

TAI-SAW TECHNOLOGY CO., LTD. No. 3, Industrial 2nd Rd., Ping-Chen Industrial District,

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

## **Approval Sheet For Product Specification**

Issued Date: 4/2/2007 (REV. NO.:5)

Product Name: SMD 5x3.2 13MHz VCTCXO

TST Parts No.: TX0104A

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

Company:	-
Division:	_
Approved by :	
Date:	_

Checked by:	CC Hsu
Approval by:	Robert Chang
Date:	4/2/2007



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## SMD 5.0x3.2 13MHz VCTCXO

MODEL NO.: TX0104A

### Features:

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

## **Description and Applications:**

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

### **Electrical Specifications:**

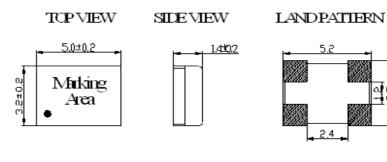
TX0104A	Specifications				
Nominal Frequency, Fo	13.000000 MHz				
Storage Temperature Range	-40°C to +85°C				
Operating Temperature Range	-20°C to +75°C				
Power Supply Voltage, Vdd	2.8 V				
Output Voltage with Load 10pF//10KΩ, Vout	0.8 Vp-p min				
Output Waveform	Clipped Sinewave				
Power Supply Current, Icc	2.0 mA max				
Control Voltage, Vcon	1.4 +/- 1.0 V				
Frequency Tolerance (Vcon=1.4V) after Reflow	+/- 1.5 ppm max @ 25°C +/- 3°C				
Frequency Stability a. Vs. Temperature (-20~75°C) b. Vs. Supply Voltage varied 2.8V+/-5% c. Vs. Load varied +/-10%	+/- 2.5 ppm +/- 0.2 ppm +/- 0.2 ppm				
Vcon Frequency Control Range (1.4+/-1.0 V)	+/-8 ~ +/-14 ppm/V				
Start Up Time (90% of final RF level in Vp-p)	2.0 msec max.				
Harmonics	-5.0 dBc max				
SSB Phase Noise (@1KHz Carrier Offset)	-130 dBc/Hz max				
Marking	Laser Marking				
Aging	+/-1.0 ppm/year @25°C				

RoHS Compliant Lead free Lead-free soldering

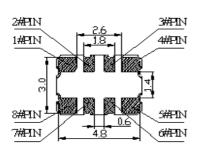
REV. NO.: 5

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## Mechanical Dimensions (mm):

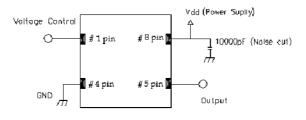


#### BOITOMVIEW



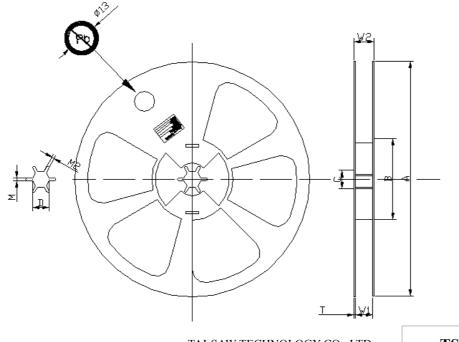
PINOUTFORVCICXO					
HIN	HNCONECT				
1	Vt				
2	Hoating				
3	Hoating				
4	GND/CASEGND				
5	Fat				
6	Hoating				
7	Hoating				
8	Vdd				

#### **Recommended Circuit**



## Packing (mm):

1. Reel Dimension

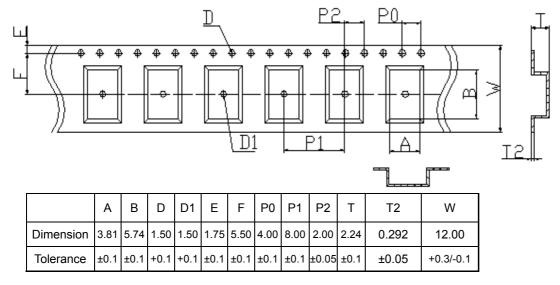


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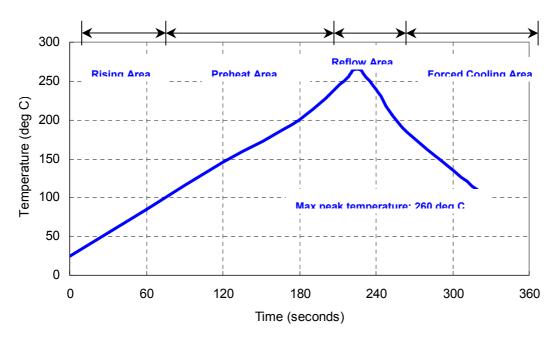
TST DCC Release document

Unit:mm	А	В	С	D	Т	М	M2	W1	W2
Dimension	180	62	21	13	2.05	2.50	2.00	12.4	16.5
Tolerance	±0.1	±0.5	±0.1	±0.5	±0.5	±0.5	±0.2	+1.0/-0.0	±0.2

### 2. Tape Dimension



# **Reflow Profile:**



### Notes of the Usage:

- 1. Touch the solder iron at 260+/-5 deg C onto the leads for 10+/-2 sec max or touch the solder at 350+/-5 deg C onto the leads for 3+/-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:

- 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 unti-static material to the storage package.
- 4. Don't put any excess weight to the TCXO 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.)