



TAI-SAW TECHNOLOGY CO., LTD.

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: ttsales@mail.taisaw.com Web: www.taisaw.com

Product Specifications Approval Sheet

Product Description: Crystal Oscillator SMD 7.0x5.0 6.144MHz

TST Part No.: TW0477A

Customer Part No.: _____

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

Checked by: _____ Ginger Huang *Ginger Huang*

Approved by: _____ Kelly Huang *Kelly Huang*

Date: _____ 09/23/2013

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.



TAI-SAW TECHNOLOGY CO., LTD.
SMD 7.0x5.0 6.144MHz Crystal Oscillator

MODEL NO.: TW0477A

REV. NO.: 1.0

Revise:

Rev.	Rev. Page	Rev. Account	Date	Ref. No.	Reviser
1	N/A	Initial release	09/23/13'	N/A	Ginger Huang



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SMD 7.0x5.0 6.144MHz Crystal Oscillator

MODEL NO.: TW0477A

REV. NO: 1.0

Features:

- Surface Mount Seam Weld Package
- Excellent Reliability Performance
- Good Frequency Perturbation and Stability over temperature

RoHS Compliant
Lead free
Lead-free soldering

Application:

- 3.3V Supply Voltage Operation / Complementary CMOS Output
- Option-able stand-by function for output .

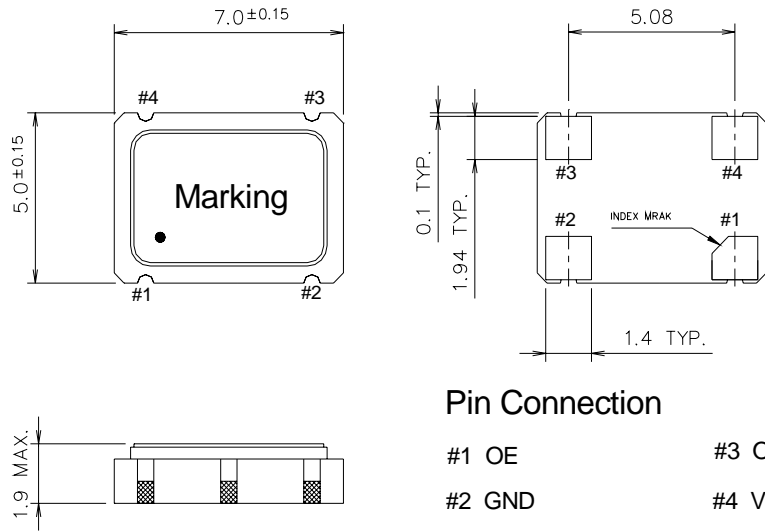
Electrical Characteristics:

TW0477A	Specifications
Nominal Frequency, Fo	6.144000 MHz
Storage Temperature Range	-55°C to +125°C
Operating Temperature Range	-20°C to +70°C
Power Supply Voltage, Vcc	3.3 V +/- 10%
Load	15 pF (CMOS)
“0” Level “1” Level	0.33 V max 2.97 V min
Power Supply Current, Icc	10 mA max
Standby Current	10 μ A max
Frequency Accuracy ¹	+/-50 ppm max
Duty Cycle	45% ~ 55%
Start-up Time	10 ms max.
Phase Jitter RMS	3.0 ps max
Aging	+/-3.0 ppm/ year
Output Enable Delay Time	10 ms max
Output Disable Delay Time	100 ns max
Rise Time (10% -> 90% of final RF level in Vp-p) Fall Time (90% -> 10% of final RF level in Vp-p)	5 nsec max. 5 nsec max.

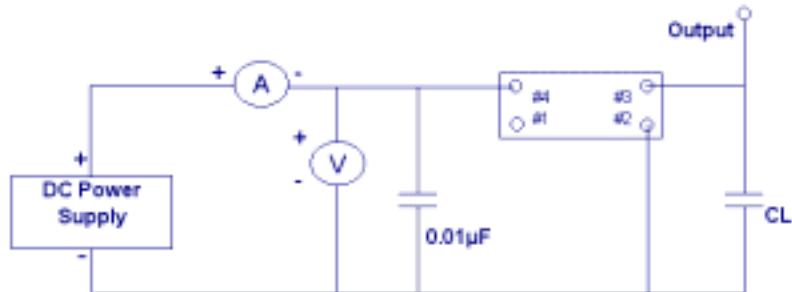
Enable Voltage High Enable Voltage Low	70% VDD min 30% VDD max
Enable/Disable Function	PIN 1: High or Open, PIN 3:Enable PIN 1: Low, PIN 3:Disable

#Note 1: Frequency accuracy includes 25C tolerance, operating temperature range -20 to 70 deg C

Mechanical Dimensions: (Unit: mm)



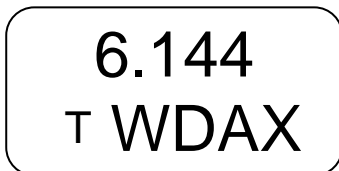
Test Circuit:



Marking:

Line 1 : Frequency (6.144)

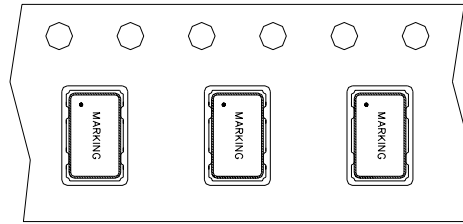
Line 2 : $\text{\textcircled{T}}$ WDAX (TST logo + Product Code + Data Code + Traceability Code)



Product Code Table

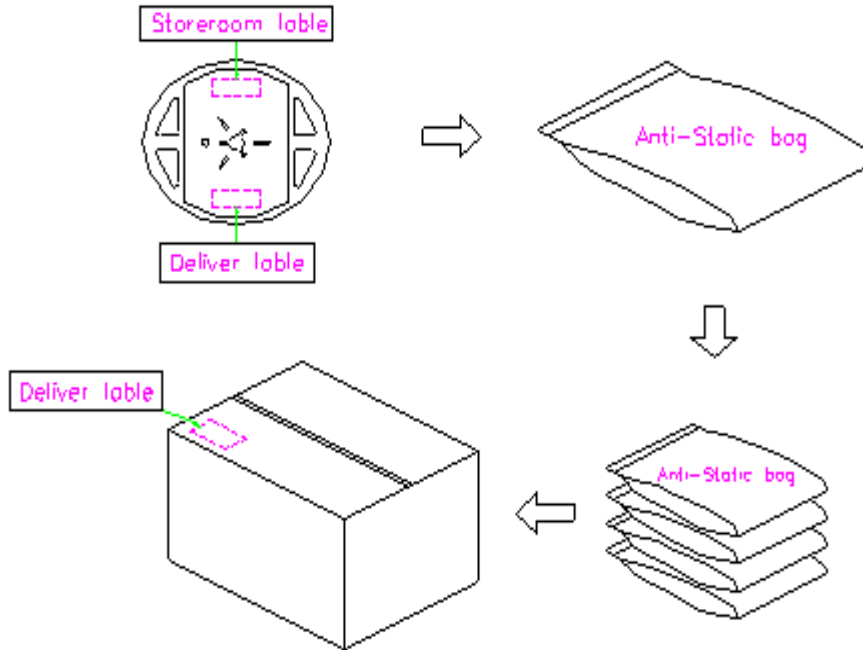
Year	2009	2010	2011	2012
	2013	2014	2015	2016
	2017	2018	2019	2020
Product Code	W	w	<u>W</u>	<u>w</u>

■ **PACKING DIRECTION:**

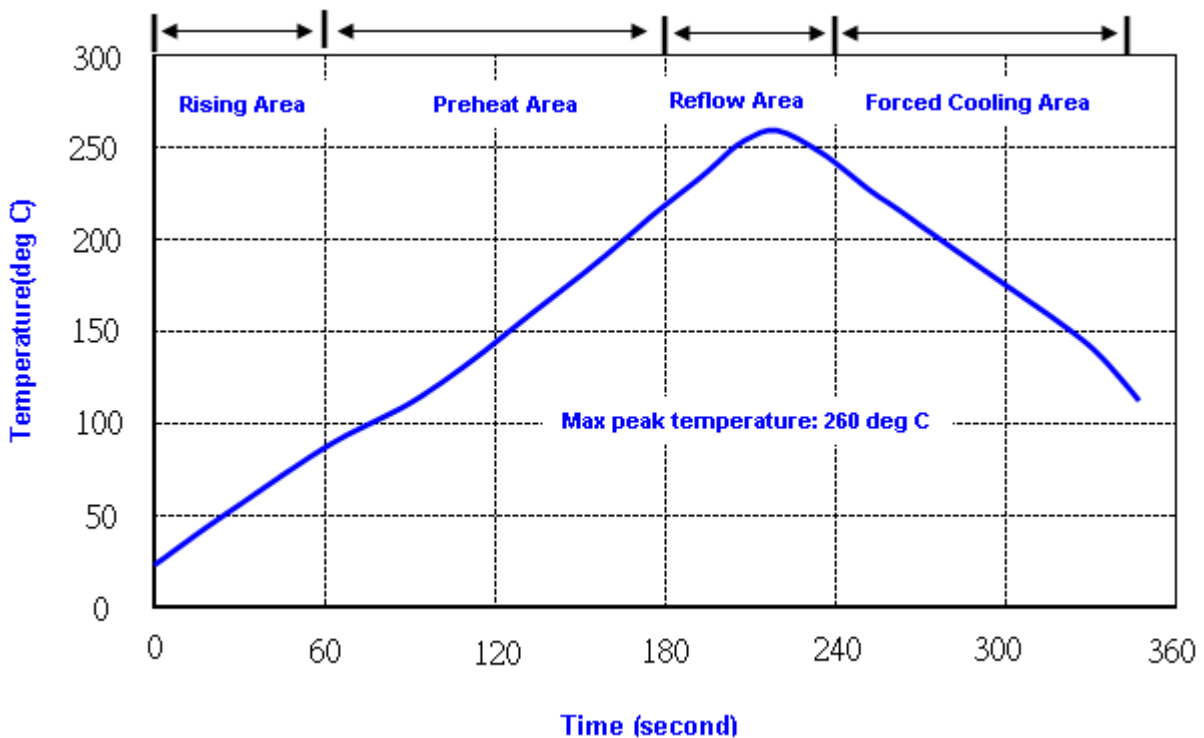


Packing Quantity/Packing:

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

