



# 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: VCXO SMD 7.0x5.0 122.88MHz

TST Part No.: TX0444A

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

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

Checked by: \_\_\_\_\_ C.C. Hsu *C.C. Hsu*

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

Date: \_\_\_\_\_ 11/05/2020

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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SMD 7.0x5.0 122.88MHz VCXO

MODEL NO.: TX0444A

REV. NO.: 2.0

## Revise:

Rev.	Rev. Page	Rev. Account	Date	Ref. No.	Reviser
1.0	N/A	Initial release	10/19/11'	N/A	Ginger Huang
2.0	P3,4,7	Update Marking and Reliability Specifications and Add MSL level	11/05/20'	ECN-202000415	C.C. Hsu



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## 7.0x5.0 VCXO 122.88 MHz

MODEL NO.: TX0444A

REV. NO.:2.0

### Features:

1. 3.3V Operation / Complementary PECL Output
2. Enable / Disable Function (6-Pad)
3. Main application: WLAN, SONET/SDH/DWDM, Gigabite Ethernet, Storage Area Network, Digital Video
4. Surface mount 5.0mmx7.0mm crystal oscillator
5. Moisture Sensitivity Level (MSL) : Level-1

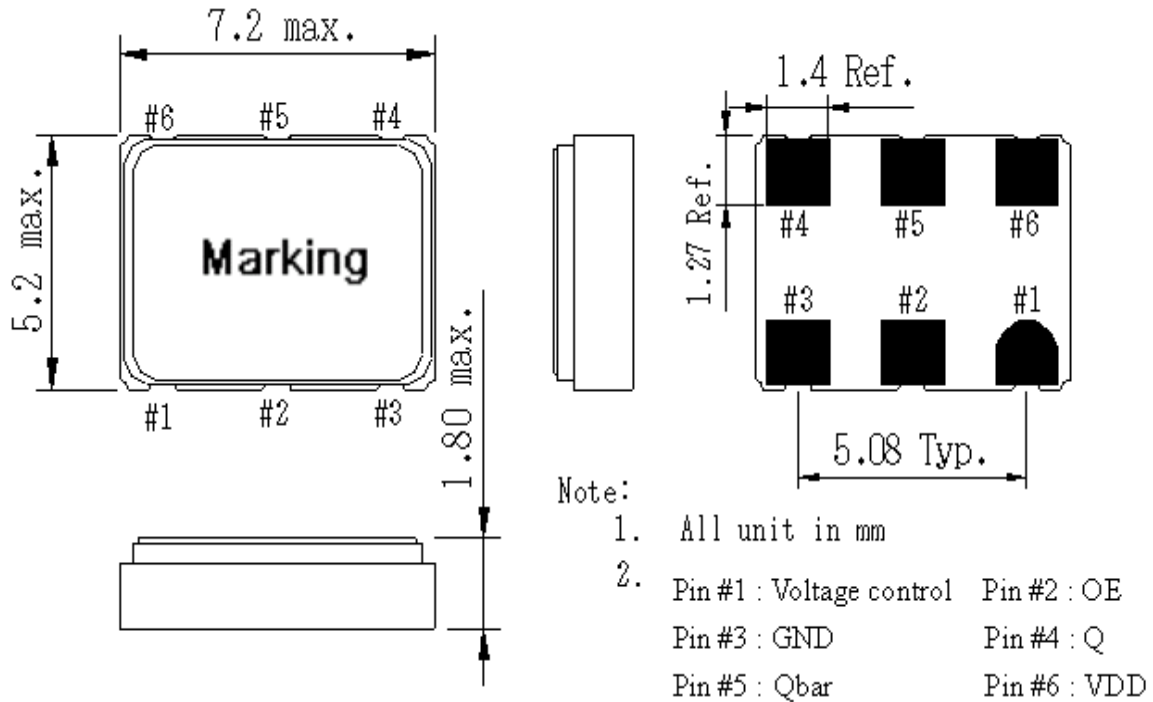
RoHS Compliant  
Lead free  
Lead-free soldering

### Electrical Specifications:

Characteristics	Units	Minimum	Typical	Maximum
Center Frequency	<b>MHz</b>		122.88	
Storage Temperature Range	<b>°C</b>	-55		125
Operating Temperature Range	<b>°C</b>	-40		85
* Absolute Pulling Range (APR)	<b>ppm</b>	+/-50		
Input Voltage (Operating Vdd)	<b>VDC</b>		3.3+/-10%	
Control Voltage (Vt)	<b>VDC</b>	0	1.65	3.3
Current Consumption	<b>mA</b>			80
Output	<b>PECL</b>			
Load	<b>ohm</b>		50	
"0" Level ( Output Logic Low)	<b>VDC</b>	Vdd-1.81		Vdd-1.62
"1" Level ( Output Logic High)	<b>VDC</b>	Vdd-1.025		Vdd-0.88
Duty Cycle	<b>%</b>	45%		55%
Rise Time (20%->80% VDD)	<b>nSec</b>			1.0
Fall Time (80%->20% VDD)	<b>nSec</b>			1.0
Start-up Time	<b>ms</b>			10
Enable Voltage High(Logic 1)	<b>V</b>	0.7VDD		
Enable Voltage Low(Logic 0)	<b>V</b>			0.3VDD
Phase Jitter (Integrated 12K~20MHz)	<b>ps</b>			1.0
Linearity	<b>%</b>			10
Enable/Disable Function		PIN#2: High or Open , PIN#4, #5: Enable PIN#2: Low , PIN#4, #5: Disable		
Package size		SMD7.0x5.0x1.8mm		

\* Note1 : APR=Pull Range-(frequency tolerance at 25°C, variation over temperature, supply voltage and aging)

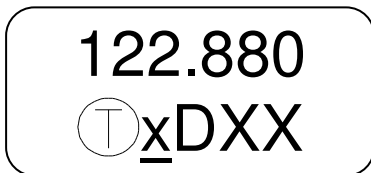
## Mechanical Dimensions (mm):



## Marking:

Line 1: Frequency (122.880)

Line 2: TST Logo + Product Code + Date Code + Internal Traceability Code (XX) : Can be 1 or 2 letters)



## Product Code Table

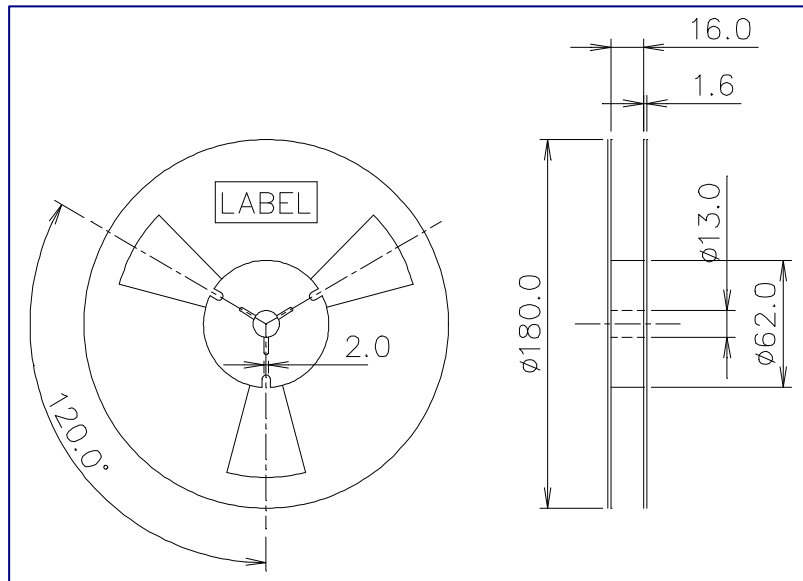
Year	2017	2018	2019	2020
	2021	2022	2023	2024
	2025	2026	2027	2028
Product code	X	x	<u>X</u>	<u>x</u>

## Date Code Table

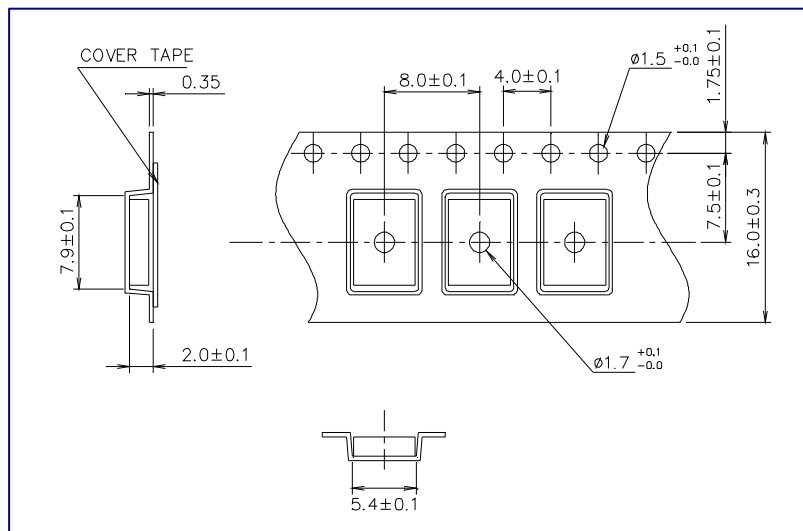
WK01	WK02	WK03	WK04	WK05	WK06	WK07	WK08	WK09	WK10	WK11	WK12	WK13
A	B	C	D	E	F	G	H	I	J	K	L	M
WK14	WK15	WK16	WK17	WK18	WK19	WK20	WK21	WK22	WK23	WK24	WK25	WK26
N	O	P	Q	R	S	T	U	V	W	X	Y	Z
WK27	WK28	WK29	WK30	WK31	WK32	WK33	WK34	WK35	WK36	WK37	WK38	WK39
a	b	c	d	e	f	g	h	i	j	k	l	m
WK40	WK41	WK42	WK43	WK44	WK45	WK46	WK47	WK48	WK49	WK50	WK51	WK52
n	o	p	q	r	s	t	u	v	w	x	y	z

## Tape & Reel:

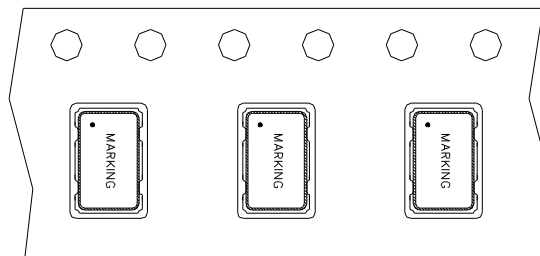
- Reel dimension (unit: mm)



- Tape dimension (unit: mm)

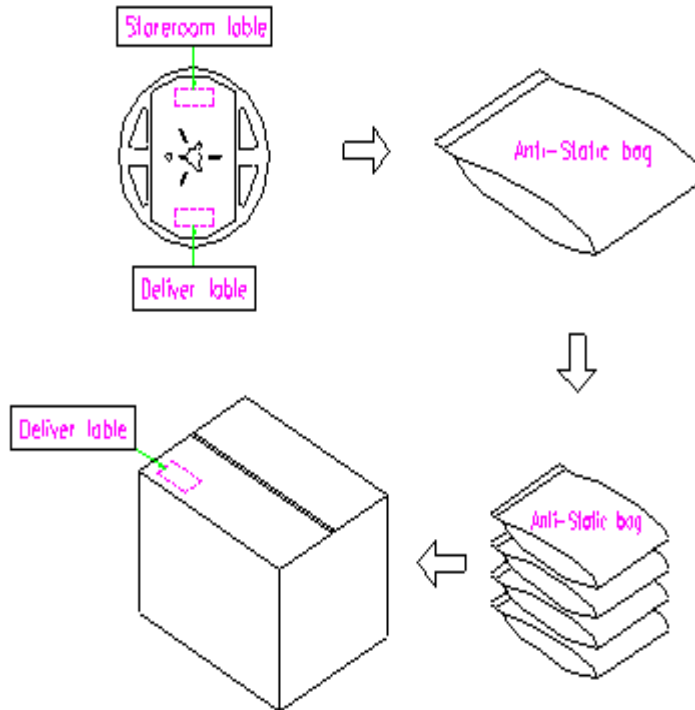


- Packing direction

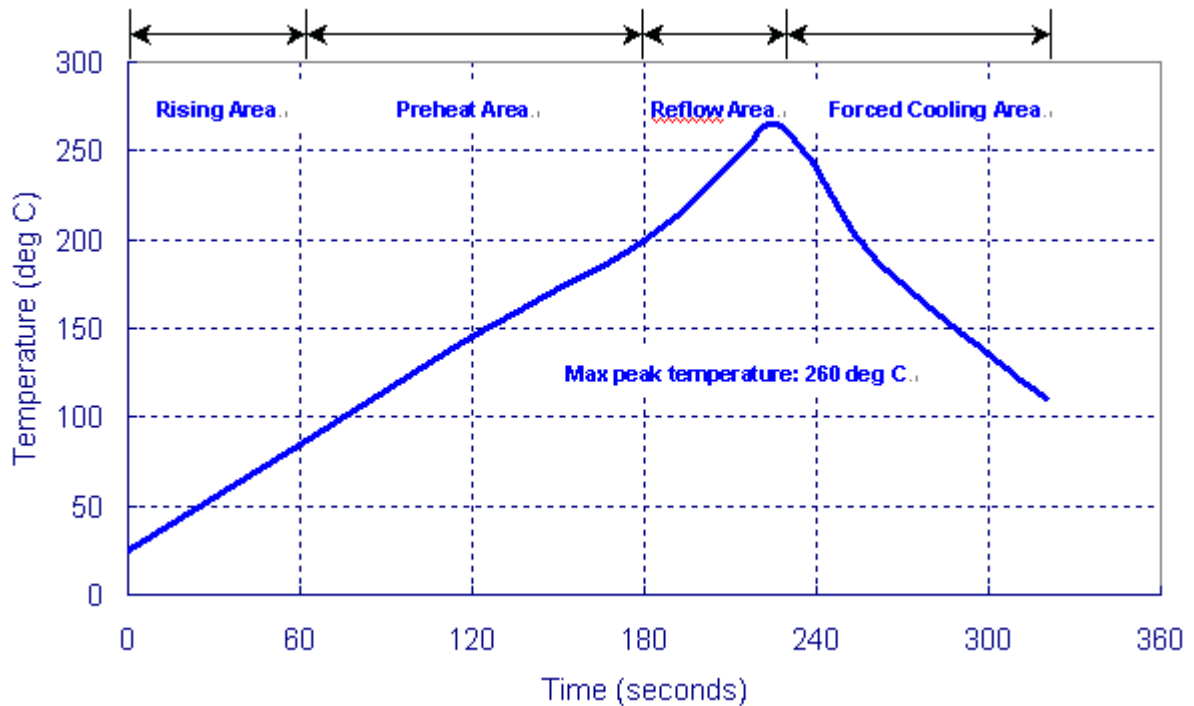


# Packing Quantity/Packing:

1K pcs maximum per reel



# Reflow Profile:



**Note: 1. Max peak temperature: 260 +/- 5 deg C; Time: 10 +/- 2 sec**

**2. Temperature: 217 +/- 5 deg C; Time: 90 ~ 100 sec**

## Reliability Specifications

Test name	Test process / method	Reference standard
<b>Mechanical characteristics</b>		
resistance to Soldering heat (IR reflow)	Temp/ Duration : 265°C /10sec ×2 times Total time : 4min.(IR-reflow)	EIAJED-4701  -300(301)M(II)
Vibration	Total peak amplitude : 1.5mm Vibration frequency : 10 to 2000 Hz Sweep period : 20 minute Vibration directions : 3 mutually perpendicular Duration : 2 hr / direc.	MIL-STD 202G method 204
Mechanical Shock	directions : 3 impacts per axis Acceleration : 3000g's, +20/-0 % Duration : 0.3 ms (total 18 shocks) Waveform : Half-sine	MIL-STD 202G method 213
Solderability	Solder Temperature:265±5 °C Duration time: 5±0.5 seconds.	J-STD-002
<b>Environmental characteristics</b>		
Thermal Shock	Heat cycle conditions -40 °C (30min) ↔ 85 °C (30min) * cycle time : 10 times	MIL-STD 883G method 1010.8
Humidity test	Temperature : 85 ± 2 °C Relative humidity : 85% Duration : 96 hours	MIL-STD 202G method 103
Dry heat ( Aging test )	Temperature : 125 ± 2 °C Duration : 168 hours	MIL-STD 202G method 108A
Cold resistance (Low Temp Storage)	Temperature : -40 ± 2 °C Duration : 96 hours	IEC 60068-2-1