



TAI-SAW TECHNOLOGY CO., LTD.

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Product Specifications Approval Sheet

Product Description: 156.25 MHz 0.18 MHz BW SMD 7.0X5.0 mm IF SAW Filter

TST Parts No.: TB1193A

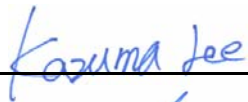
Customer Parts No.: _____

Company: _____

Division: _____

Approved by : _____

Date: _____

Checked by: _____ Kazuma Lee 

Approval by: _____ Bob Chau 

Date: _____ 10 / 06 / 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 156.25MHz (SMD 7.0×5.0 mm)

MODEL NO.: TB1193A

Rev. NO. 1.0

A. MAXIMUM RATING:

1. Operating Temperature: -40°C to 85°C
2. Storage Temperature: -40°C to 85°C
3. Input Power: 10 dBm
4. DC Voltage : 5V

RoHS Compliant
Lead free
Lead-free soldering

Electrostatic Sensitive Device

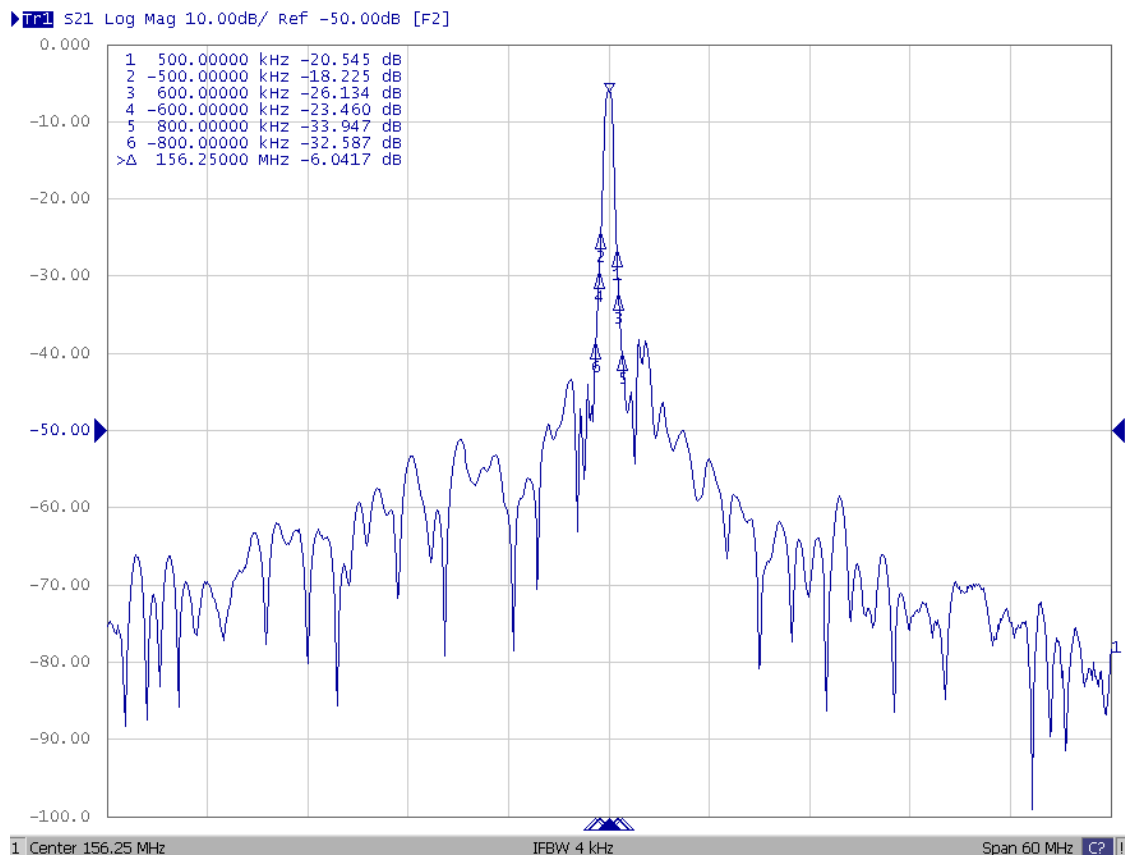
B. ELECTRICAL CHARACTERISTICS:

1. Ambient Temperature: 25 °C

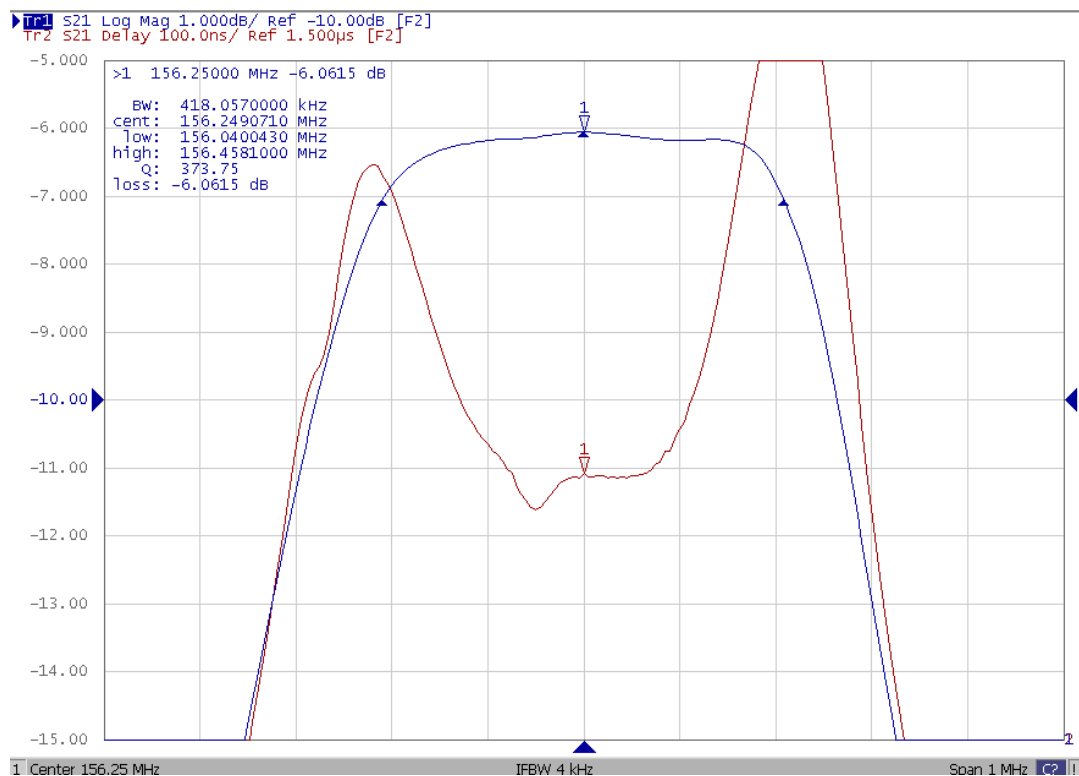
Characteristics	Value		
	Min.	Typ.	Max.
Center frequency F_c MHz	156.15	156.25	156.35
Insertion Loss at F_o dB	-	6.0	8.0
1dB Bandwidth MHz	0.18	0.4	-
Amplitude ripple variation ($F_o \pm 90\text{KHz}$) dB	-	0.2	1.0
Group Delay variation ($F_o \pm 90\text{KHz}$) nsec	-	110	1000
Relative Attenuation dB			
$F_c \pm 500\text{KHz} \sim F_c \pm 600\text{KHz}$	12	18	-
$F_c \pm 600\text{KHz} \sim F_c \pm 800\text{KHz}$	20	23	-
$F_c \pm 800\text{KHz} \sim F_c \pm 3.0\text{MHz}$	25	32	-
$F_c \pm 3.0\text{MHz} \sim F_c \pm 7.0\text{MHz}$	35	40	-
$F_c \pm 7.0\text{MHz} \sim F_c \pm 30.0\text{MHz}$	40	45	-
Temperature Coefficient ppm/°C ²		-0.036	
Source Impedance Ω	-	50	-
Load Impedance Ω	-	50	-

C. FREQUENCY CHARACTERISTICS:

(1) Wide Band Response:



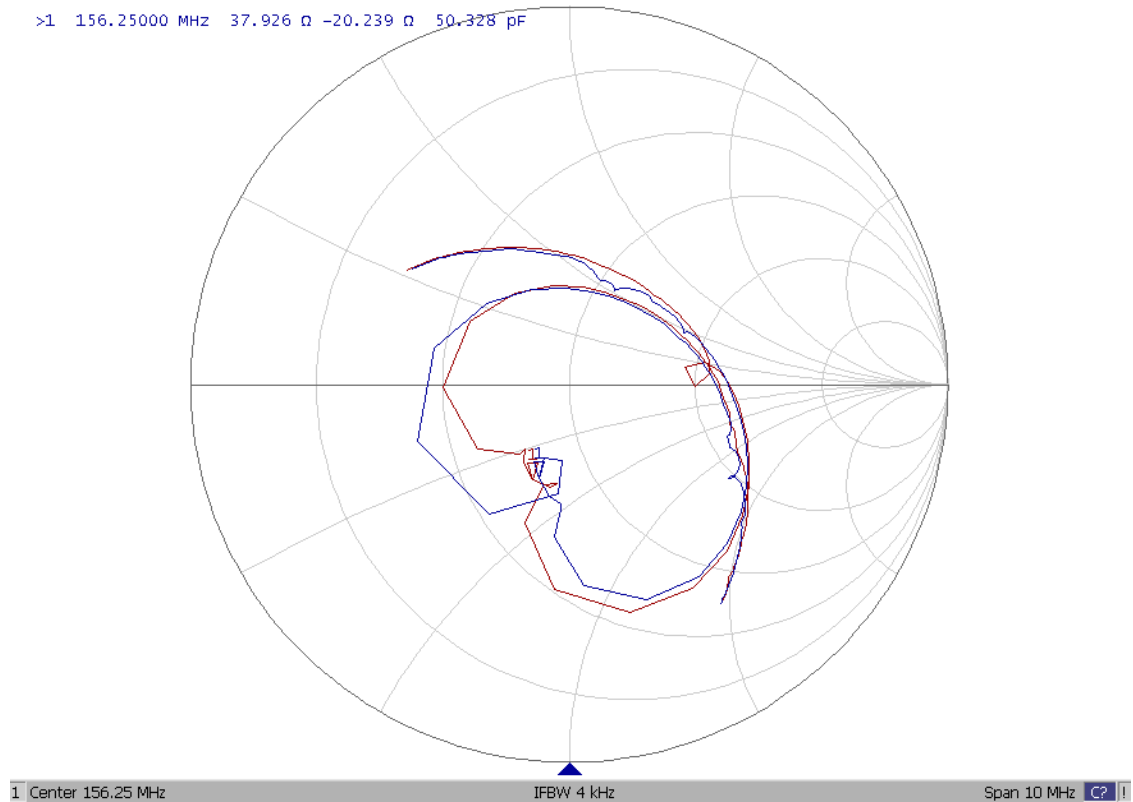
(2) Pass Band Response and Group Time Delay Response:



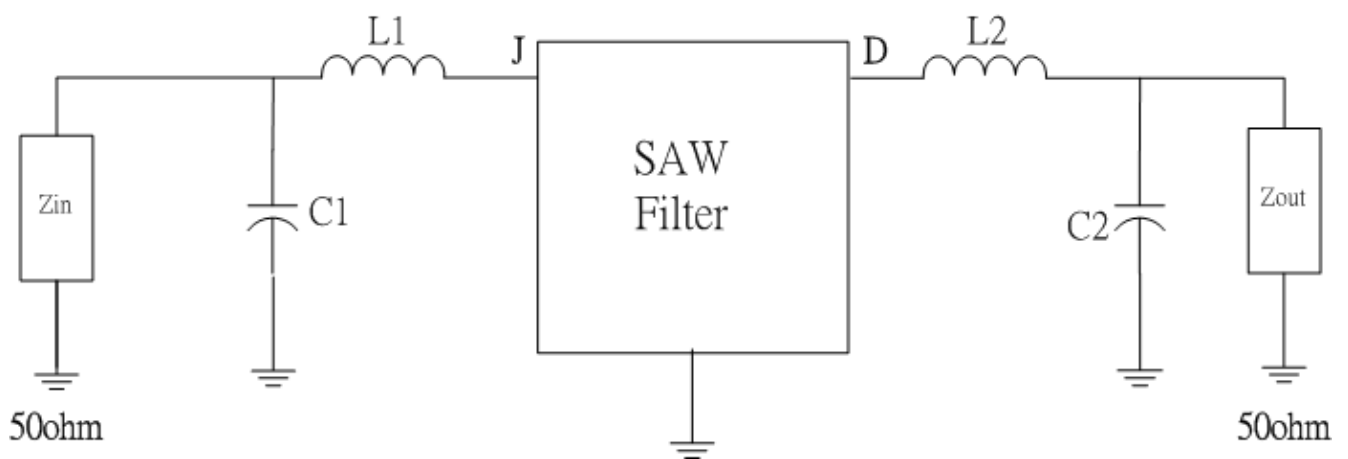
(3) Smith Chart:

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

>1 156.25000 MHz 37.926 Ω -20.239 Ω 50.328 pF

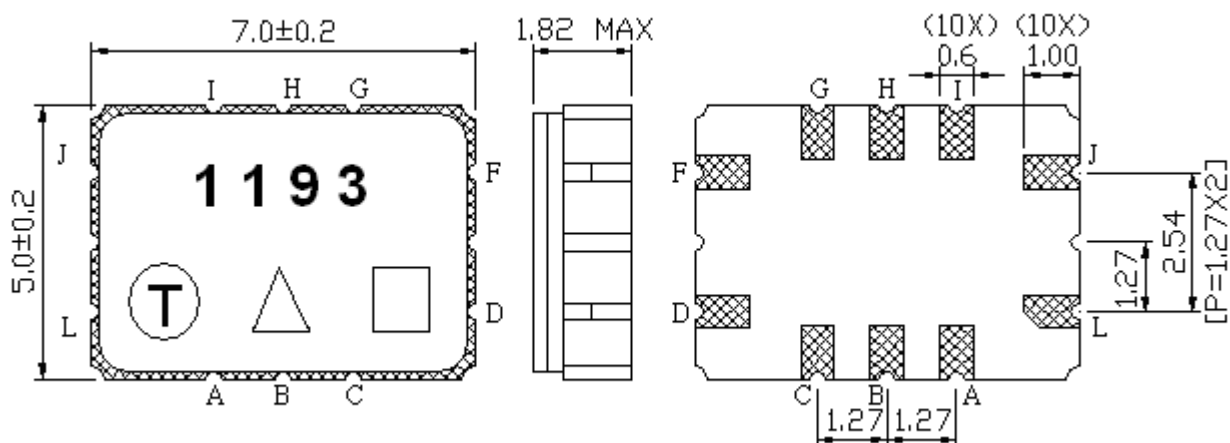


D. MATCHING CIRCUIT:



$L1=270 \text{ nH} + 27\text{nH}$ $L2=270 \text{ nH} + 27\text{nH}$ $C1=30\text{pF}$ $C2=30\text{pF}$

E. OUTLINE DRAWING:



Pin J –RF Input

Pin L –RF Input Ground

Pin D –RF Output

Pin F –RF Output Ground

Pin A,B,C,G,H,I - Ground

□ : Week Code

Unit : mm

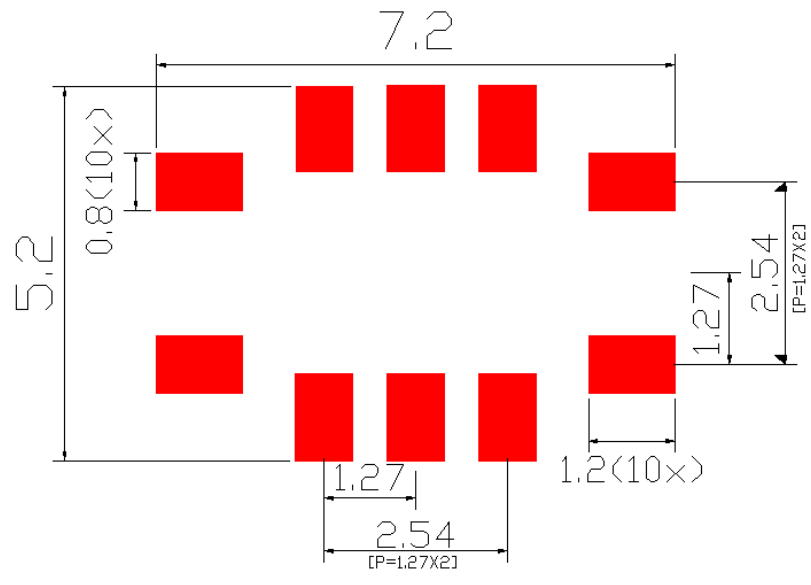
△ : Product / Year Code

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

Week Code Table

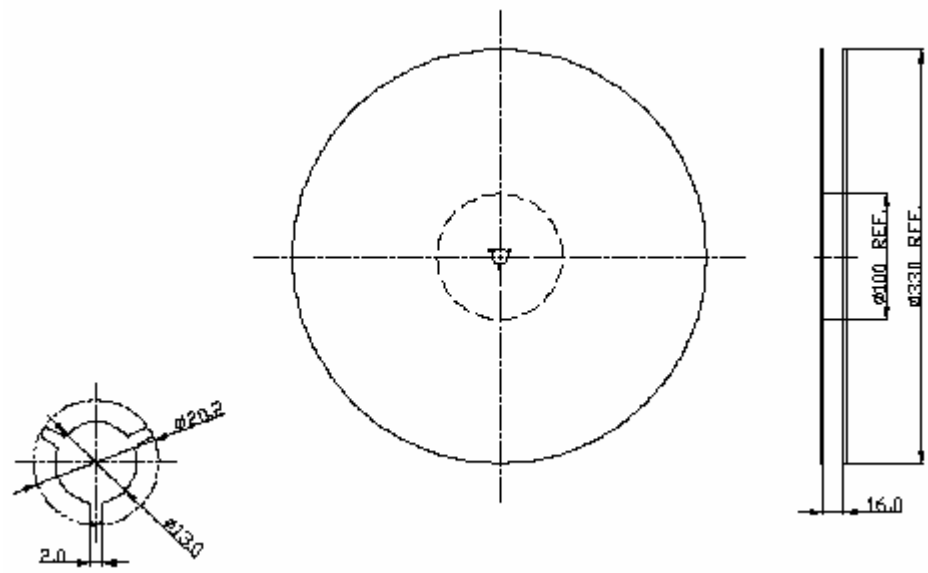
WK01	WK02	WK03	WK04	WK05	WK06	WK07	WK08	WK09	WK10	WK11	WK12	WK13
A	B	C	D	E	F	G	H	I	J	K	L	M
WK14	WK15	WK16	WK17	WK18	WK19	WK20	WK21	WK22	WK23	WK24	WK25	WK26
N	O	P	Q	R	S	T	U	V	W	X	Y	Z
WK27	WK28	WK29	WK30	WK31	WK32	WK33	WK34	WK35	WK36	WK37	WK38	WK39
a	b	c	d	e	f	g	h	i	j	k	l	m
WK40	WK41	WK42	WK43	WK44	WK45	WK46	WK47	WK48	WK49	WK50	WK51	WK52
n	o	p	q	r	s	t	u	v	w	x	y	z

F. PCB FOOTPRINT:

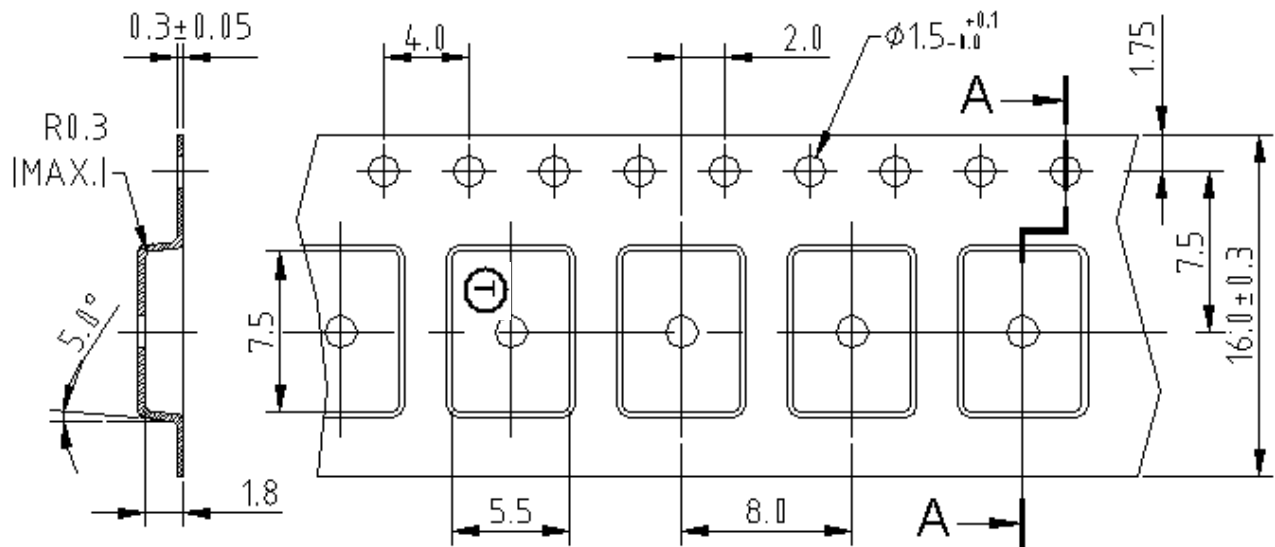


G. PACKING:

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



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 $260^\circ\text{C} +0/-5^\circ\text{C}$ peak (20~40sec).
4. Time: 2 times.

