



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 Description: 170 MHz 23.45MHz BW SMD 7.0 x 5.0 mm SAW IF Filter

TST Parts No.: TB1178A

Customer Parts No.: _____

Customer signature required

Company: _____

Division: _____

Approved by : _____

Date: _____

Checked by: _____ Kazuma Lee 

Approval by: _____ Bob Chau 

Date: _____ 02 / 03 / 2015

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 170MHz 23.45MHz BW (SMD 7.0×5.0 mm)

MODEL NO.: TB1178A

REV. NO.1

A. MAXIMUM RATING:

1. Operating temperature range: -10°C to 70°C
2. Storage temperature range: -40°C to 85°C
3. Input Power Level : 10 dBm
4. Maximum DC Voltage : 10V

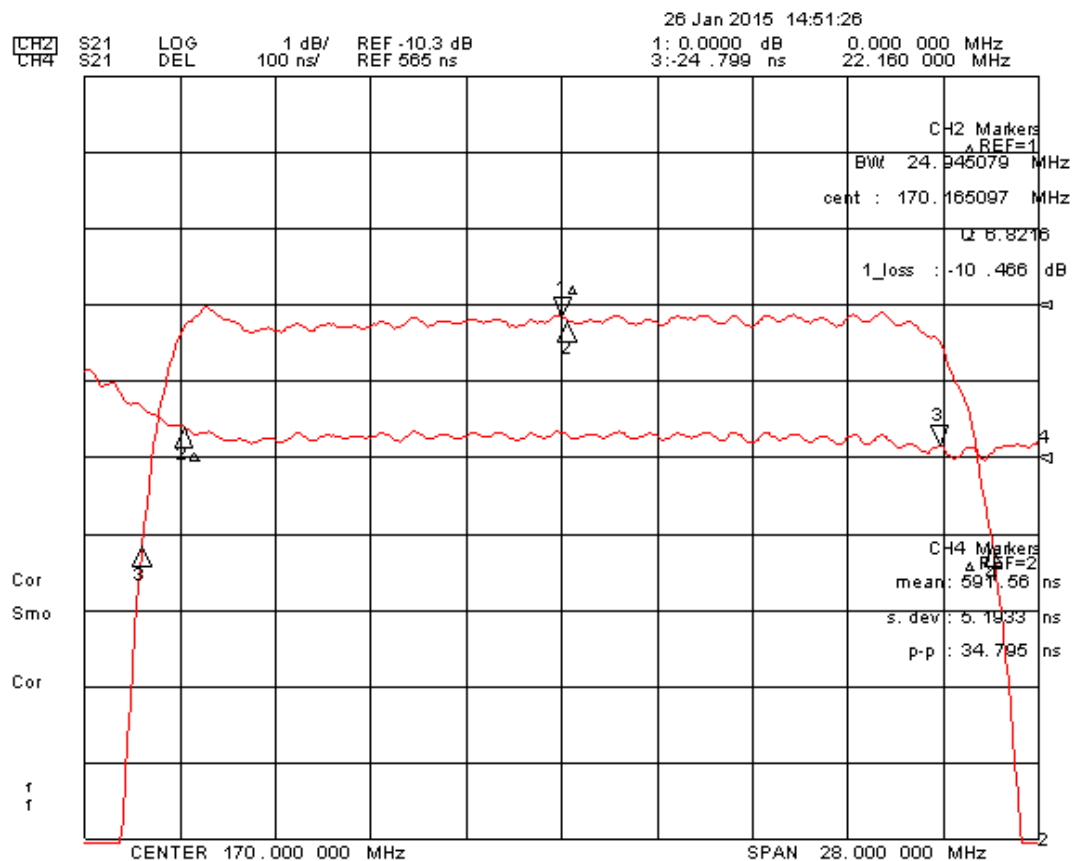
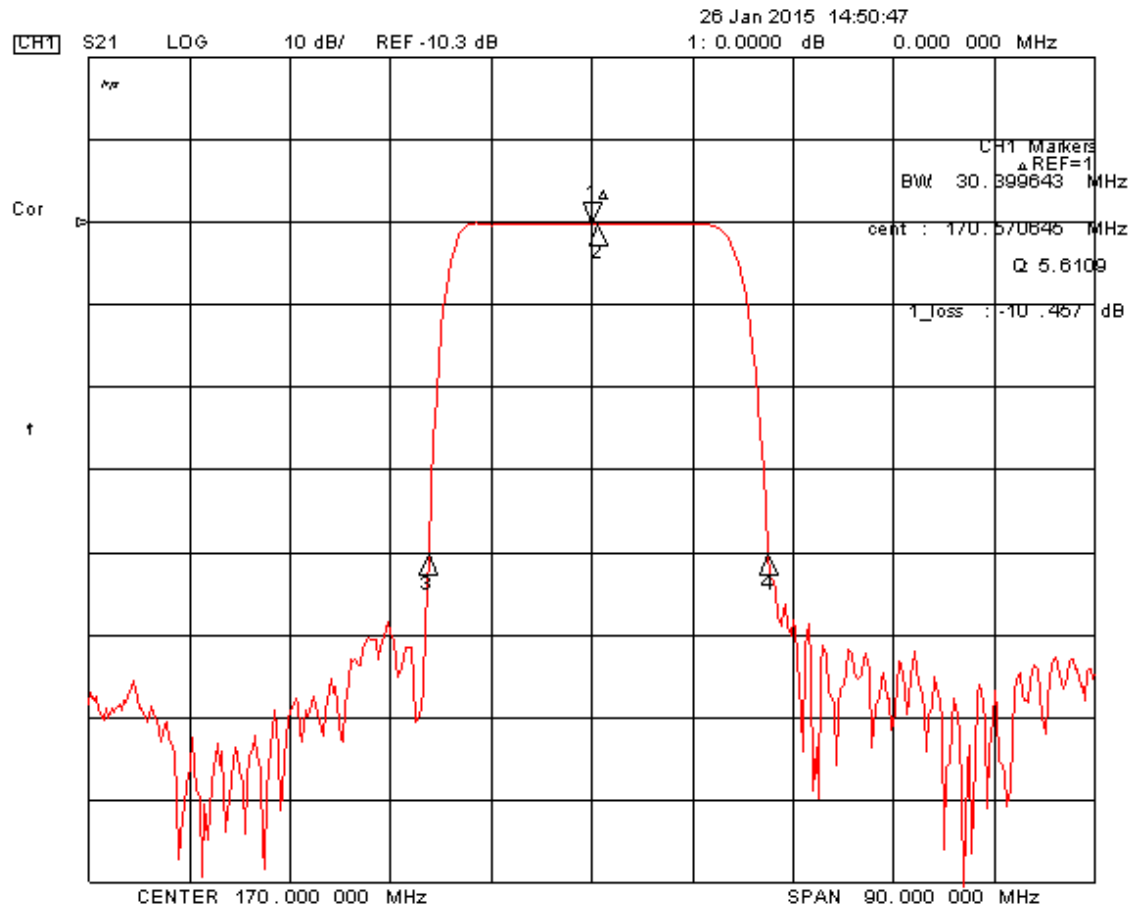
RoHS Compliant
Lead free
Lead-free soldering

Electrostatic Sensitive Device

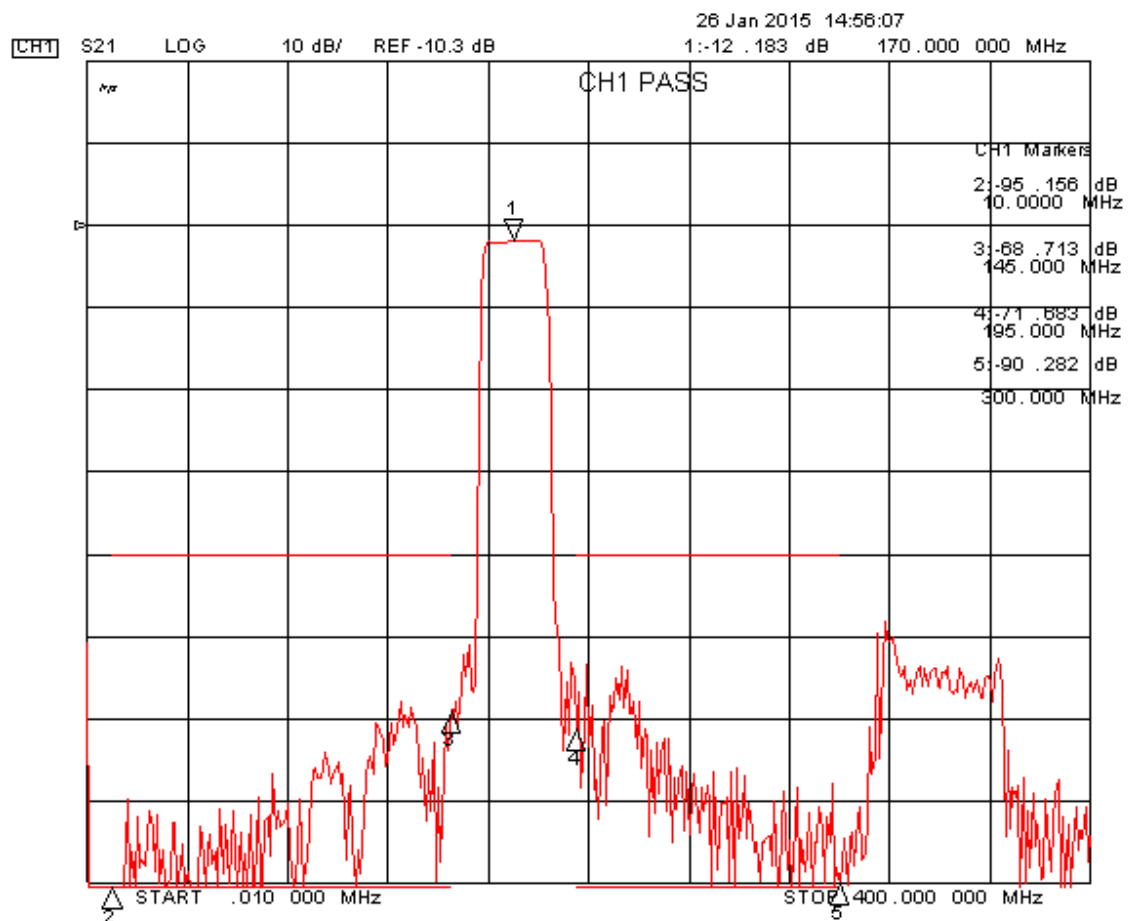
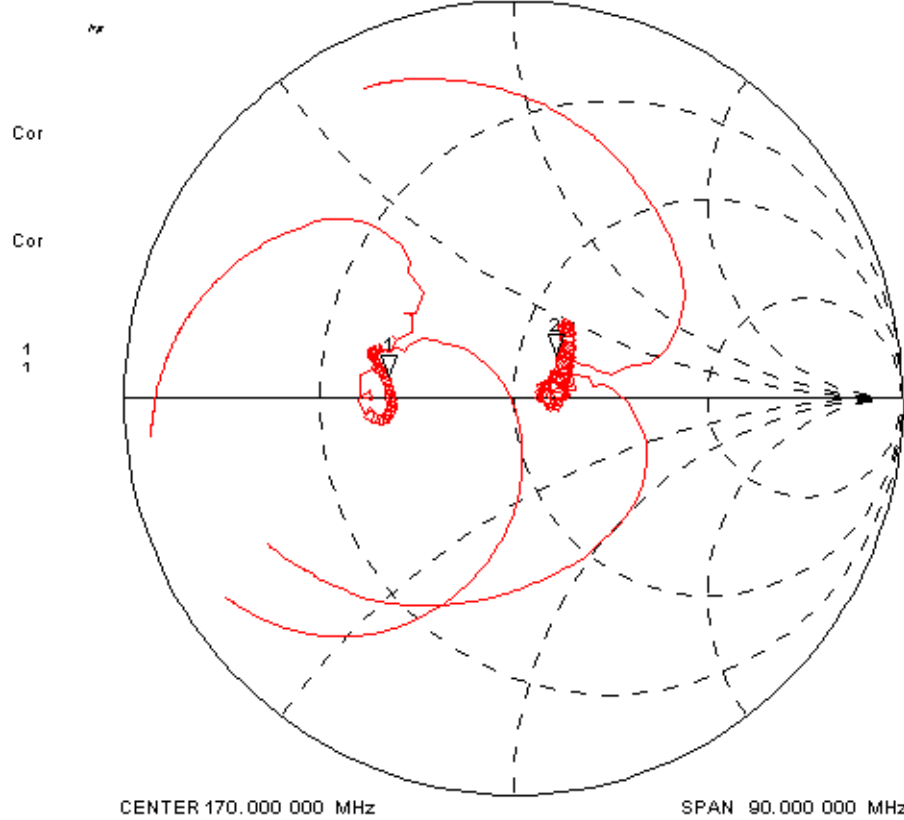
B. CHARACTERISTICS:

Item	Unit	Min.	Type.	Max.
Center frequency, F_c	MHz	-	170	-
Insertion Loss, IL	dB	-	10.5	12.5
1dB Bandwidth	MHz	23.0	23.45	-
1dB Bandwidth	MHz	-	24.9	-
40dB Bandwidth	MHz	-	30.5	31.5
Passband Ripple F _c +/- 10.5MHz	dB	-	0.5	1.0
Absolute group Delay	us	-	0.64	-
Group Delay variation F _c +/- 10.5MHz	ns	-	40	80
Attenuation (Reference level from minimum Insertion loss)				
10MHz~145MHz	dB	40	45	-
195MHz~300MHz	dB	40	45	-
Temperature Coefficient	ppm/°C	-	-86	-
Source Impedance	Ohm	-	50	-
Load Impedance	Ohm	-	50	-

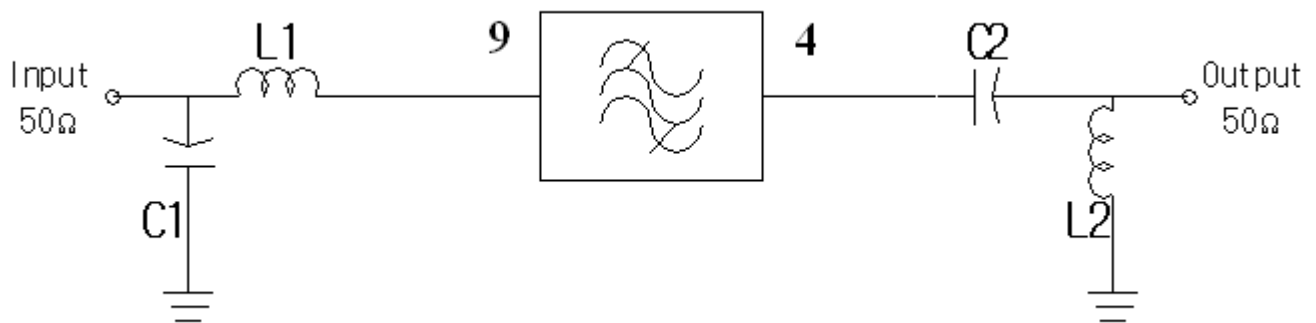
C. FREQUENCY CHARACTERISTICS:



26 Jan 2015 14:52:15
 [CH1] S11 1 UFS 1: 25.548 3.0889 2.8918 nH 170.000 000 MHz
 [CH3] S22 1 UFS 2: 60.699 13.043 12.211 nH 170.000 000 MHz

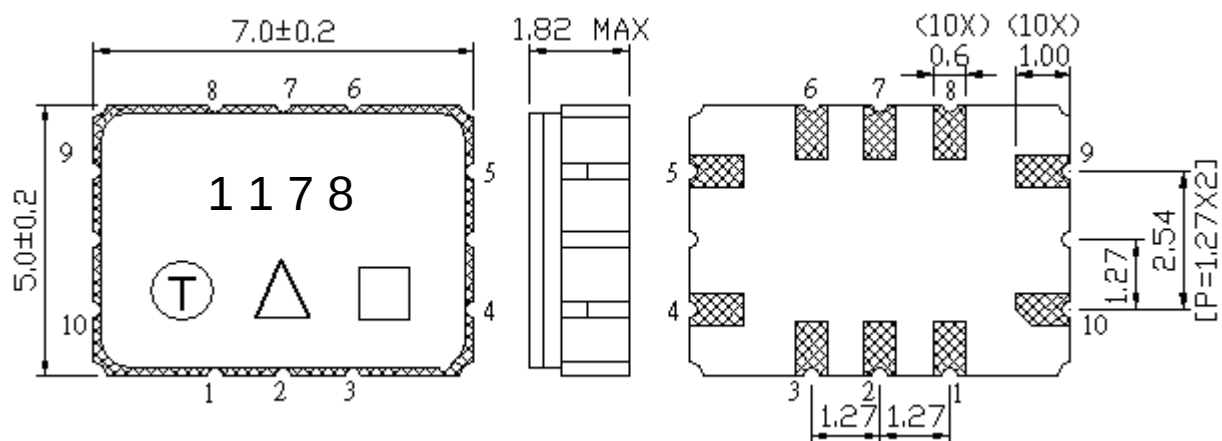


D. MATCHING CIRCUIT:



$$L1=33\text{nH} \quad C1=51\text{pF} \quad L2=19\text{nH} \quad C2=390\text{pF}$$

E. OUTLINE DRAWING:



Pin 9 –RF Input

Pin 10 –RF Input Return

Pin 4 –RF Output

Pin 5 –RF Output Return

Pin 1, 2, 3, 6, 7, 8 - Ground

□ : Week Code

Unit : mm

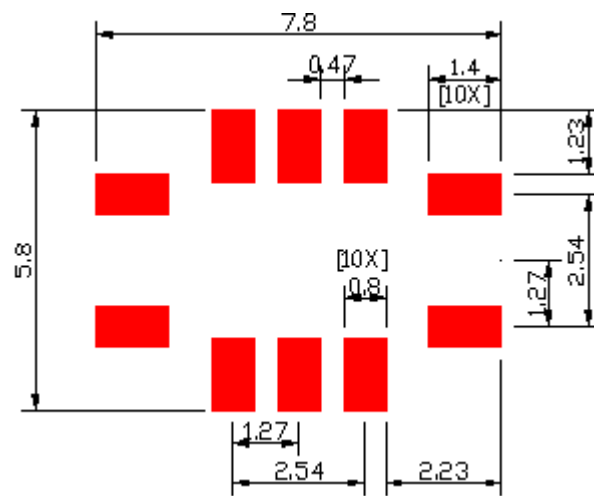
△ : Product / Year Code

Year	2013 2017	2014 2018	2015 2019	2016 2020
Product Code	B	b	<u>B</u>	<u>b</u>

Week Code Table

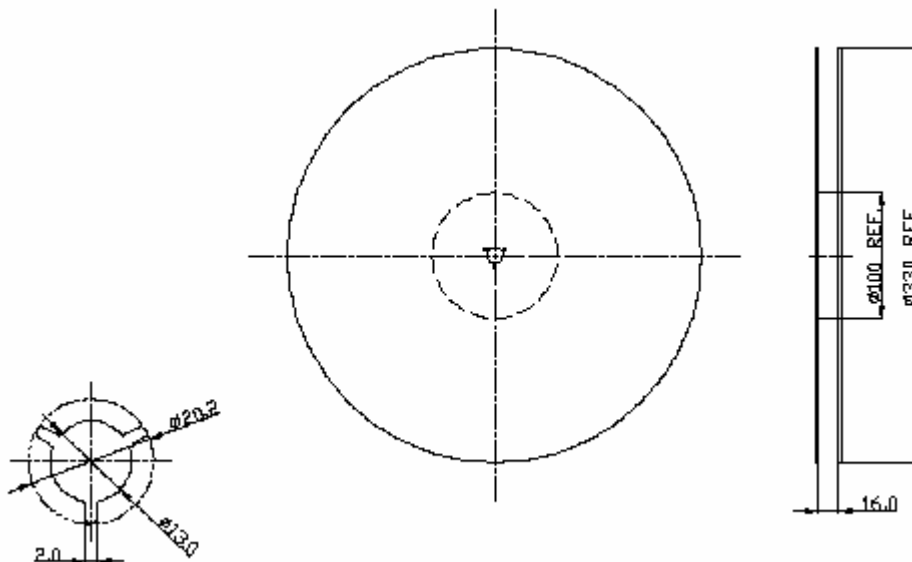
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A	B	C	D	E	F	G	H	I	J	K	L	M
WK14	WK15	WK16	WK17	WK18	WK19	WK20	WK21	WK22	WK23	WK24	WK25	WK26
N	O	P	Q	R	S	T	U	V	W	X	Y	Z
WK27	WK28	WK29	WK30	WK31	WK32	WK33	WK34	WK35	WK36	WK37	WK38	WK39
a	b	c	d	e	f	g	h	i	j	k	l	m
WK40	WK41	WK42	WK43	WK44	WK45	WK46	WK47	WK48	WK49	WK50	WK51	WK52
n	o	p	q	r	s	t	u	v	w	x	y	z

F. PCB FOOTPRINT:

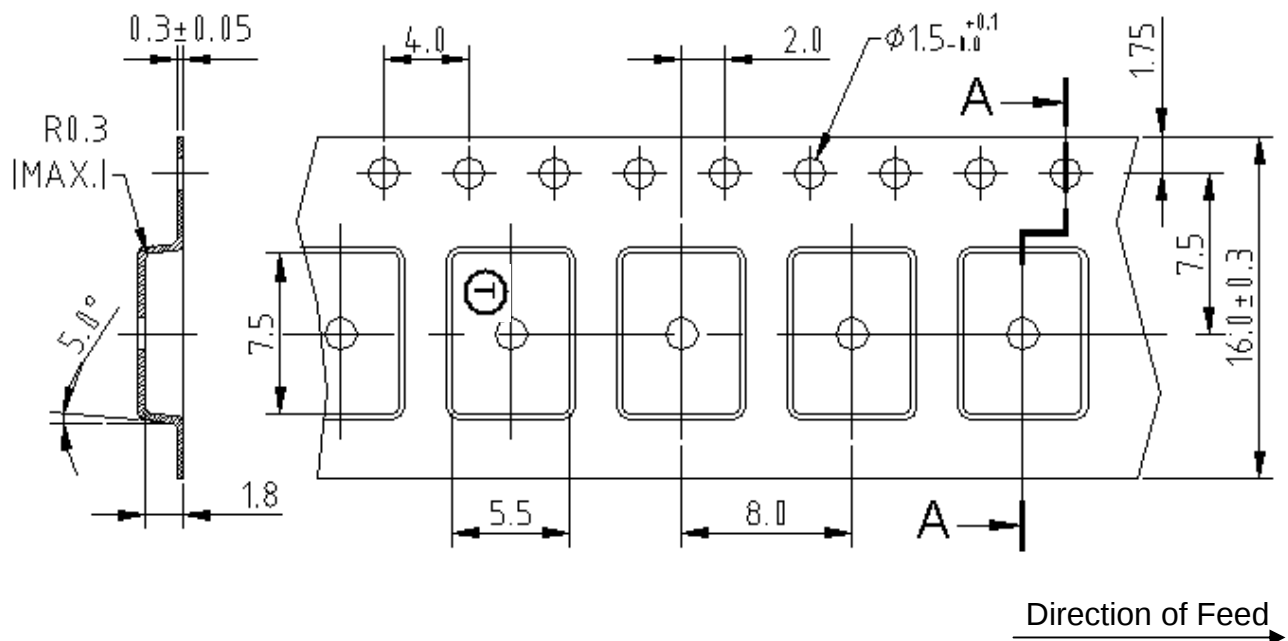


G. PACKING:

1. REEL DIMENSION (Please refer to FR-75D10 for packing quantity)



2. TAPE DIMENSION



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°C shall be 30 seconds min.
3. Heating shall be fixed at 220°C for 50~80 seconds and at $245\sim 260^\circ\text{C}$ peak (min. 10sec).
4. Time : 2 times.

