



# TAI-SAW TECHNOLOGY CO., LTD.

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## 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

REV. NO.: 5

### Features:

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

RoHS Compliant  
Lead free  
Lead-free soldering

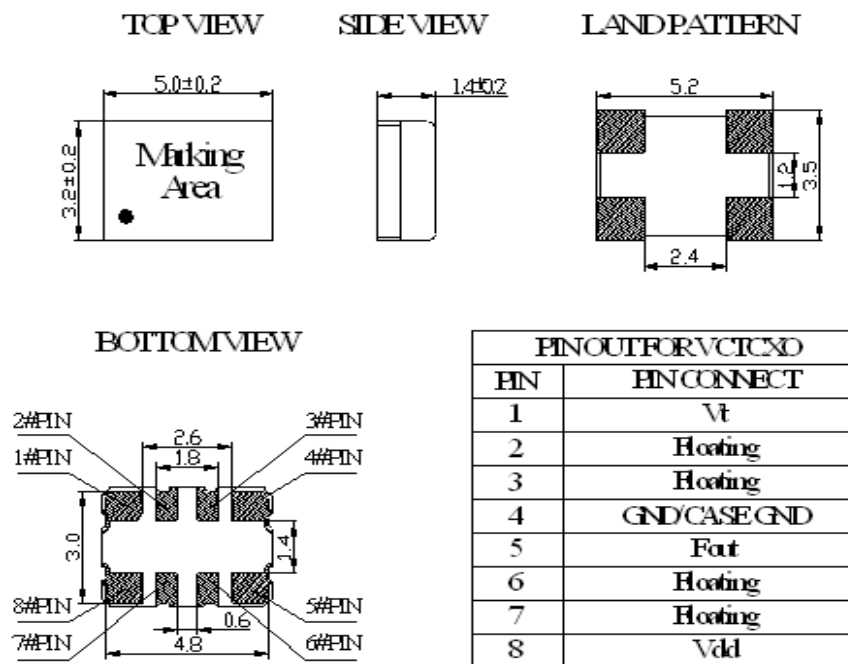
### Description and Applications:

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

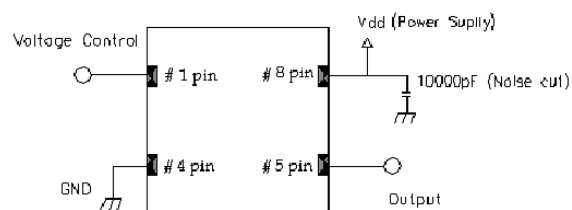
### Electrical Specifications:

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

## Mechanical Dimensions (mm):

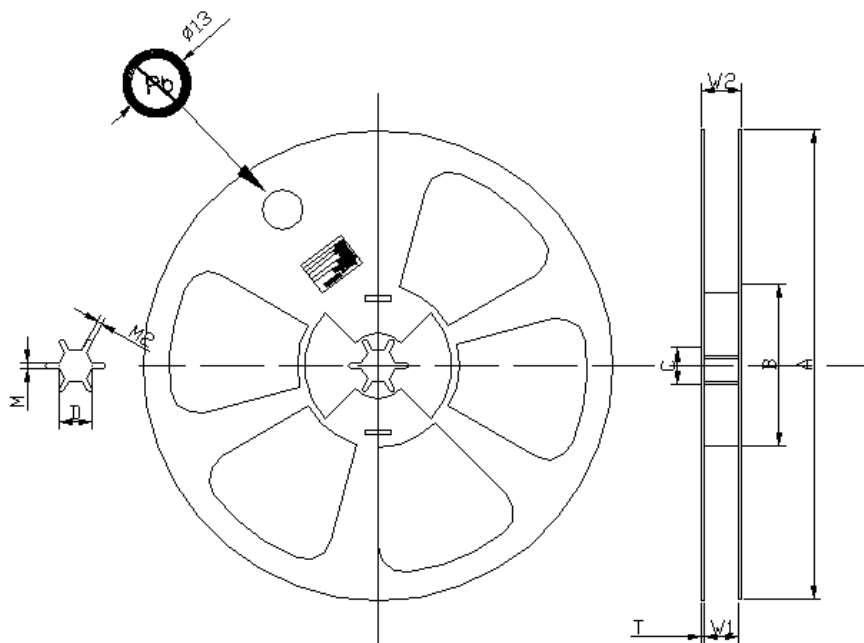


## Recommended Circuit



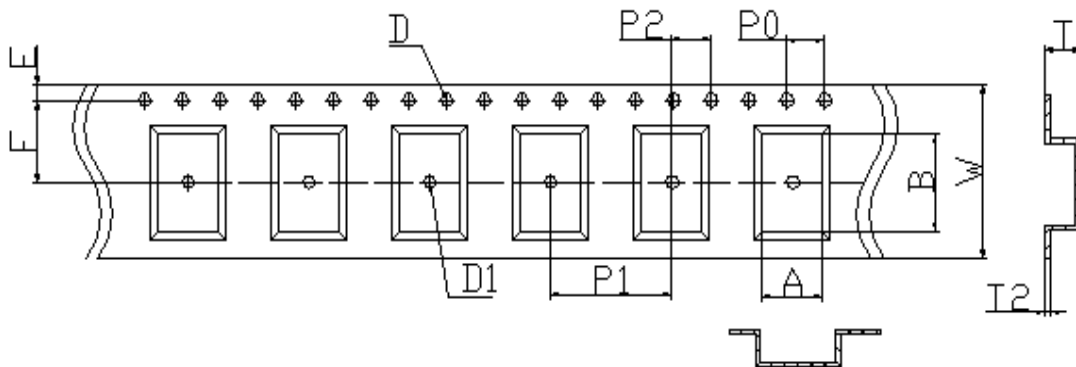
## Packing (mm):

### 1. Reel Dimension



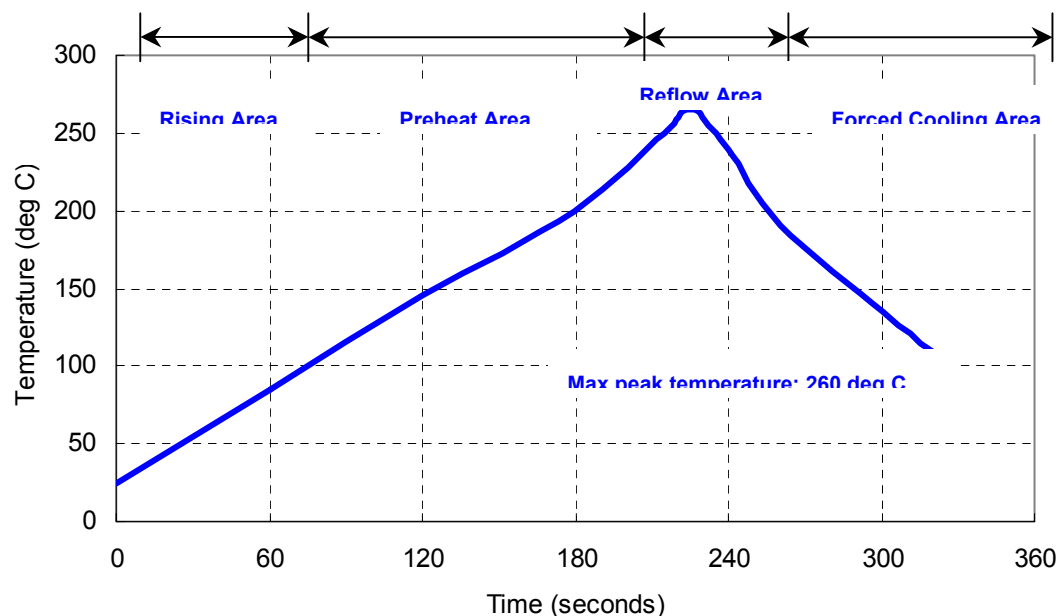
Unit:mm	A	B	C	D	T	M	M2	W1	W2
Dimension	180	62	21	13	2.05	2.50	2.00	12.4	16.5
Tolerance	±0.1	±0.5	±0.1	±0.5	±0.5	±0.5	±0.2	+1.0/-0.0	±0.2

## 2. Tape Dimension



	A	B	D	D1	E	F	P0	P1	P2	T	T2	W
Dimension	3.81	5.74	1.50	1.50	1.75	5.50	4.00	8.00	2.00	2.24	0.292	12.00
Tolerance	±0.1	±0.1	+0.1	+0.1	±0.1	±0.1	±0.1	±0.1	±0.05	±0.1	±0.05	+0.3/-0.1

## 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:**

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 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.)