
| 10.000 ~ 820.00 MHz                                                                           | dB   | 44          | 46    | -    |
| 820.00 ~ 859.00 MHz                                                                           | dB   | 32          | 36    | -    |
| 859.00 ~ 866.60 MHz                                                                           | dB   | 15          | 19    | -    |
| 866.60 ~ 867.20 MHz                                                                           | dB   | 8           | 19    | -    |
| 870.40 ~ 871.40 MHz                                                                           | dB   | 10          | 14    | -    |
| 871.40 ~ 875.00 MHz                                                                           | dB   | 12          | 14    | -    |
| 875.00 ~ 890.00 MHz                                                                           | dB   | 20          | 24    | -    |
| 890.00 ~ 950.00 MHz                                                                           | dB   | 30          | 33    | -    |
| 950.00 ~ 1500.0 MHz                                                                           | dB   | 45          | 48    | -    |
| 1500.0 ~ 2500.0 MHz                                                                           | dB   | 48          | 60    | -    |
| Impedance at Fc, Input Z <sub>in</sub> = R <sub>in</sub> //C <sub>in</sub> Z <sub>s</sub>     | Ω    | 210Ω//2.9pF |       |      |
| Impedance at Fc, Output Z <sub>out</sub> = R <sub>out</sub> //C <sub>out</sub> Z <sub>L</sub> | Ω    | 330Ω//2.3pF |       |      |

### C. FREQUENCY CHARACTERISTICS:

▶ **Tr1** S21 Log Mag 10.00dB/ Ref -30.00dB [F2]

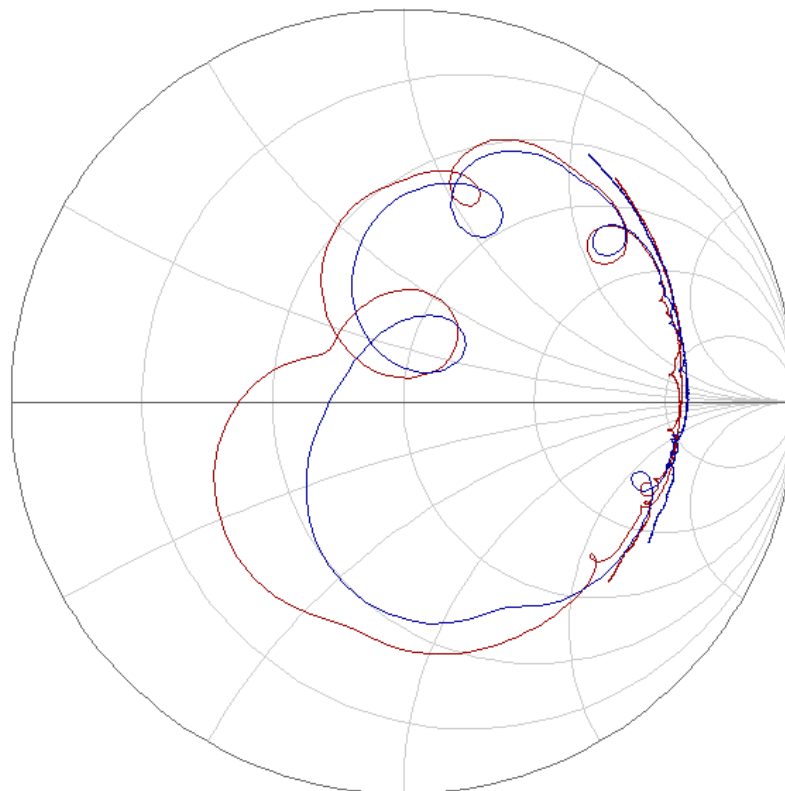


1 Center 868.6 MHz

IFBW 2 kHz

Span 50 MHz

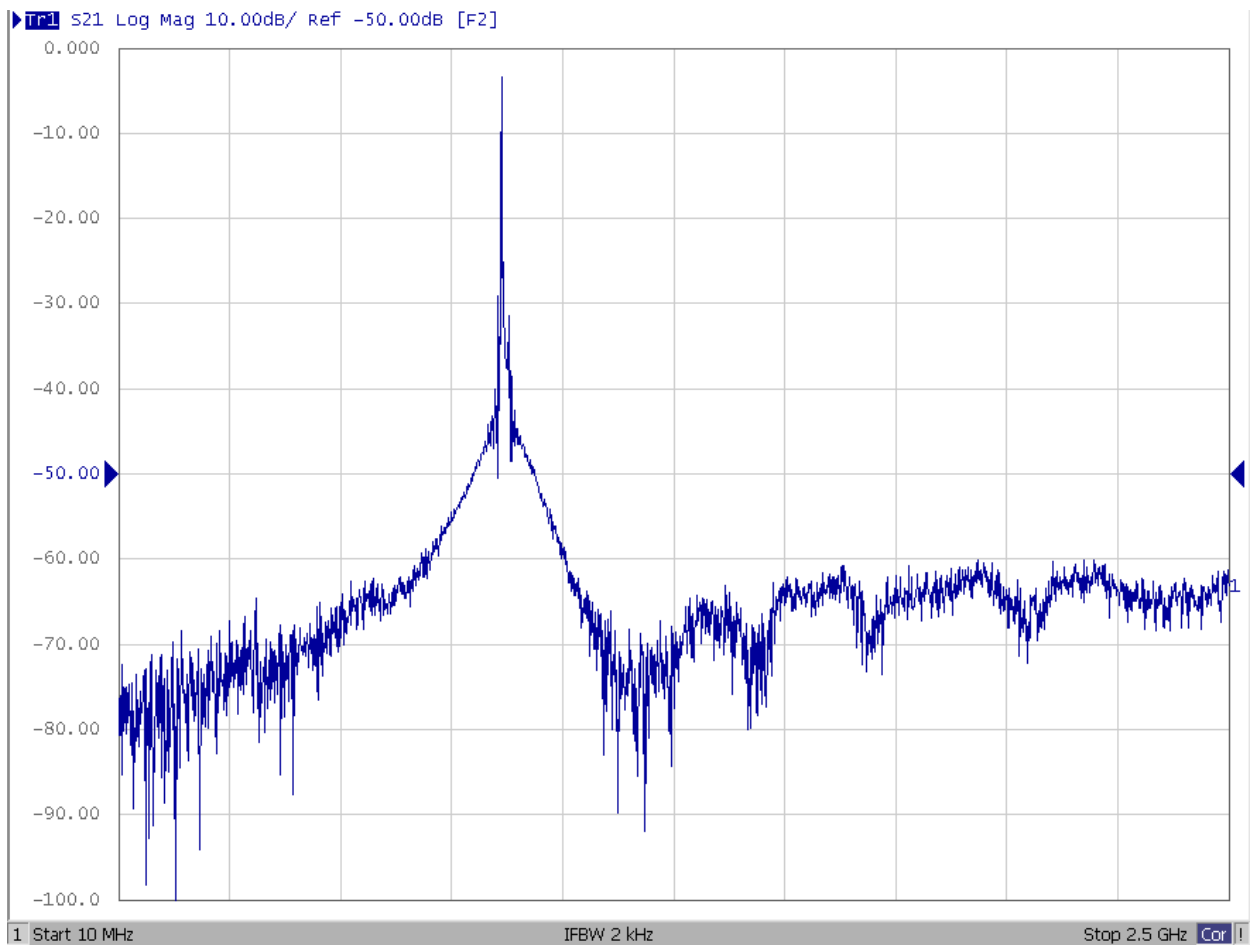
▶ **Tr1** S11 Smith (R+jX) scale 1.000U [F2]  
▶ **Tr2** S22 Smith (R+jX) scale 1.000U [F2]



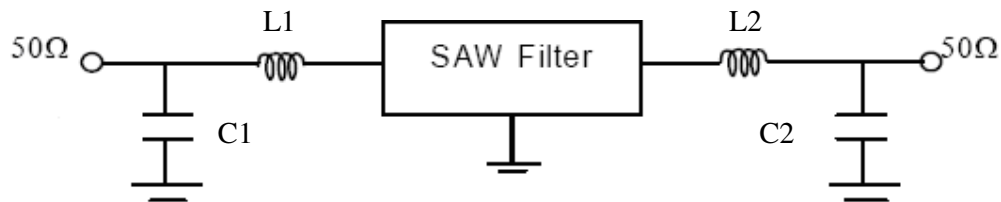
1 Center 868.6 MHz

IFBW 2 kHz

Span 50 MHz

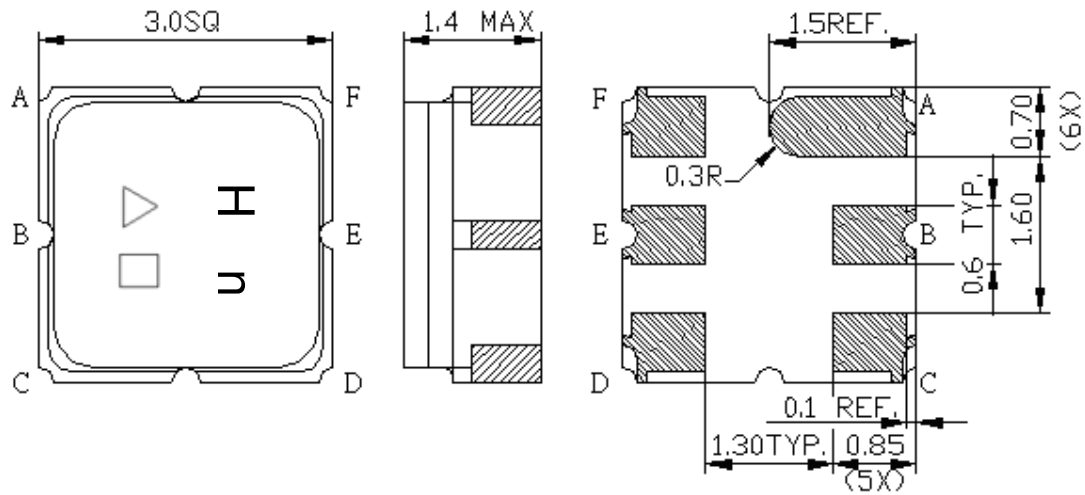


#### D. MEASUREMENT CIRCUIT:



**L1=15H L2=18H C1=5.0pF C2=5.0pF**

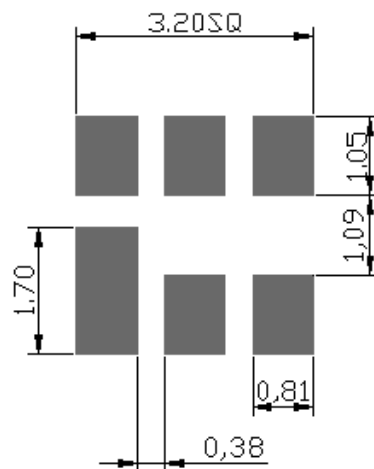
## E.OUTLINE DRAWING:



A: Input Ground or Input  
 B: Input or Input Ground  
 D: Output or Output ground  
 E: Output ground or Output  
 C, F: Ground  
 △: Year code: 1 for 2011, 2 for 2012...0 for 2020...  
 □: Date code:  
 Unit: mm

|      |      |      |      |      |      |      |      |      |      |      |      |      |
|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 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    |

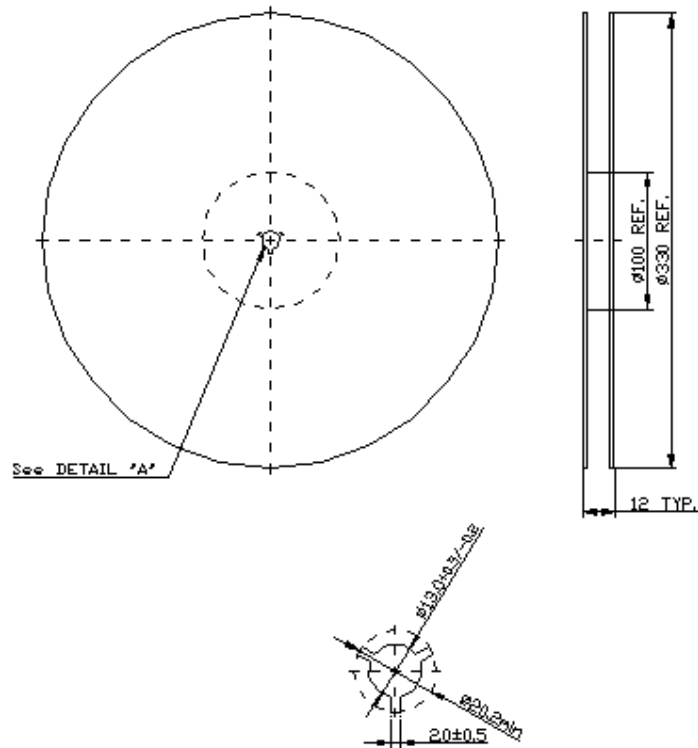
## F. PCB FOOTPRINT:



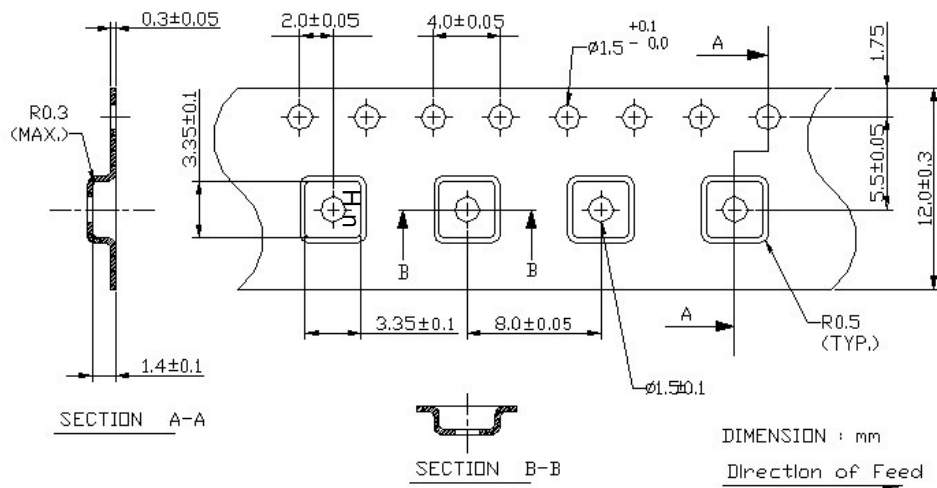
## G. PACKING:

### 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 150~180°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.

