



# TAI-SAW TECHNOLOGY CO., LTD.

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## Approval Sheet For Product Specification


Issued Date:


Product Name: IF SAW Filter 36.17 MHz

TST Parts No.: TB0500A

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

|                     |
|---------------------|
| Company: _____      |
| Division: _____     |
| Approved by : _____ |
| Date: _____         |

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

Approval by: \_\_\_\_\_ Francis Chen 

Date: \_\_\_\_\_ 2008/12/15



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## IF SAW Filter 36.17MHz(BW=7.9MHz) for digital TV

MODEL NO.: TB0500A

REV. NO.2

### A. MAXIMUM RATING:

|                             |                  |        |    |                       |
|-----------------------------|------------------|--------|----|-----------------------|
| DC voltage                  | V <sub>DC</sub>  | 12     | V  | Between any terminals |
| AC voltage                  | V <sub>PP</sub>  | 10     | V  | Between any terminals |
| Operating Temperature Range | T <sub>A</sub>   | -25~65 | °C |                       |
| Storage Temperature Range   | T <sub>stg</sub> | -40~85 | °C |                       |

### B. Characteristics :

RoHS Compliant

Lead-free soldering

#### 1. Electronic Characteristics

Reference temperature: Ta=25°C  
 Terminating source impedance Z<sub>S</sub>=50Ω  
 Terminating load impedance Z<sub>L</sub>=2kΩ//3pF

#### 2 .Amplitude Characteristics

Attenuation ( ref. : 36.17 MHz) (Switching pin2 connected to ground)

|                                                     | MIN. | TYP.      | MAX. |        |
|-----------------------------------------------------|------|-----------|------|--------|
| Insertion attenuation                               |      |           |      |        |
| Reference level for the<br>Following data 36.17 MHz | 19.0 | 21.0      | 23.0 | dB     |
| 3.0dB Pass Bandwidth                                | 7.4  | 7.9       | 8.4  | MHz    |
| 15 dB Pass Bandwidth                                | 8.4  | 8.9       | 9.4  |        |
| 30dB Pass Bandwidth                                 | 8.8  | 9.4       | 10.0 | MHz    |
| Lower side lobe                                     |      |           |      |        |
| 25.00 to 31.15 MHz                                  | 35.0 | 40.0      | -    | dB     |
| Upper side lobe                                     |      |           |      |        |
| 41.15 to 42.00 MHz                                  | 31.0 | 36.0      | -    | dB     |
| 42.00 to 45.00 MHz                                  | 36.0 | 44.0      | -    | dB     |
| Impedance at 36.17 MHz                              |      |           |      |        |
| Input Impedance                                     | -    | 1.7  17.3 | -    | kΩ  pF |
| Output Impedance                                    |      | 2.4  4.3  |      | kΩ  pF |
| Temperature Coefficient of frequency                | -    | -72.0     | -    | ppm/K  |

(Switching pin2 connected to pin 1)

|                                                     | MIN. | TYP. | MAX. |     |
|-----------------------------------------------------|------|------|------|-----|
| Insertion attenuation                               |      |      |      |     |
| Reference level for the<br>Following data 36.17 MHz | 19.0 | 21.0 | 23.0 | dB  |
| 3.0dB Pass Bandwidth                                | 6.5  | 7.0  | 7.5  | MHz |
| 15 dB Pass Bandwidth                                | 7.5  | 8.0  | 8.5  |     |
| 30dB Pass Bandwidth                                 | 7.9  | 8.5  | 9.1  | MHz |

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|                                       |      |             |   |                 |
|---------------------------------------|------|-------------|---|-----------------|
| Lower side lobe<br>25.00 to 31.55 MHz | 35.0 | 40.0        | - | dB              |
| Upper side lobe<br>40.75 to 45.00 MHz | 31.0 | 36.0        | - | dB              |
| Impedance at 36.17 MHz                |      |             |   |                 |
| Input Impedance                       | -    | 1.5    20.9 | - | $k\Omega$    pF |
| Output Impedance                      |      | 2.4    4.3  |   | $k\Omega$    pF |
| Temperature Coefficient of frequency  | -    | -72.0       | - | ppm/K           |

### C. Frequency Characteristics :

#### 1. S21 Response: (span 20MHz)

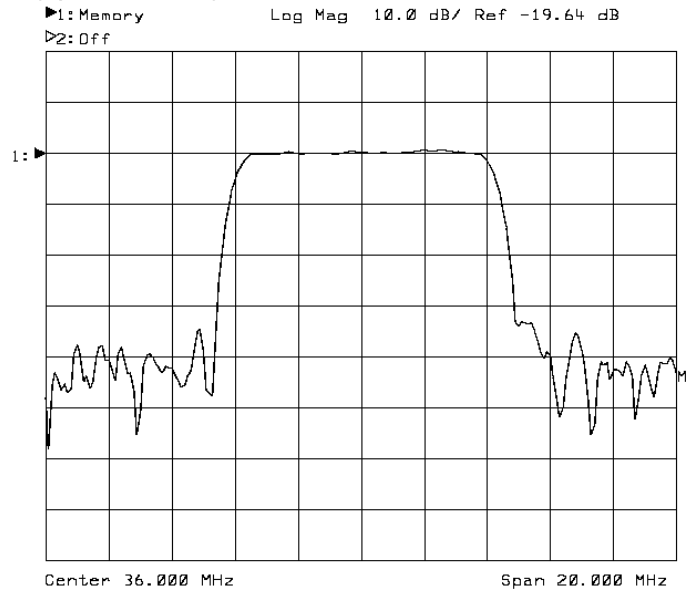


Fig.1 Horizontal : 2MHz/Div Vertical: 10B/Div

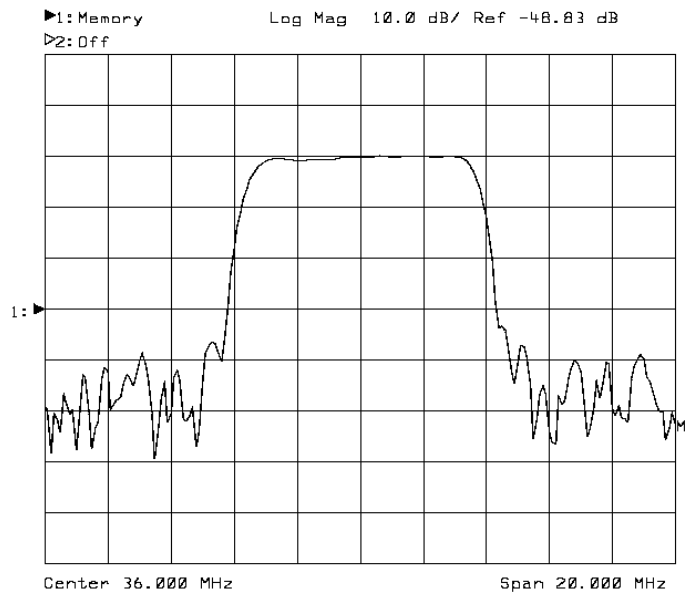
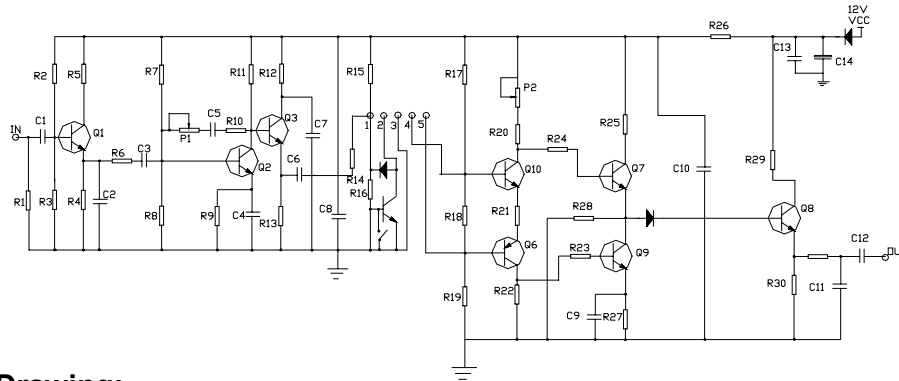


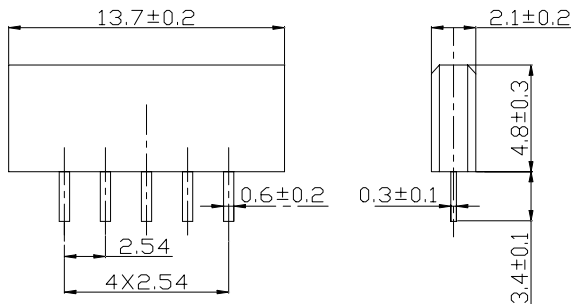
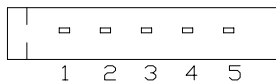
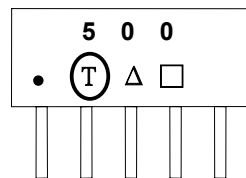
Fig.2 Horizontal : 2MHz/Div Vertical: 10dB/Div

### D. TEST CIRCUIT:



### E. Outline Drawing:

Unit: mm



- | Pin No. | Functions           |
|---------|---------------------|
| 1.      | Input               |
| 2.      | Switching- Input    |
| 3.      | Chip carrier-Ground |
| 4.      | Output              |
| 5.      | Output              |

□ : Week Code (Follow the table from planner each year)

△ : Product / Year Code

|              |              |              |              |              |
|--------------|--------------|--------------|--------------|--------------|
| Year         | 2005<br>2009 | 2006<br>2010 | 2007<br>2011 | 2008<br>2012 |
| Product Code | B            | b            | <u>B</u>     | <u>b</u>     |