



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: VCTCXO 3.2x2.5 19.2MHz

TST Part No.: TX0441A

Customer Part No.: _____

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

Checked by: _____ Ginger Huang *Ginger Huang*

Approved by: _____ Kelly Huang *Kelly Huang*

Date: _____ 04/03/2013

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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3.2x2.5 19.2MHz VCTCXO

MODEL NO.: TX0441A

REV. NO.: 3.0

Revise:

Rev.	Rev. Page	Rev. Account	Date	Ref. No.	Reviser
1	N/A	Initial release	02/12/11'	N/A	C.C Hsu
2	P3	Change target to 0.5+/-1ppm	06/13/12'	ECN-201200162	C.C Hsu
3	P5	Change Marking	04/03/13'	ECN-201300107	Ginger Huang



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3.2x2.5 19.2MHz VCTCXO

MODEL NO.: TX0441A

REV. NO.: 3.0

Features:

- Good Frequency Stability

RoHS Compliant
Lead free
Lead-free soldering

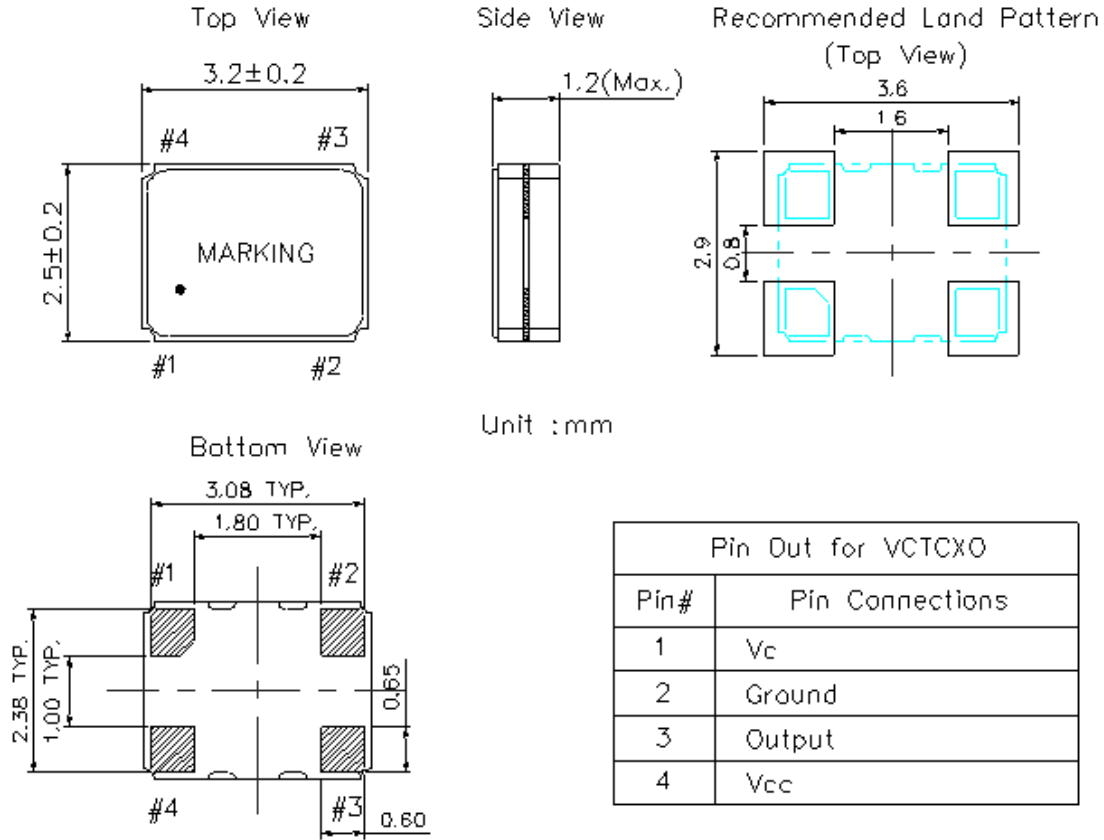
Description and Applications:

3.2mmx2.5mm VCTCXO for use in wireless communications devices

Electrical Specifications:

TX0441A	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 +/- 5%
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)	0.5+/-1.0 ppm max @ 25°C +/- 2°C
Frequency Stability a. Vs. Temperature (-30~85°C) b. Vs. Load varied 40pF//5KΩ+/-10% c. Vs. Supply Voltage varied 2.8V+/-5%	+/- 2.0 ppm reference to 25°C +/- 0.2 ppm +/- 0.2 ppm
Vcon Frequency Control Range (1.4+/-1.0 V)	+/-7.8 ppm/V ~ +/-12 ppm/V
Start Up Time (90% of final RF level in Vp-p)	5.0 msec max.
Harmonics	-5.0 dBc max
Aging	+/-1.0 ppm/year @25°C
SSB Phase Noise (@1KHz Carrier Offset)	-130 dBc/Hz max
Marking	Laser marking

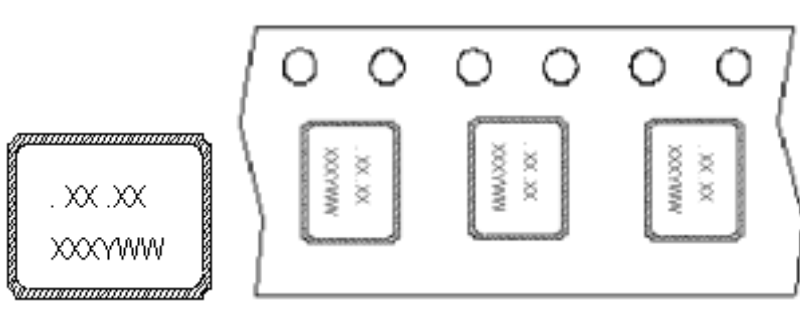
Mechanical Dimensions (mm):



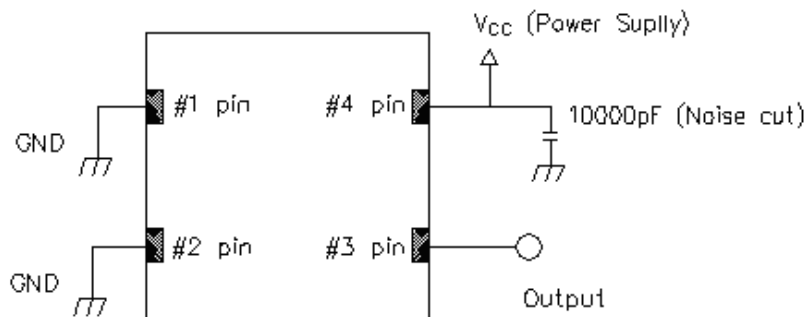
Marking :

Line 1: Frequency (.19.20)

Line 2: XXX (Traceability code) + Year Code (Y: 2 means 2012) + Week Code (WW: 12 means wk12)

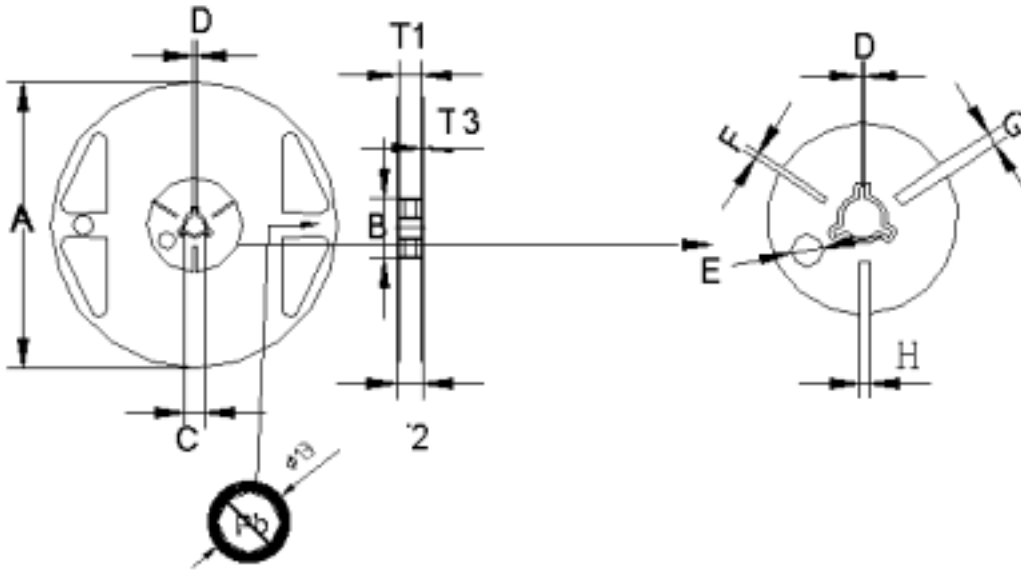


Recommended Circuit



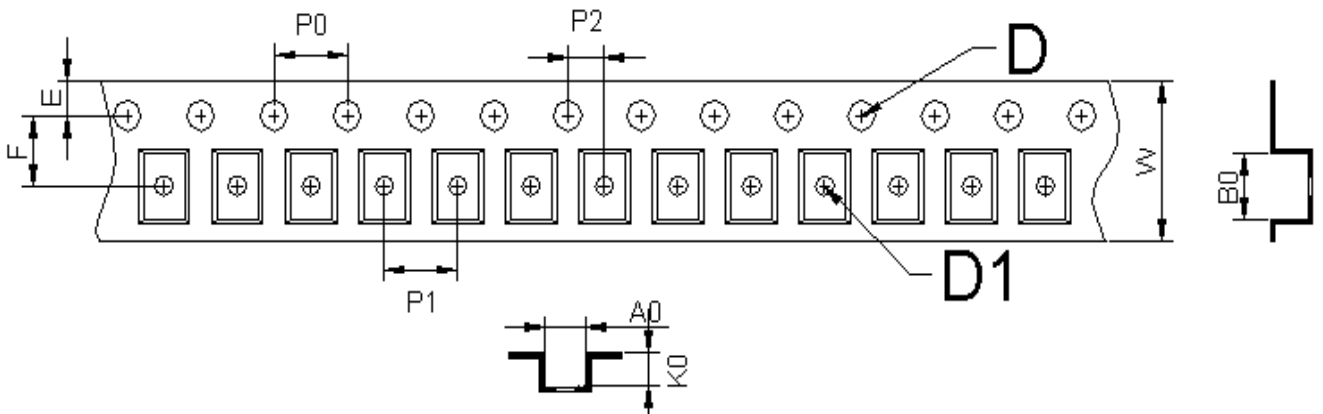
Packing (mm):

1. Reel Dimension



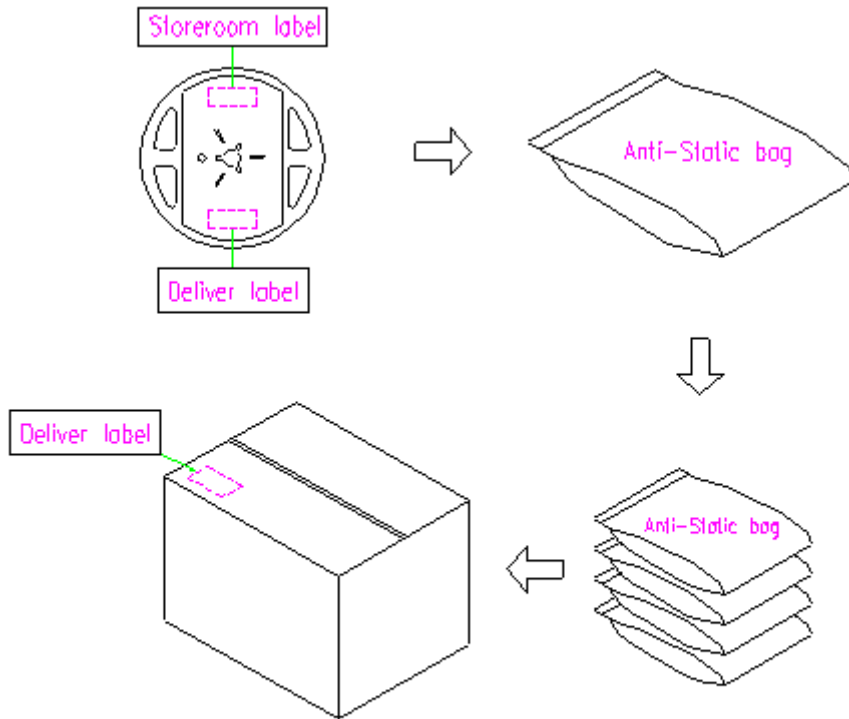
	A	B	C	D	E	F	H	G	T2	T1	T3
Dimensions	180	60	13.0	2.0	9.1	2.9	3.9	4.9	11.4	9.0	1.2
Tolerance	± 1.0	$+1.0$	± 0.2	± 0.5	± 0.5	± 0.5	± 0.5	± 0.5	± 1.0	± 0.3	± 0.1

2. Tape Dimension

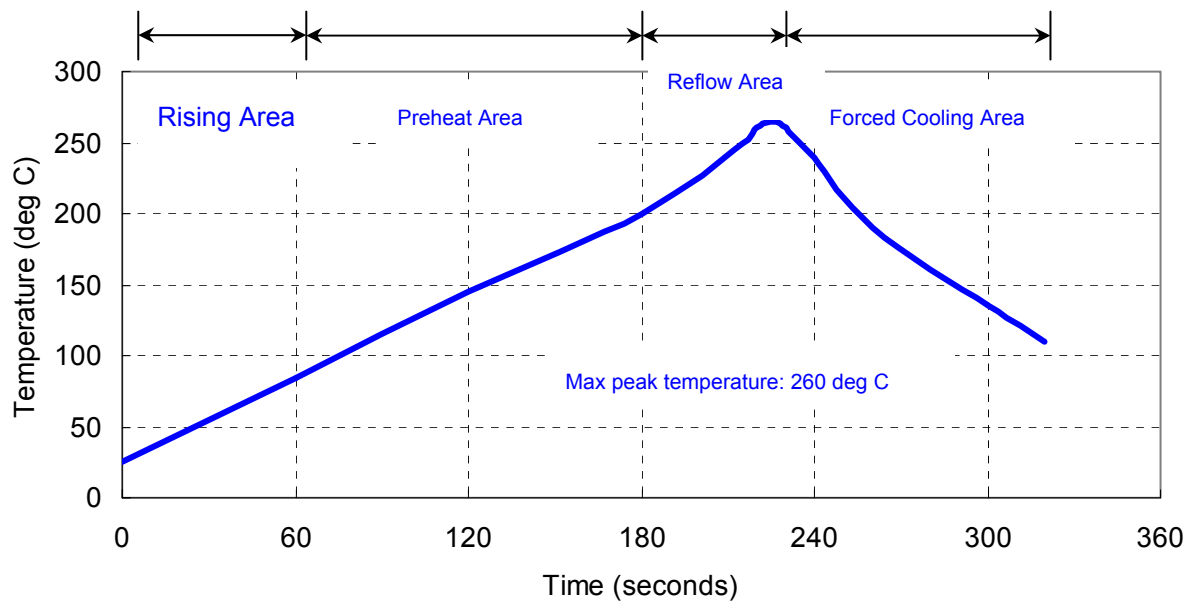


Unit: mm	A0	B0	W	F	E	P0	P1	P2	D1	D	K0	t
Dimension	2.80	3.71	8.00	3.5	1.75	4.00	4.00	2	1.50	1.0	1.75	0.25
Tolerance	± 0.1	± 0.1	$+0.3/-0.1$	± 0.05	± 0.1	± 0.1	± 0.1	± 0.05	$+0.1/-0.00$	$+0.25/-0.00$	± 0.1	± 0.02

Packing Quantity/Packing:



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 ($-5\sim 35$ 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.)