



# TAI-SAW TECHNOLOGY CO., LTD.

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## Approval Sheet For Product Specification

Issued Date: 5, 04, 2005

Product Name: SAW Filter 140 MHz SMD 19x6.5 mm

TST Parts No.:TB0218A Rev.4

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

Company: _____
Division: _____
Approved by : _____
Date: _____

Checked by: \_\_\_\_\_ Andy Lee

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

Date: \_\_\_\_\_ 5, 04, 2005



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## SAW Filter 140 MHz

MODEL NO.: TB0218A

REV. NO.4

### 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

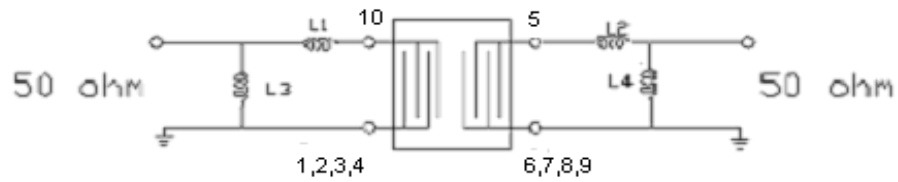
RoHS Compliant  
Lead free  
Lead-free soldering

### B. ELECTRICAL CHARACTERISTICS:

1. Ambient Temperature: 25 °C

Item	Unit	Min.	Type.	Max.	Note
Center frequency, <b>F<sub>c</sub></b>	MHz	139.915	140	140.085	1
Minimum Insertion Loss, <b>IL</b>	dB	-	7	8	-
Amplitude Ripple in <b>F<sub>c</sub>±0.12MHz,AR</b>	MHz	-	0.6	1.5	-
Group delay ripple in <b>F<sub>c</sub>±0.15MHz</b>	ns	-	200	500	-
1dB Bandwidth	MHz	0.4	0.47	-	-
40dB Bandwidth	MHz	-	1.47	1.6	-
Relative attenuation (relative to min. IL)	-				
110 MHz ~ <b>F<sub>c</sub>-1MHz</b>	dB	35	41	-	-
<b>F<sub>c</sub>+1MHz</b> ~ 170MHz	dB	35	39	-	-

### C. MEASUREMENT CIRCUIT:



Input L1=39nH, L3=22nH  
Output L2=33nH, L4=22nH

### D. FREQUENCY CHARACTERISTICS :

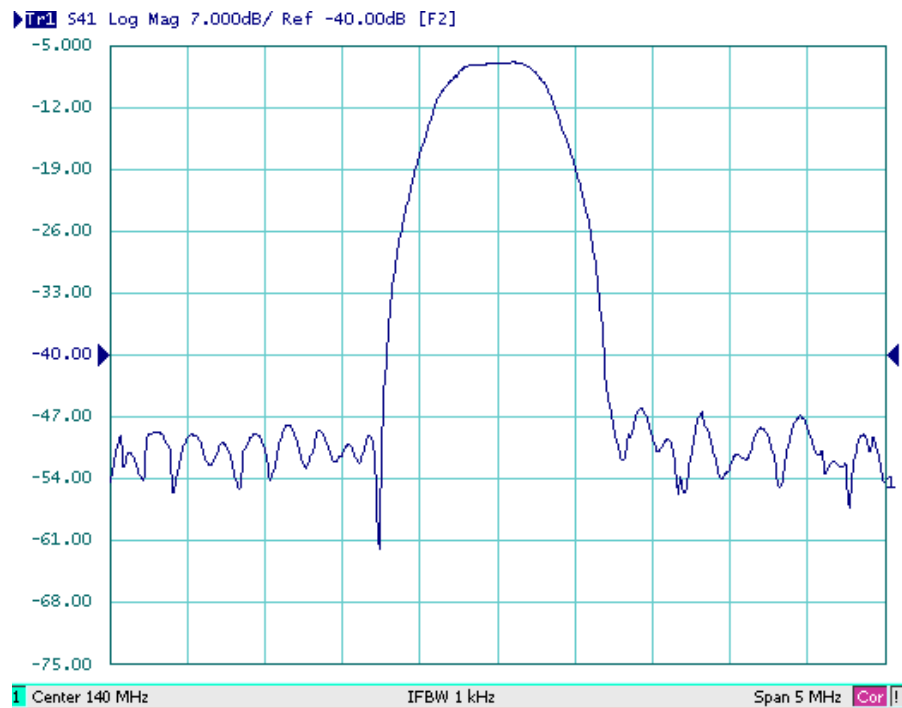


Fig-1 S21 Response Horizontal: 0.5MHz/Div  
Vertical: 7dB/Div

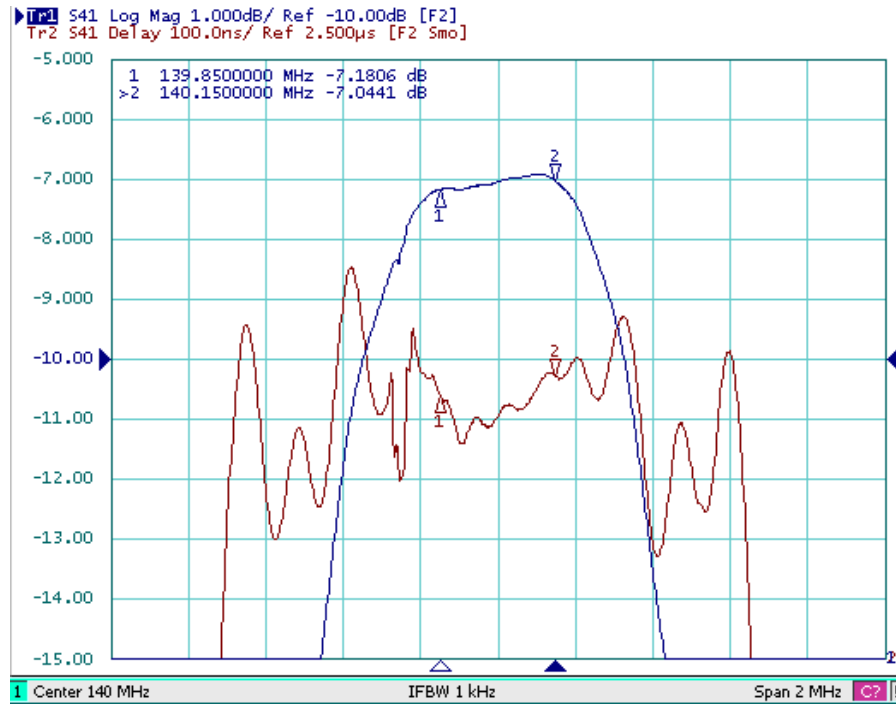
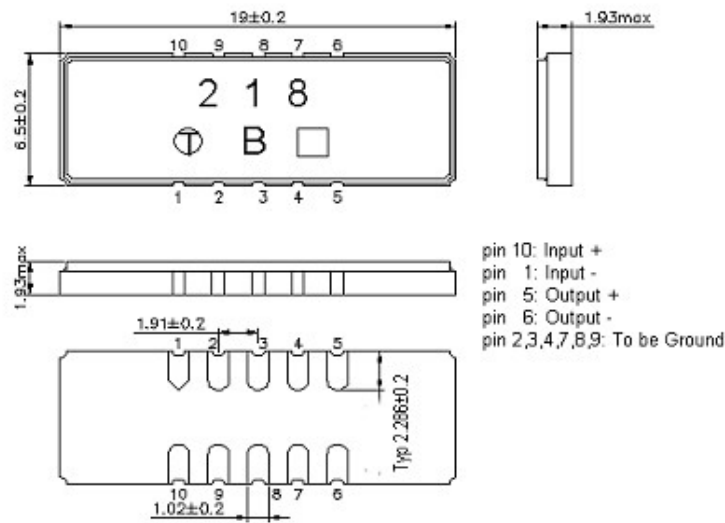
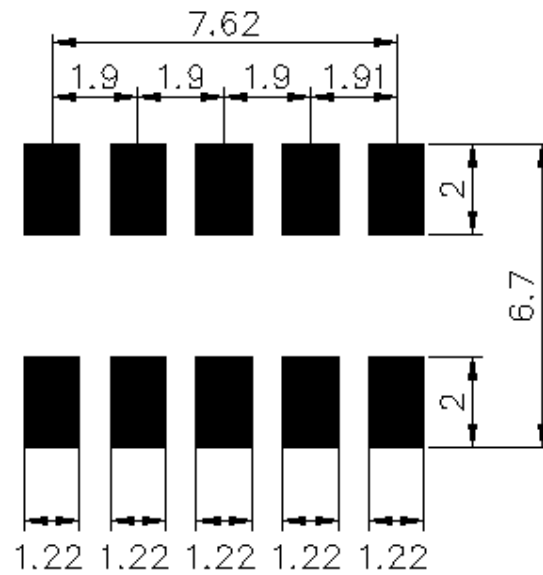


Fig-2 Horizontal: 200KHz/Div Vertical: 1dB/Div  
 Vertical: 100ns/Div

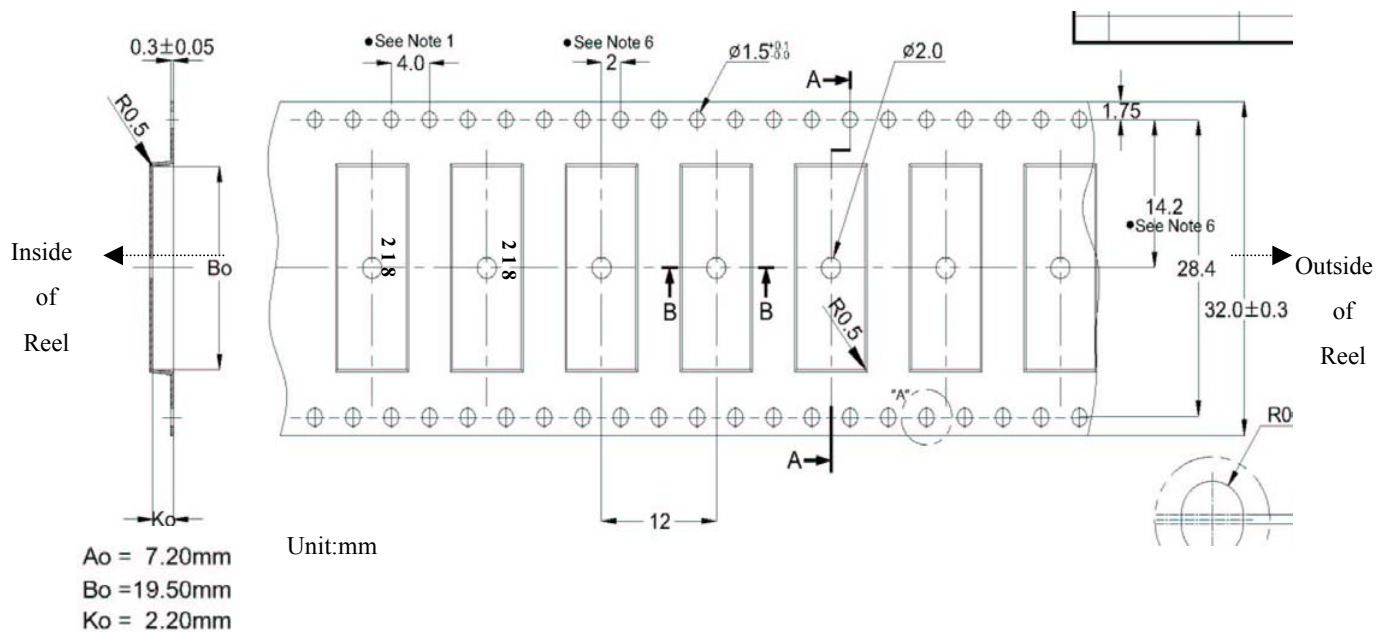
**E. OUTLINE DRAWING :**



## F. PCB FOOTPRINT



## G. TAPE DIMENSION



## H. MECHANICAL & ENVIRONMENT CHARACTERISTICS

Test Item	Condition of Test	Requirements
Shock ( Drop test )	random free drops 3 times from height of 1.0 meter onto hard wood.	The specimens shall meet the electrical specifications
Vibration	Total peak amplitude : 1.5mm Vibration frequency : 10 to 55 Hz Sweep period : 1.0 minute Vibration directions : 3 mutually perpendicular Duration : 2 hr / direc.	
Solderability	immersed pad in soldering bath at 245±5°C for 5±0.5 seconds.	75% or more of the immersed surface shall be covered with solder
Temperature Characteristics	Specimens shall be measured within -40°C to +85°C temperature range	The specimens shall meet the electrical specifications
Dry heat ( Aging test )	Temperature : 125 ± 2 °C Duration : 250 hours	
Cold resistance	Temperature : -40 ± 3 °C Duration : 96 hours	
Thermal Shock	Heat cycle conditions -55 C      25 C      85 C (30 min)   (5 min)   (30 min) Cycle time : 5 times	

### I. Reflow Profile:

1. Preheating shall be fixed at 140 ~ 160 °C for 60 ~ 90 seconds.
2. Ascending time to preheating temperature 150 °C shall be 30 seconds min.
3. Heating shall be fixed at 200 °C for 50 ~ 60 seconds and at 230±10 °C peak.

