



# 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: SAW Resonator 423.22 MHz SMD 3.0x3.0 mm

TST Part No.: TC0228A

Customer Part No.: \_\_\_\_\_

Customer signature required
Company: _____
Division: _____
Approved by : _____
Date: _____

Checked by: \_\_\_\_\_ Justin Wu *Justin*

Approved by: \_\_\_\_\_ Bob Chau *Bob Chau*

Date: \_\_\_\_\_ 2013/10/31

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 Resonator 423.22 MHz

MODEL NO.: TC0228A

REV. NO.:1

### A. FEATURES:

- 1-Port Resonator.

RoHS Compliant  
Lead free  
Lead-free soldering

### B. MAXIMUM RATING:

1. Input Power Level: 0 dBm
2. DC voltage: 12 V
3. Operating Temperature: -40°C to +85°C
4. Storage Temperature: -40°C to +85°C

Electrostatic Sensitive Device (ESD)

### C. ELECTRICAL CHARACTERISTICS:

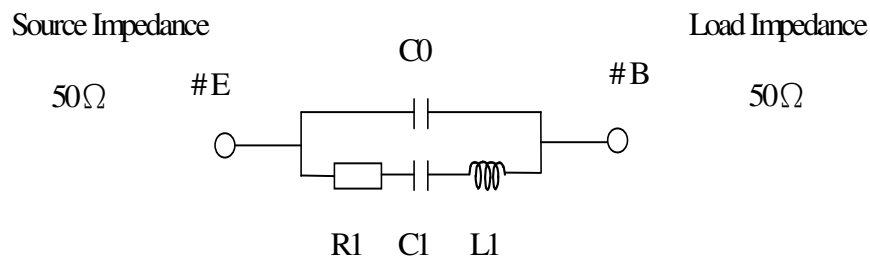
Reference Temperature  $T_A=25^\circ\text{C}$

Characteristic	Units	Minimum	Typical	Maximum
Center frequency <b>Fc</b>	<b>MHz</b>	423.145	423.220	423.295
Insertion Loss <b>IL</b>	<b>dB</b>	-	1.58	2.2
Unload quality factor <b>Q<sub>U</sub></b>		6000	10000	-
Ageing of fc	<b>ppm/yr</b>	-	-	±10
Motional capacitance <b>C1</b>	<b>fF</b>	-	1.5	-
Motional inductance <b>L1</b>	<b>μH</b>	-	89.79	-
Motional resistance <b>R1</b>	<b>Ohm</b>	-	22.25	-
Parallel capacitance <b>C<sub>o</sub></b>	<b>pF</b>	-	2.95	-
Frequency Temperature coefficient (TC <sub>f</sub> )	<b>ppm/c*2</b>	-	0.032	-
Turnover T <sub>o</sub>	<b>deg.C</b>	10	25	40
Package size		SMD 3X3X1.1 mm		

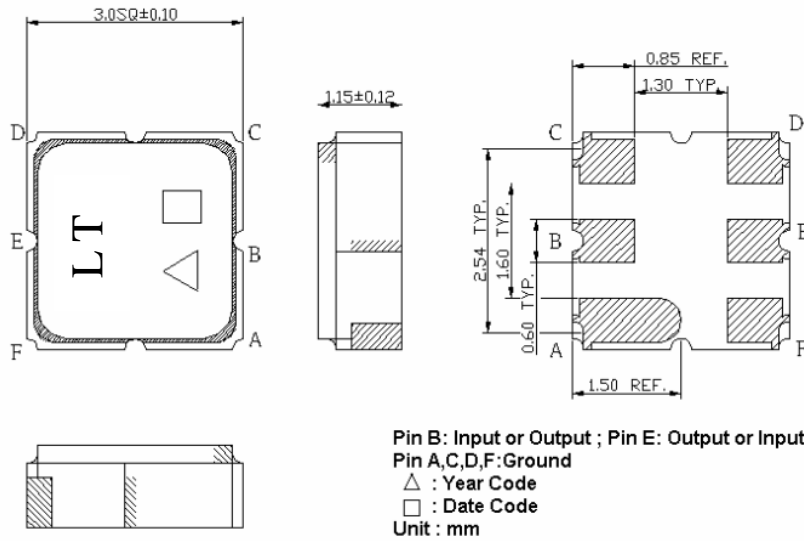
Temperature dependence of fc:  $f_c(T_A)=f_c(T_O)(1+TC_f(T_A-T_O)^2)$

### D. EQUIVALENT CIRCUIT:

One-Port Resonator:



E. OUTLINE DRAWING:



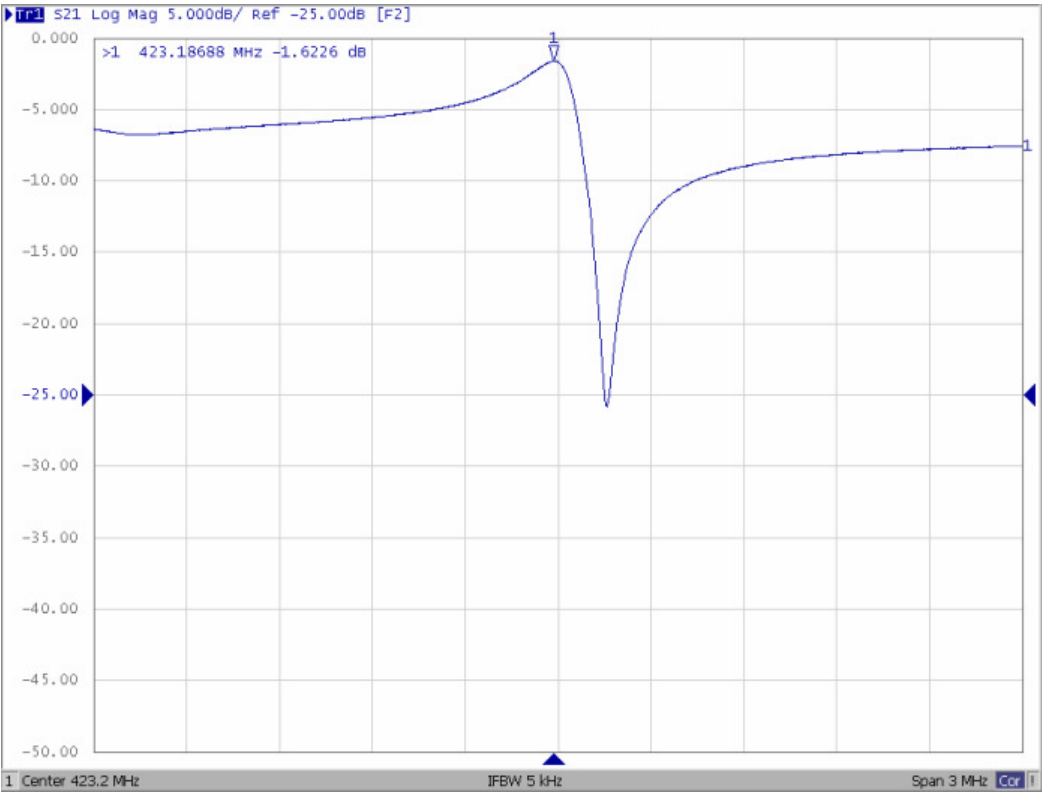
□ Data code : See the table

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

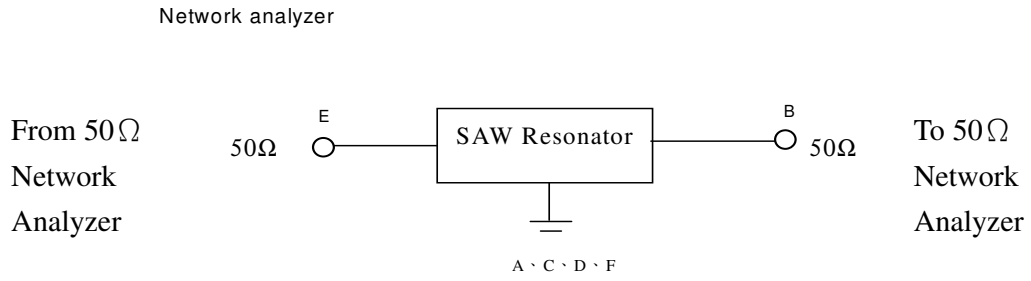
△ Year code : See the table

Year	2008	2009	2010	2011	...	2019	2020
Code	8	9	0	1	...	9	0

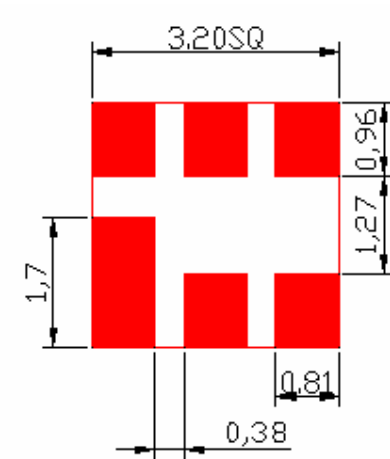
F.FREQUENCY CHARACTERISTICS:



G. TEST CIRCUIT:



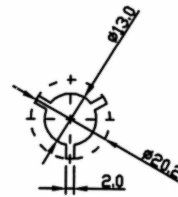
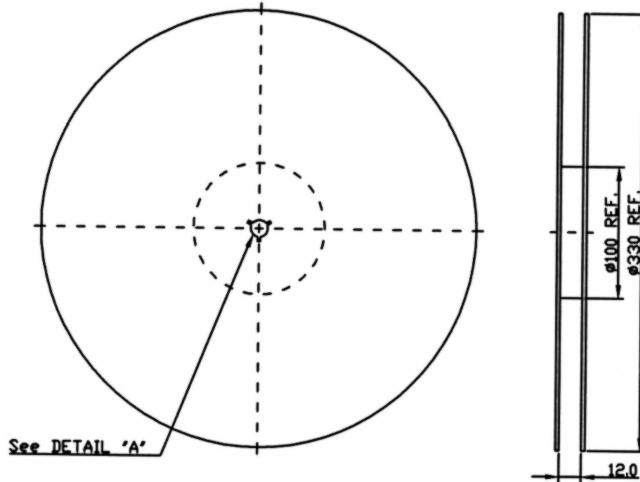
H. PCB FOOTPRINT:



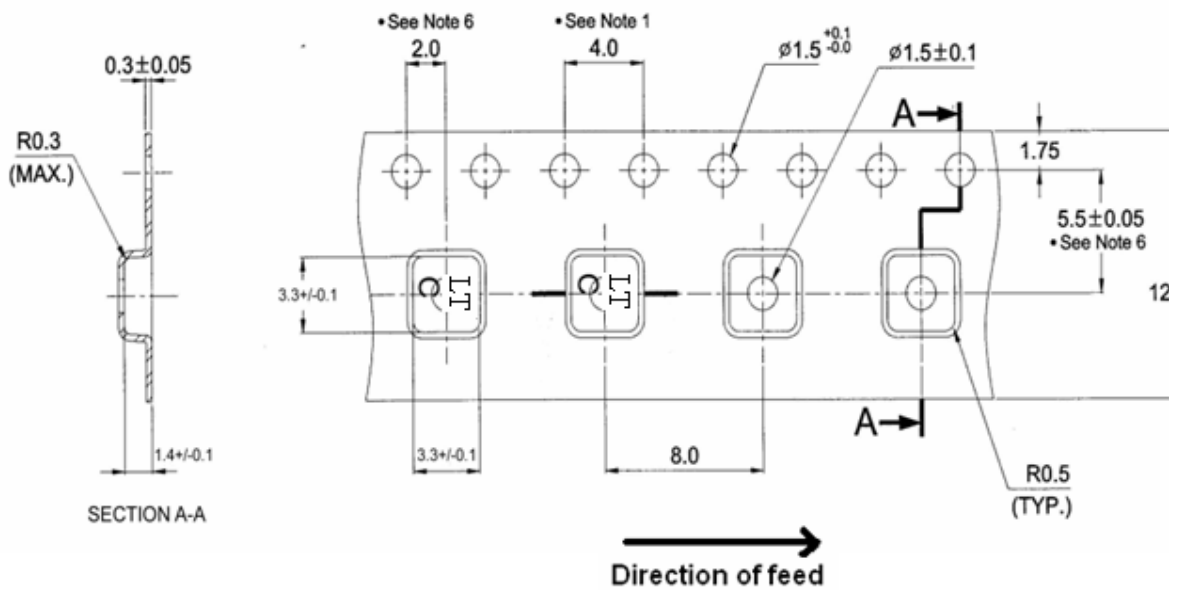
G. PACKING:

1. REEL DIMENSION

(Please refer to FR-75D10 for packing quantity)



2. TAPE DIMENSION



**J. RECOMMENDED REFLOW PROFILE:**

