



# 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: SMD 5.0x3.2 19.2MHz VCTCXO

TST Part No.: TX0192A

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

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

Checked by: \_\_\_\_\_ Ginger Huang *Ginger Huang*

Approved by: \_\_\_\_\_ Kelly Huang *Kelly*

Date: \_\_\_\_\_ 11/15/2011

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.**  
**5.0x3.2 19.2MHz VCTCXO**

MODEL NO.: TX0192A

REV. NO.: 3.0

**Revise:**

Rev.	Rev. Page	Rev. Account	Date	Ref. No.	Reviser
1	N/A	Initial release	12/10/09'	2.0	Quinton Lo
2	P4	Mechanical Dimensions Change	11/15/11'	3.0	Ginger Huang



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## SMD 5.0x3.2 19.200MHz VCTCXO

MODEL NO.: TX0192A

REV. NO.: 3.0

### Features:

- Miniature SMD Package
- Good Frequency Stability
- Good Phase Noise Response

RoHS Compliant  
Lead free  
Lead-free soldering

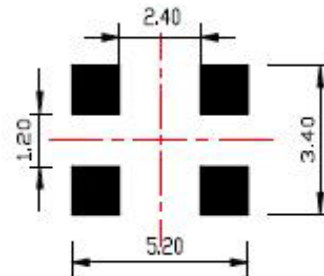
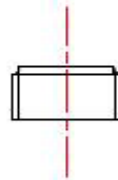
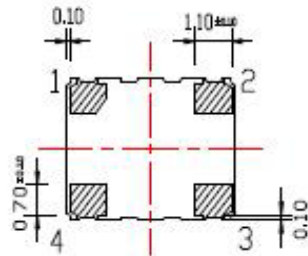
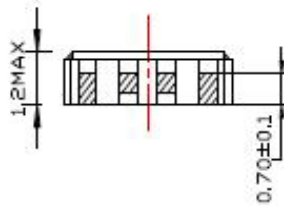
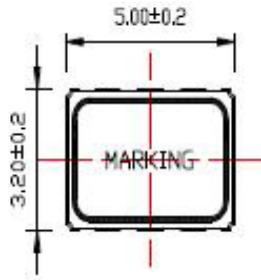
### Description and Applications:

Surface mount 5.0mmx3.2mm VCTCXO for use in n wireless communications devices

### Electrical Specifications:

TX0192A	Specifications
Nominal Frequency, Fo	19.200000 MHz
Storage Temperature Range	-40°C to +85°C
Operating Temperature Range	-30°C to +85°C
Power Supply Voltage, Vcc	2.8 V
Output Voltage with Load 10pF//10KΩ, Vout	0.8 Vp-p min
Power Supply Current, Icc	2.0 mA max
Control Voltage, Vcon	1.5 +/- 1.0 V
Vcon Frequency Control Range (1.5+/-1.0 V)	+/-9 ~ +/-15 ppm
Frequency Tolerance after Reflow	+/- 1.5 ppm max @ 25°C +/- 3°C
Frequency Stability a. Vs. Temperature (-30~85°C) b. Vs. Supply Voltage varied 3.3V+/-5% c. Vs. Load varied +/-10%	+/- 2.5 ppm +/- 0.2 ppm +/- 0.2 ppm
Harmonics	-5.0 dBc max
SSB Phase Noise (@1KHz Carrier Offset)	-130 dBc/Hz max
Aging	+/-1.0 ppm/year @25°C
Marking	Laser Marking

## Mechanical Dimensions (mm):



Recommended Soldering Pattern

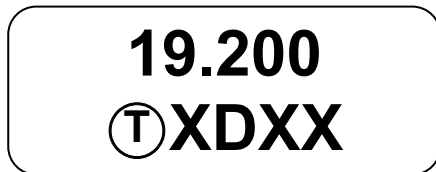
UNIT: mm

PIN	FUNCTION
1	VCCN VCCND GND TUND Tri-stateND
2	GND
3	O T
4	VLD

## Marking:

Line 1: Frequency

Line 2: TST Logo + Product code + Date Code + Traceability Code (XX)



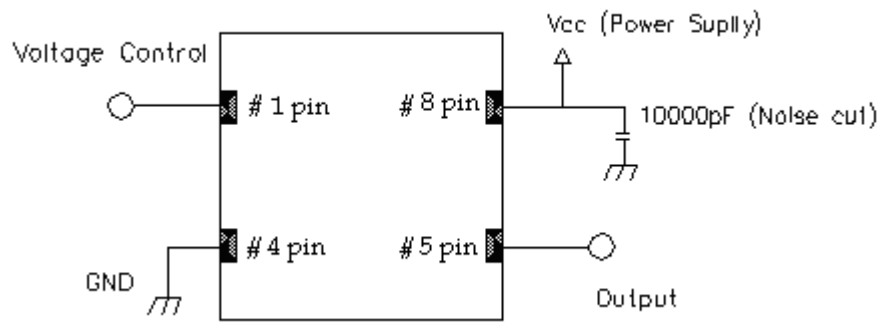
## Product Code Table

Year	2009 2013	2010 2014	2011 2015	2012 2016
Product Code	X	x	X	X

## Date Code Table

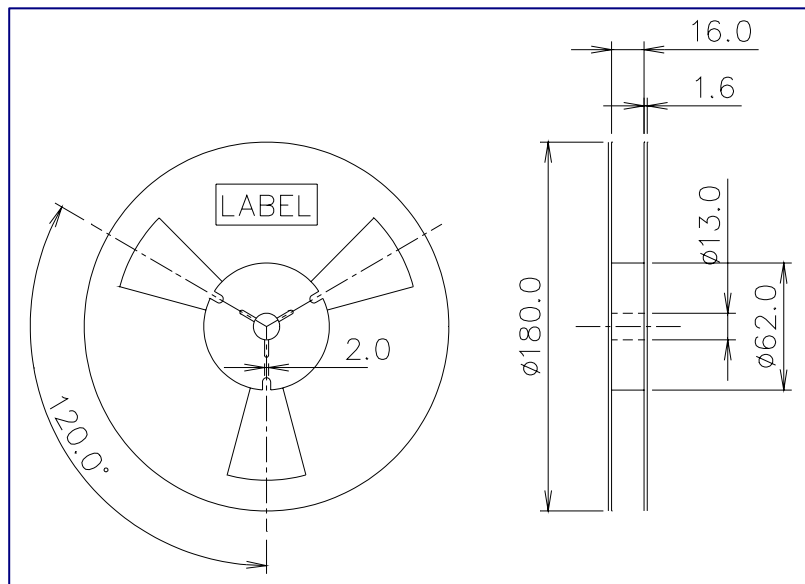
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A	B	C	D	E	F	G	H	I	J	K	L	M
WK14	WK15	WK16	WK17	WK18	WK19	WK20	WK21	WK22	WK23	WK24	WK25	WK26
N	O	P	Q	R	S	T	U	V	W	X	Y	Z
WK27	WK28	WK29	WK30	WK31	WK32	WK33	WK34	WK35	WK36	WK37	WK38	WK39
a	b	c	d	e	f	g	h	i	j	k	l	m
WK40	WK41	WK42	WK43	WK44	WK45	WK46	WK47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

## Recommended Circuit

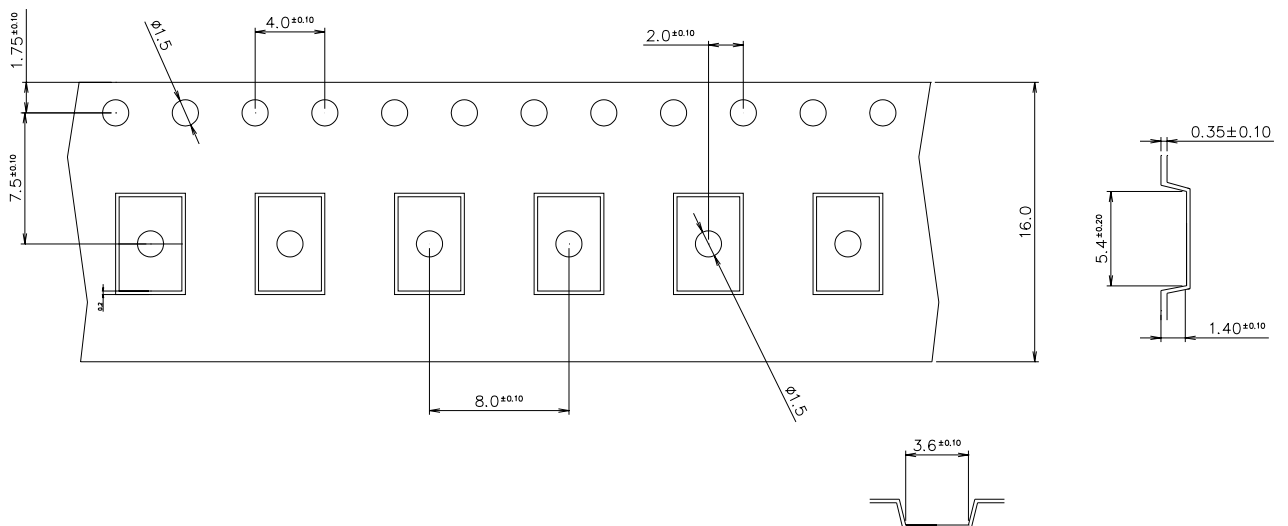


## Tape & Reel:

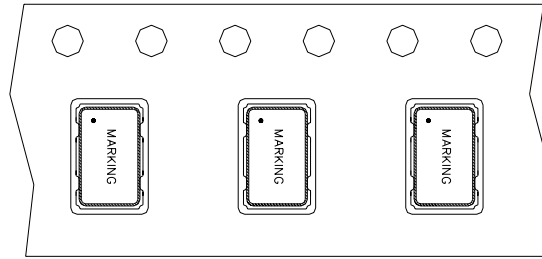
- Packing Quantity: 1k /Reel
- Reel dimension (unit: mm)



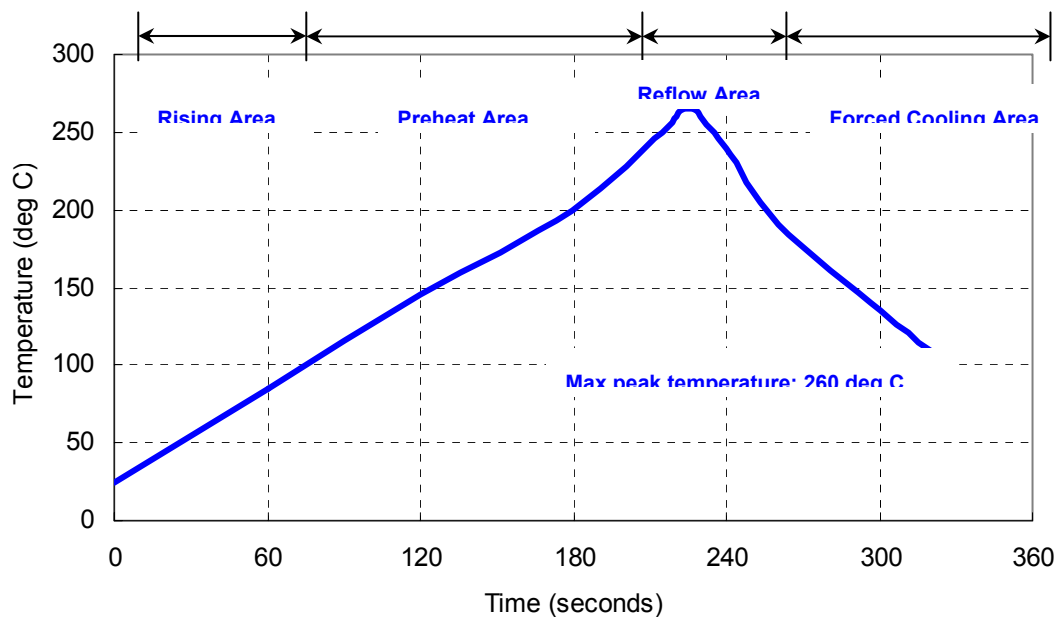
- Tape dimension (unit: mm)



■ Packing direction



## Reflow Profile:



## Notes of the Usage:

1. Touch the solder iron at  $260 \pm 5$  deg C onto the leads for  $10 \pm 2$  sec max or touch the solder at  $350 \pm 5$  deg C onto the leads for  $3 \pm 0.5$  sec.
2. In the customer's reflow process, if it will remain some mechanical stress at the soldering terminals, also make some cracks on the soldering termination. Some cracks will cause open or short circuit and cause of thermal increasing or smoking. Don't make any excess mechanical stress to soldering points.
3. In case of giving a heavy shock to the products, it may make an open or short circuit and cause of thermal increasing and smoking. To avoid heavy shock impact applying to products is strictly required.

## Notes of the Storage:

1. To keep products under the condition at the room temperature (-5~35 deg C) with normal humidity (45~75%). Absorption of moisture and dewdrop may make inferiority of characteristics and a short circuit.
2. Oxidization of terminals shall make the solderability more inferior. Dusts and corrosive gas will make a cause of the open or short circuit. Keep it in the clean place where is not in dusty and no corrosive gas.
3. Use the anti-static material to the storage package.
4. Don't put any excess weight to the VCTCXO in the storage process.
5. Don't move the product from the cold place to the hot place in the short time, otherwise it may make some dew-drop, then a short circuit may happen in case.
6. Storage periods should be maximum 6 months under condition of above item 1 after delivery from TST factory.
7. Once open the bag, there is possibility of electrical characteristics deterioration due to absorption of moisture. So, please use parts within 7 days after opening the bag.
8. If you have to keep parts without using after opening the bag, please put the drying agent in the bag, fold the bag and keep it in the place where temperature and humidity are controlled (nitrogen atmosphere box etc.)