



# TAI-SAW TECHNOLOGY CO., LTD.

No. 3, Industrial 2nd Rd., Ping-Chen Industrial District,  
Taoyuan, 324, Taiwan, R.O.C.

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## Product Specifications Approval Sheet

**Product Description:** 311.05 MHz SMD 3.0 x 3.0 mm SAW Resonator

**TST Parts No.:** TC0635A

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

Customer signature required
<b>Company:</b> _____
<b>Division:</b> _____
<b>Approved by :</b> _____
<b>Date:</b> _____

Checked by: \_\_\_\_\_ Hongpu Lin *Hong Pu Lin*

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

Date: \_\_\_\_\_ 2019/04/25

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 311.05MHz (SMD 3.0x3.0mm)

MODEL NO.: TC0635A

REV. NO.2.0

## A. Features:

- 1-port Resonator.

## B. Maximum Rating:

1. Input Power Level : 0 dBm
2. DC Voltage : 12V
3. Operating temperature range: -40 °C to +85 °C
4. Storage temperature range: -40 °C to +85 °C
5. Moisture Sensitive Level: Level 1 (MSL1)

Electrostatic

RoHS Compliant  
Lead free  
Lead-free soldering

## C. Electrical Characteristics :

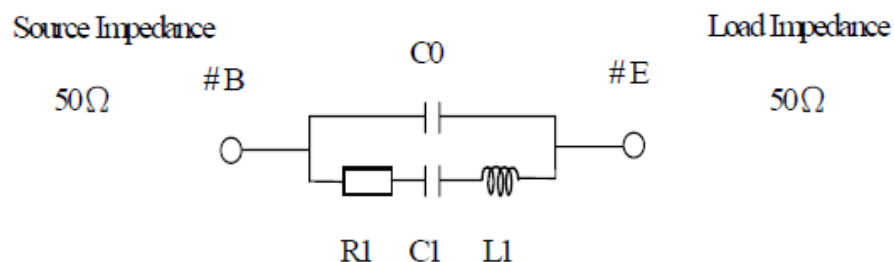
Reference Temperature  $T_A=25^{\circ}\text{C}$

Item	Unit	Min.	Type.	Max.
Center frequency, $F_c$	MHz	310.95	311.05	311.15
Insertion Loss IL	dB	-	1.35	2.5
Ageing of $f_c$	Ppm/yr	-	-	$\pm 10$
Motional capacitance $C_1$	fF	-	3.08	-
Motional inductance $L_1$	$\mu\text{H}$	-	85.13	-
Motional resistance $R_1$	Ohm	-	21.45	-
Parrallel capacitance $C_0$	pF	-	4.98	-
Frequency Temperature Coefficient (TCf)	ppm/ $^{\circ}\text{C}^2$	-	0.032	-
Turnover $T_0$	Deg.C	-	25	-
Package size		SMD 3.0x3.0x1.1 mm		

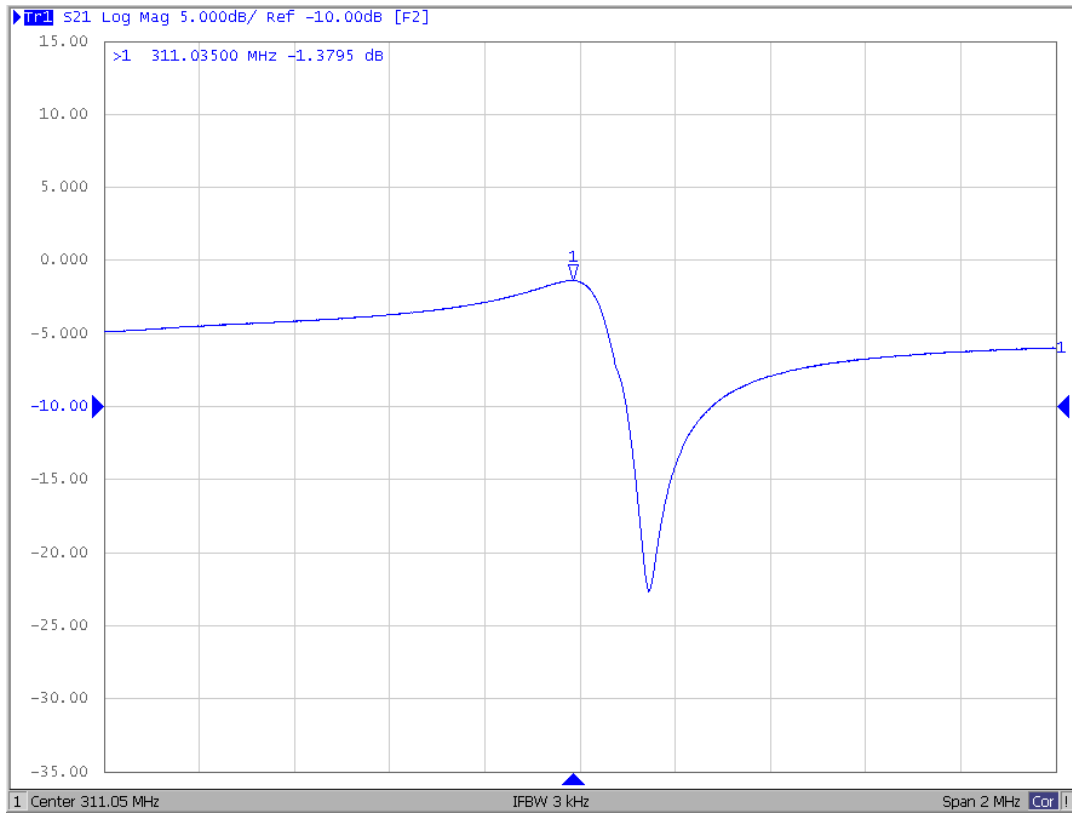
Temperature dependence of  $f_c$ :  $f_c(T_A)=f_c(T_0)(1-TC_f(T_A-T_0)^2)$

## D. Equivalent Circuit:

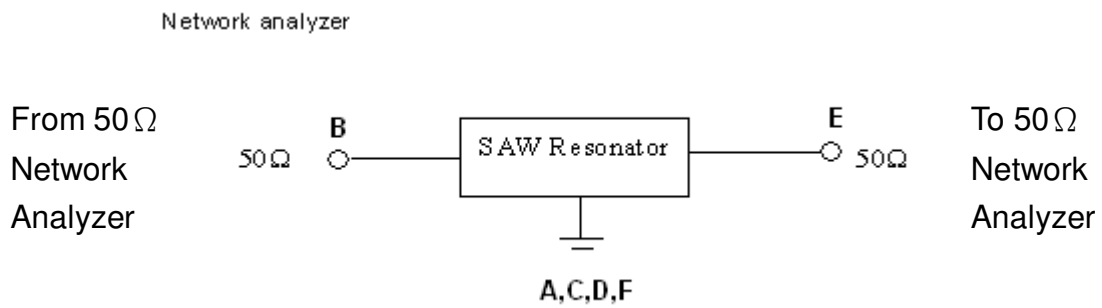
One-Port Resonator:



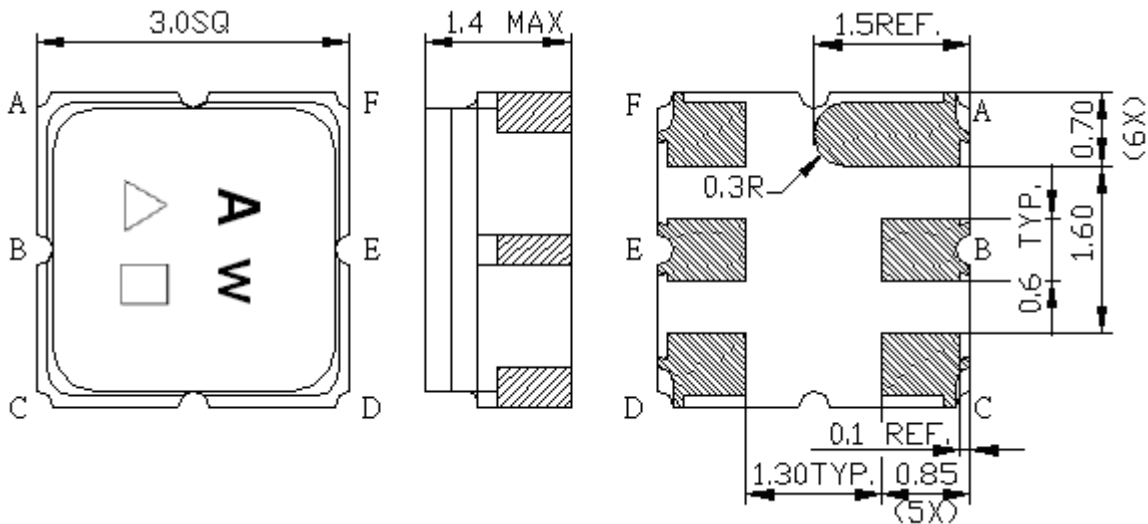
## E. Frequency Characteristics :



## F . TEST CIRCUIT:



**G. Outline Drawing:**



**Pin B:Input or Output ; Pin E:Output or Input**

**Pin A,C,D,F: Ground**

**△:Year Code**

**□:Data Code**

**Unit: mm**

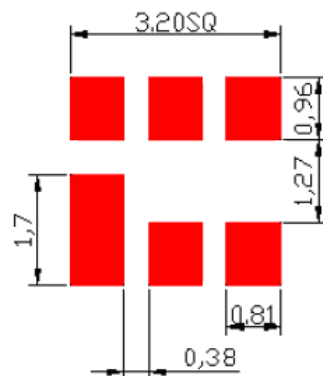
**□ Data code : See the table**

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

**△ Year code : See the table**

Year	2011	2012	2013	...	2019	2020	2021	...
Code	1	2	3	...	9	0	1	...

**H. PCB Footprint:**





## J. 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 245~260°C peak (min. 10sec).
4. Time : 2 times.

