



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: 500 MHz SMD 3.0 x 3.0 mm SAW Resonator

TST Parts No.: TC0643A

Customer Parts No.: _____

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

Checked by: _____ Sam Lin *Sam Lin*

Approval by: _____ Andy Yu *Andy Yu*

Date: _____ 2019/08/05

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.



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: tstsales3@mail.taisaw.com Web: www.taisaw.com

SAW Resonator 500MHz (SMD 3.0x3.0mm)

MODEL NO.: TC0643A

REV. NO.3.0

A. FEATURES:

1. 1-port Resonator.

RoHS Compliant
Lead free
Lead-free soldering

B. MAXIMUM RATING:

1. Input Power Level : 10 dBm
2. DC Voltage : 12V
3. Operating temperature range: -40 °C to +85 °C
4. Storage temperature range: -40 °C to +55 °C
5. Moisture Sensitive Level: Level 1 (MSL1)

Electrostatic Sensitive Device

C. ELECTRICAL CHARACTERISTICS:

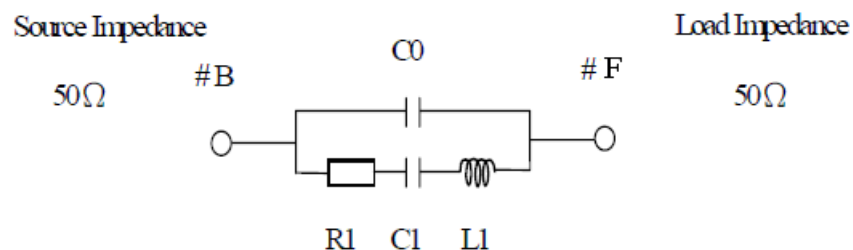
Reference Temperature $T_A=25^{\circ}\text{C}$

Item	Unit	Min.	Type.	Max.
Center frequency, F_c	MHz	499.965	500.0	500.035
Insertion Loss IL	dB	-	1.7	2.0
Equivalent Elements				
Motional capacitance C_1	fF	-	1.58	-
Motional inductance L_1	μH	-	64.12	-
Motional resistance R_1	Ohm	-	20.86	-
Parallel capacitance C_0	pF	-	1.95	-
Frequency Temperature Coefficient (TCf)	ppm/°C ²	-	-0.032	-
Turnover T_0	Deg.C	25	40	55
Package size		SMD 3.0x3.0x1.4 mm		

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

D. EQUIVRENT CIRCUIT:

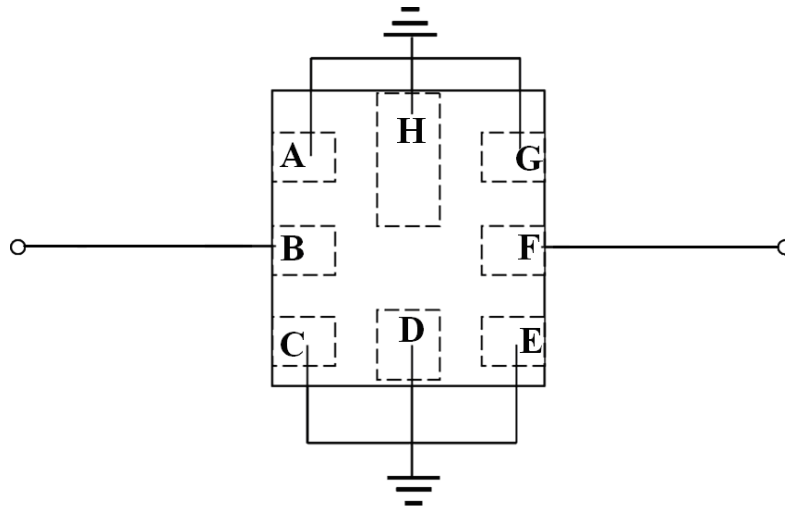
One-Port Resonator:



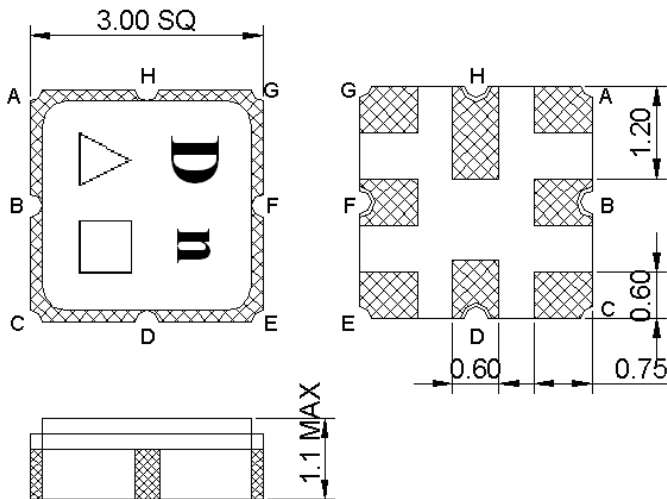
E. FREQUENCY CHARACTERISTICS:



F. TEST CIRCUIT:



E. OUTLINE DRAWING:



Pin B: Input or Output
 Pin E: Output or Input
 Pin A, C, D, F: Ground
 △: Year Code
 □: Data Code
 Unit: mm

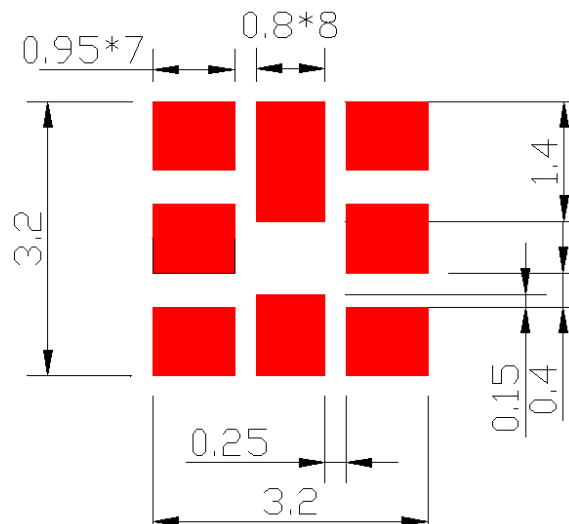
□ Data code : See the table

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

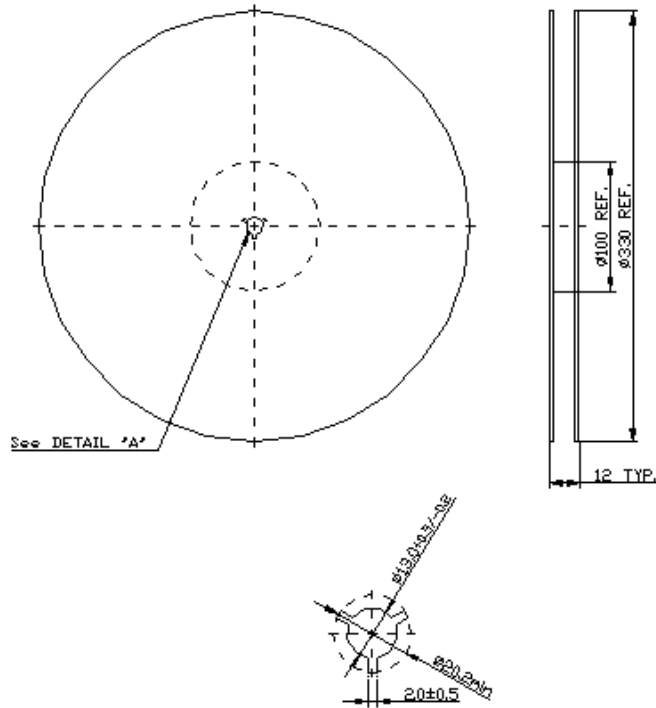
Year	2011	2012	2013	...	2019	2020	2021	...
Code	1	2	3	...	9	0	1	...

F. PCB FOOTPRINT:

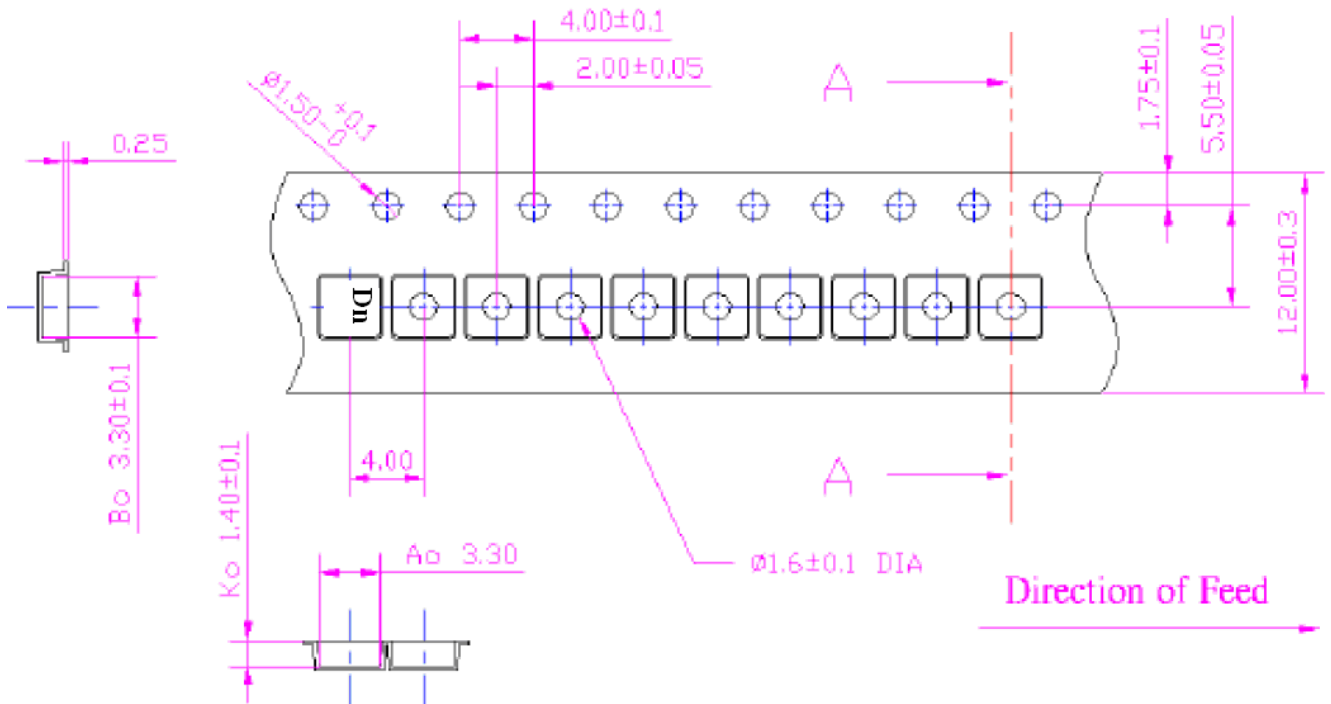


G. PACKING:

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



2. TAPE DIMENSION



H. RECOMMENDED REFLOW PROFILE:

1. Preheating shall be fixed at 150~180°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 260°C +0/-5°C peak (20~40sec).
4. Time: 2 times.

