



# 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 433.385 MHz SMD 5X5 mm

TST Parts No.: TC0241A

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

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

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

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

Date: \_\_\_\_\_ 2019/11/08

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 433.385 MHz

MODEL NO.: TC0241A

REV. NO.:2.0

### A. FEATURES:

1. 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
5. Moisture Sensitivity Level: Level 1(MSL1)

Electrostatic Sensitive Device

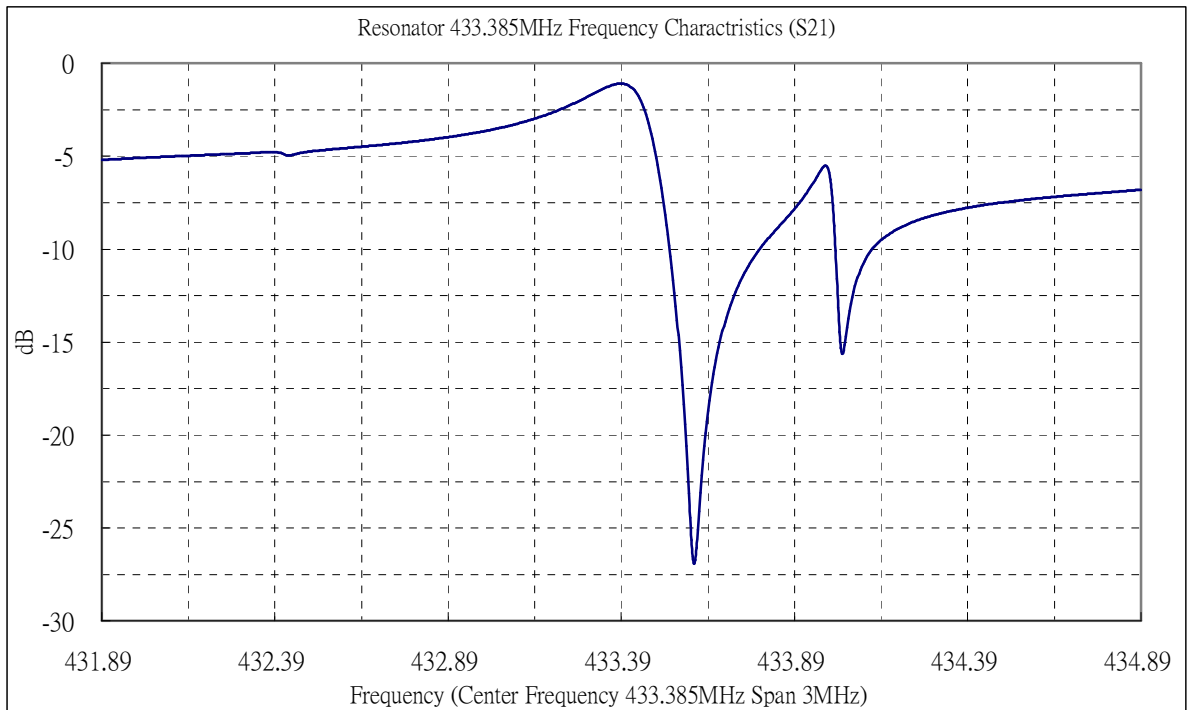
### C. ELECTRICAL CHARACTERISTICS:

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

Characteristic	Units	Minimum	Typical	Maximum
Center frequency $F_c$	MHz	433.345	433.385	433.425
Insertion Loss IL	dB	-	1.0	2.0
Unload quality factor $Q_U$		6000	14500	-
Ageing of $f_c$	ppm/yr	-	-	$\pm 10$
Motional capacitance C1	fF	-	1.8	-
Motional inductance L1	$\mu\text{H}$	-	73	-
Motional resistance R1	Ohm	-	13	-
Parallel capacitance $C_o$	pF	-	3.0	-
Frequency Temperature coefficient ( $TC_f$ )	ppm/c*2	-	0.032	-
Turnover $T_o$	deg.C	10	25	40
Package size	SMD 5X5X1.4mm			

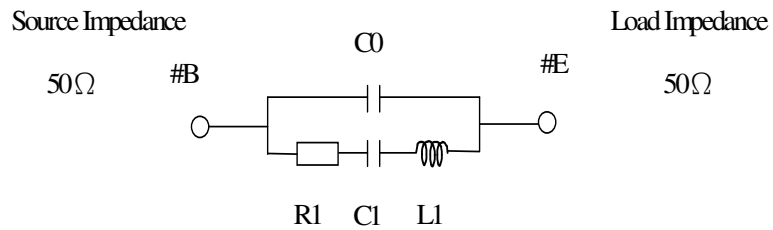
Temperature dependence of  $f_c$ :  $f_c(T_A)=f_c(T_O)(1+TC_f(T_A-T_O)^2)$

**D. FREQUENCY CHARACTERISTICS:**

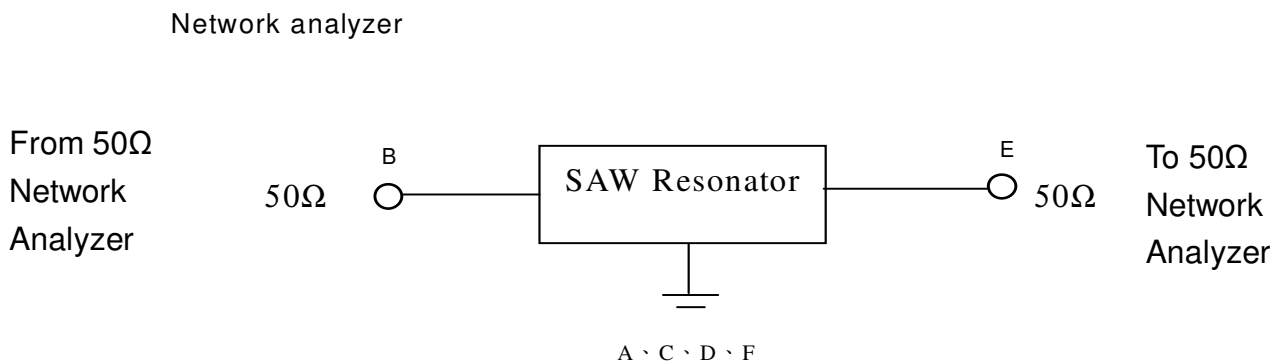


**E. EQUVIRENT CIRCUIT:**

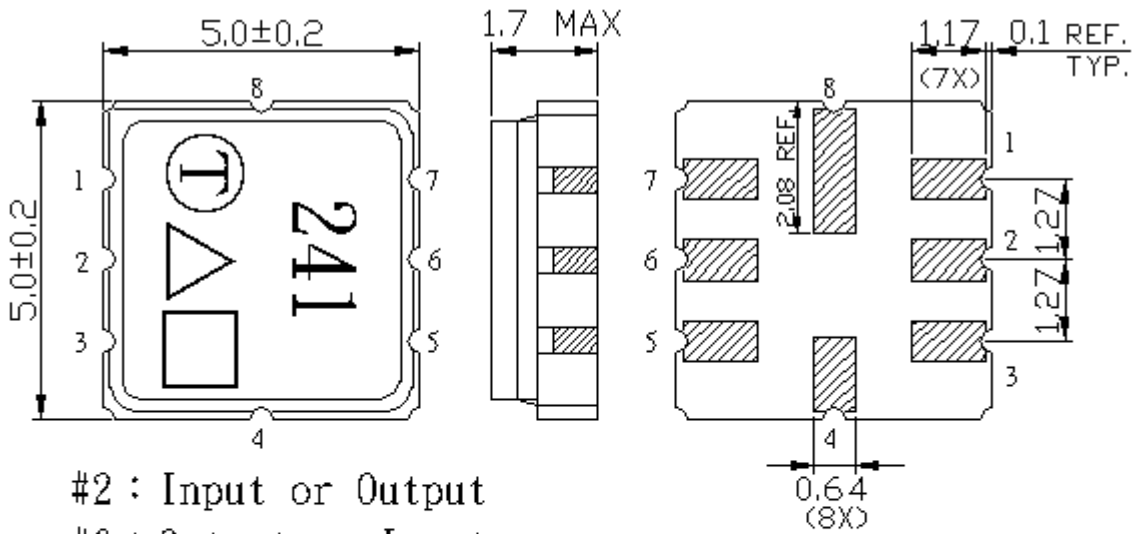
One-Port Resonator:



**F. TEST CIRCUIT:**



G. OUTLINE DRAWING:



- #2 : Input or Output
- #6 : Output or Input
- #4、8 : Case Ground
- #1、3、5、7 : Ground
- △ : Year code
- : Date code
- Unit : mm

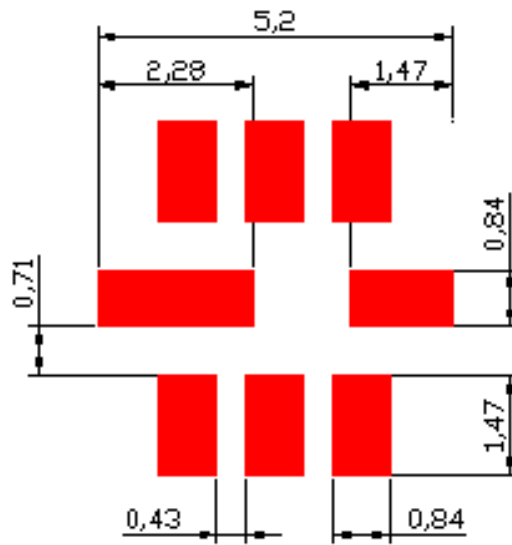
Product / Year Code- 4year cycle

Year	2017 2021	2018 2022	2019 2023	2020 2024
Product Code	C	c	<u>C</u>	<u>c</u>

Week Code Table

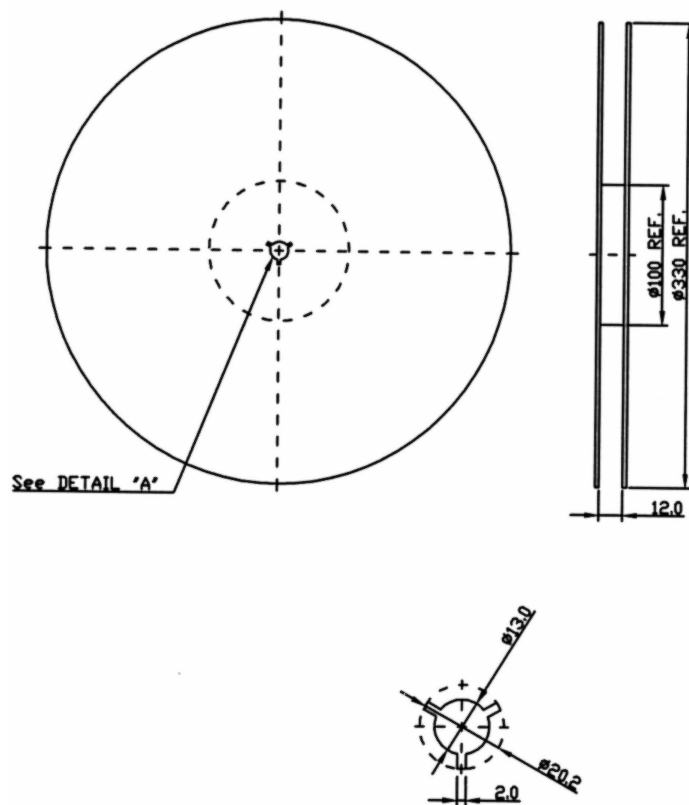
WK01	WK02	WK03	WK04	WK05	WK06	WK07	WK08	WK09	WK10	WK11	WK12	WK13
A	B	C	D	E	F	G	H	I	J	K	L	M
WK14	WK15	WK16	WK17	WK18	WK19	WK20	WK21	WK22	WK23	WK24	WK25	WK26
N	O	P	Q	R	S	T	U	V	W	X	Y	Z
WK27	WK28	WK29	WK30	WK31	WK32	WK33	WK34	WK35	WK36	WK37	WK38	WK39
a	b	c	d	e	f	g	h	i	j	k	l	m
WK40	WK41	WK42	WK43	WK44	WK45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

H. PCB FOOTPRINT:

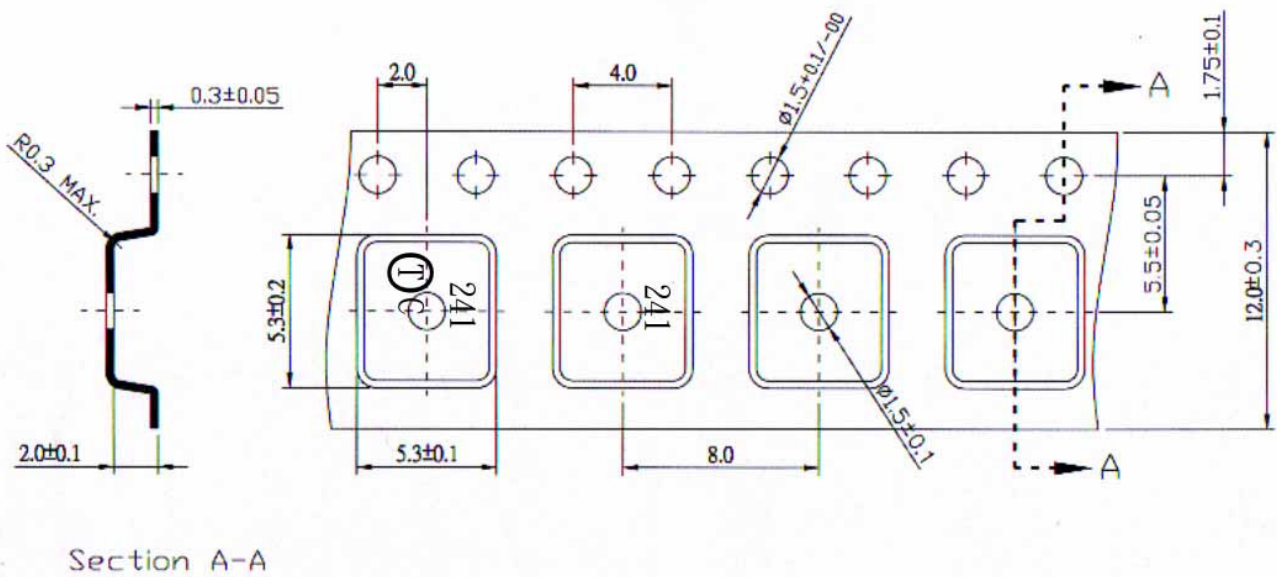


I. PACKING:

1. REEL DIMENSION



## 2.TAPE DIMENSION



### J. RECOMMENDED REFLOW PROFILE:

1. Preheating shall be fixed at  $150 \sim 180^{\circ}\text{C}$  for  $60 \sim 90$  seconds.
2. Ascending time to preheating temperature  $150^{\circ}\text{C}$  shall be 30 seconds min.
3. Heating shall be fixed at  $220^{\circ}\text{C}$  for  $50 \sim 80$  seconds and at  $260^{\circ}\text{C} +0/-5^{\circ}\text{C}$  peak ( $20 \sim 40$ sec).
4. Time: 2 times.

