



# 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: SMD 3.2x2.5 50MHz Crystal Oscillator

TST Parts No.: TW0261A

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

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

Checked by: \_\_\_\_\_ Glen Peng *Glen*

Approval by: \_\_\_\_\_ Kelly Huang *Kelly Huang*

Date: \_\_\_\_\_ 02/27/2018

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 3.2x2.5 50MHz Crystal Oscillator

MODEL NO.: TW0261A

REV. NO.: 2.0

### Revise:

Rev.	Rev. Page	Rev. Account	Date	Ref. No.	Reviser
1	N/A	Initial release	02/19/09'	N/A	Quinton Lo
2	P6	Change Tape& Reel	02/27/18'	ECN-201700509	Glen Peng



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## SMD 3.2x2.5 50MHz Crystal Oscillator

MODEL NO.: TW0261A

REV. NO: 2.0

### Features:

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

RoHS Compliant  
Lead free  
Lead-free soldering

### Application:

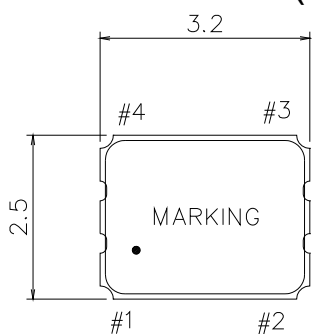
- 3.3 V Supply Voltage CMOS Output
- Option-able stand-by function for output.

### Electrical Characteristics:

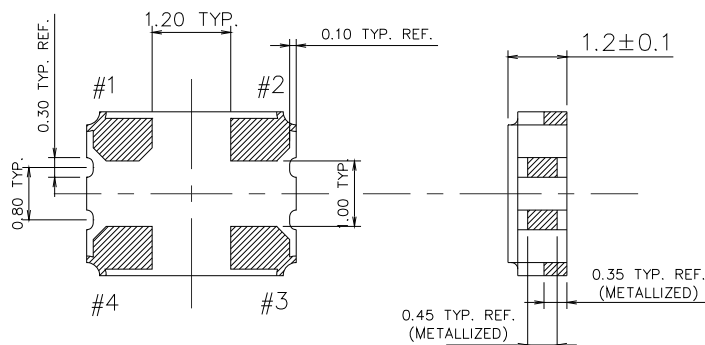
TW0261A	Specifications
Nominal Frequency, Fo	50.000000 MHz
Storage Temperature Range	-40°C to +85°C
Operating Temperature Range	-40°C to +85°C
Power Supply Voltage, Vcc	3.3 V +/- 5%
Load	15pF
“0” Level “1” Level	0.33 V max 2.97 V min
Power Supply Current, Icc	15 mA max
Frequency Accuracy <sup>1</sup>	+/-50 ppm max
Duty Cycle	40% ~ 60%
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.
Aging	+/-1ppm/year
Unit Weight	0.0232+/-0.005 g
Enable/Disable Function	PIN 1: High or Open, PIN 3:Output Enable PIN 1: Low, PIN 3:Output Disable

#Note 1: Frequency accuracy includes 25C tolerance, operating temperature range -40 to 85 deg C, aging and voltage or load change

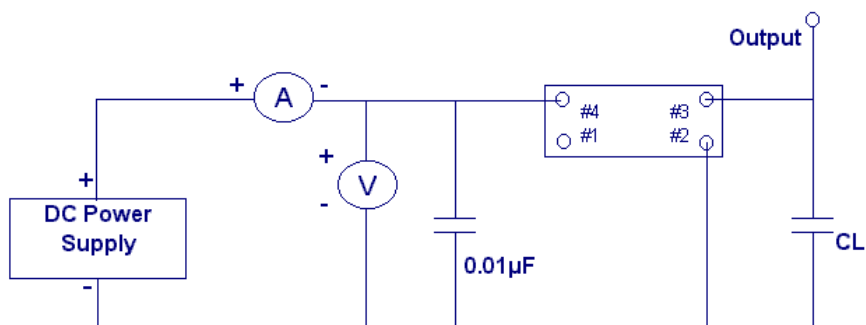
# Mechanical Dimensions: (Unit: mm)



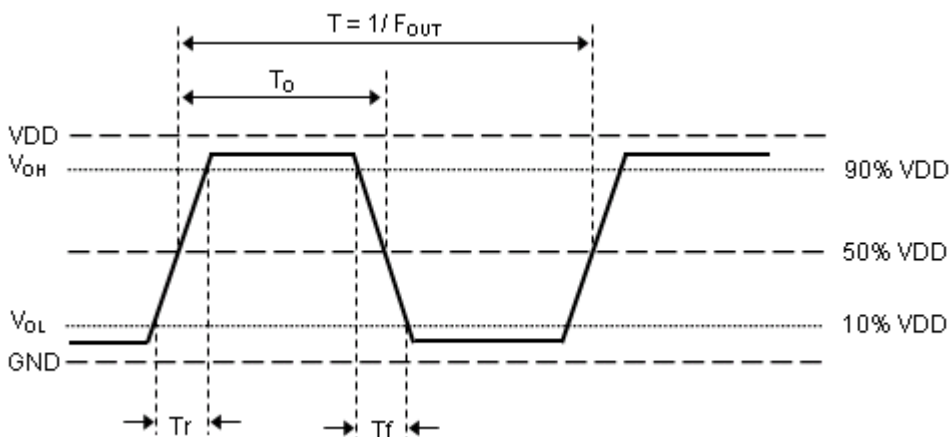
- Unit :mm  
 Pin Function  
 1 : Output Enable  
 2 : CIRCUIT AND COVER GROUND  
 3 : OUTPUT  
 4 : VDD



## Test Circuit:



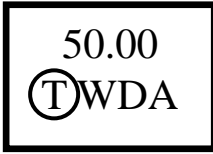
## Output Waveform :



# Marking:

Line 1: 50.00(Frequency)

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



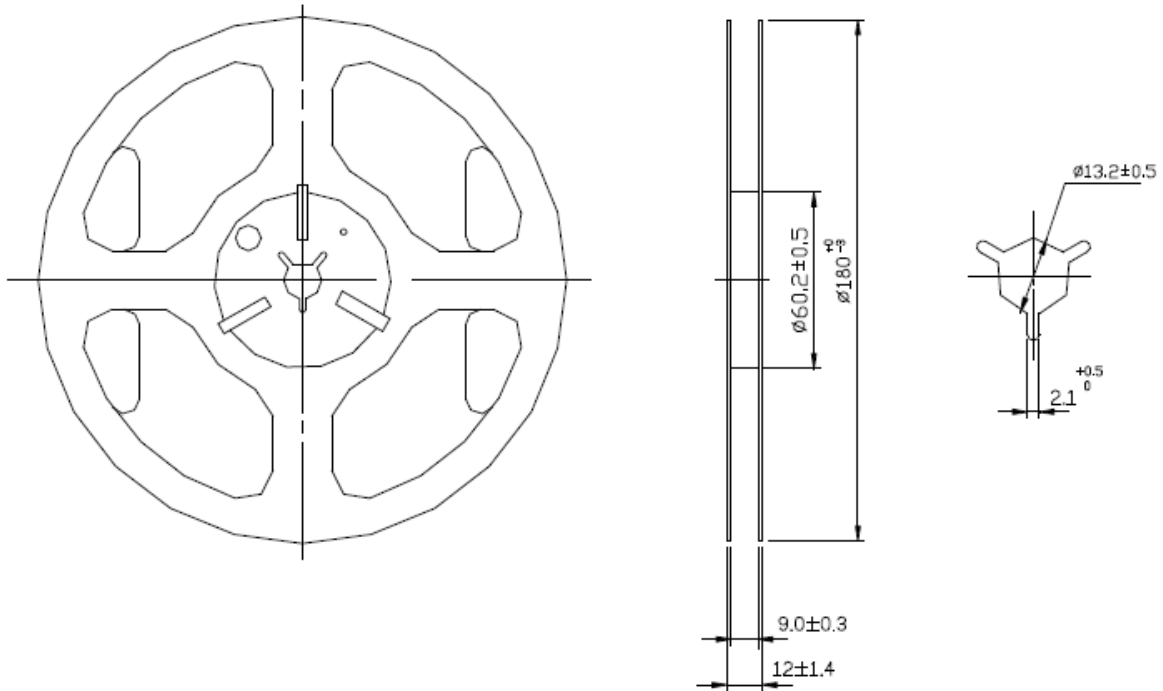
## Product Code Table

Year	2017	2018	2019	2020
	2021	2022	2023	2024
	2025	2026	2027	2028
Product Code	W	w	<u>W</u>	<u>w</u>

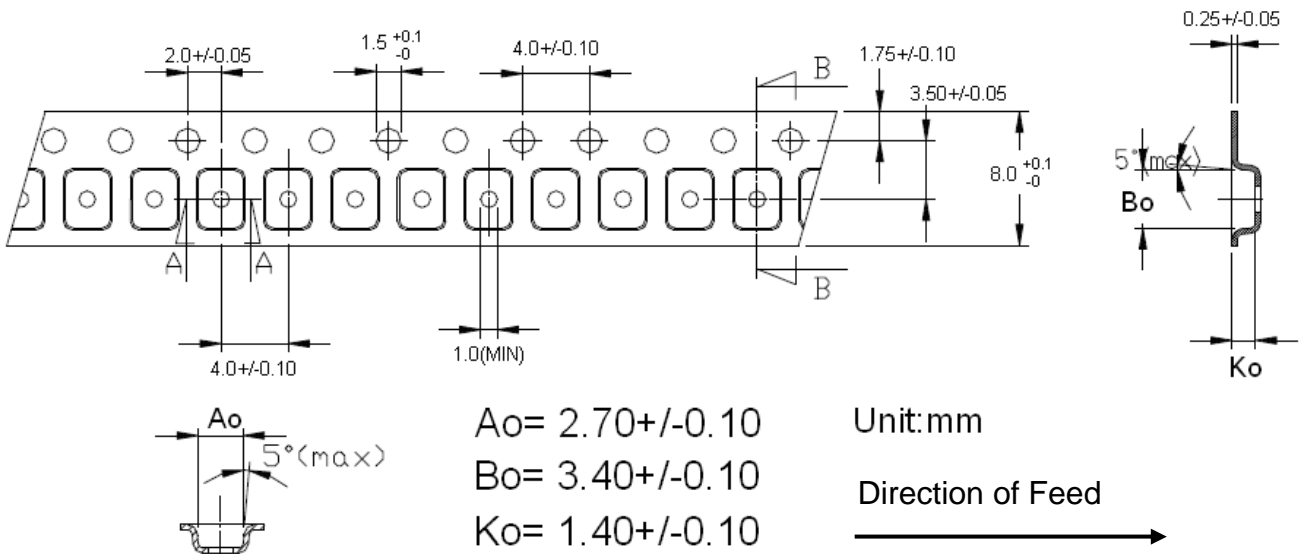
## Date Code Table

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

Reel Dimensions (mm):



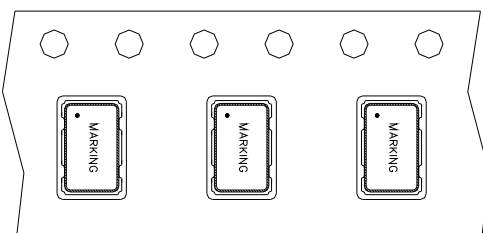
Tape Dimensions (mm):



[NOTE]:

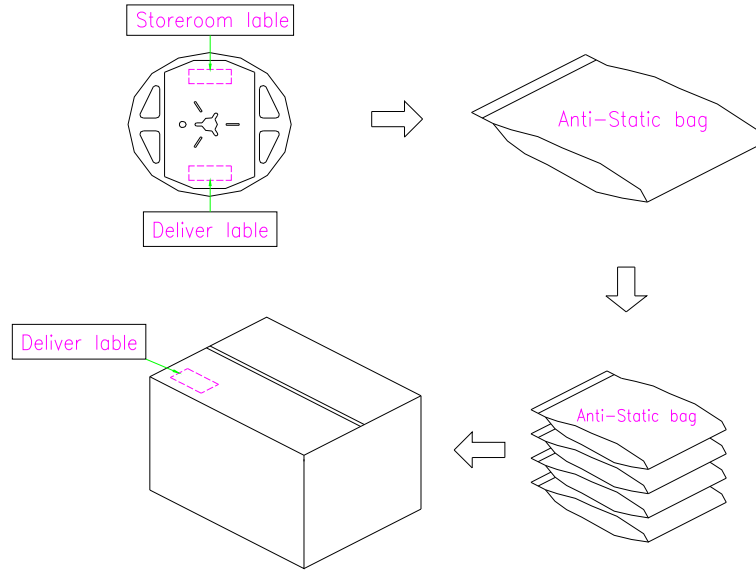
1. Unless otherwise specified tolerance on dimension  $\pm 0.1$  mm.
2. Material: conductive polystyrene with color black.
3. 10 pitch cumulative tolerance  $\pm 0.2$  mm.

PACKING DIRECTION:



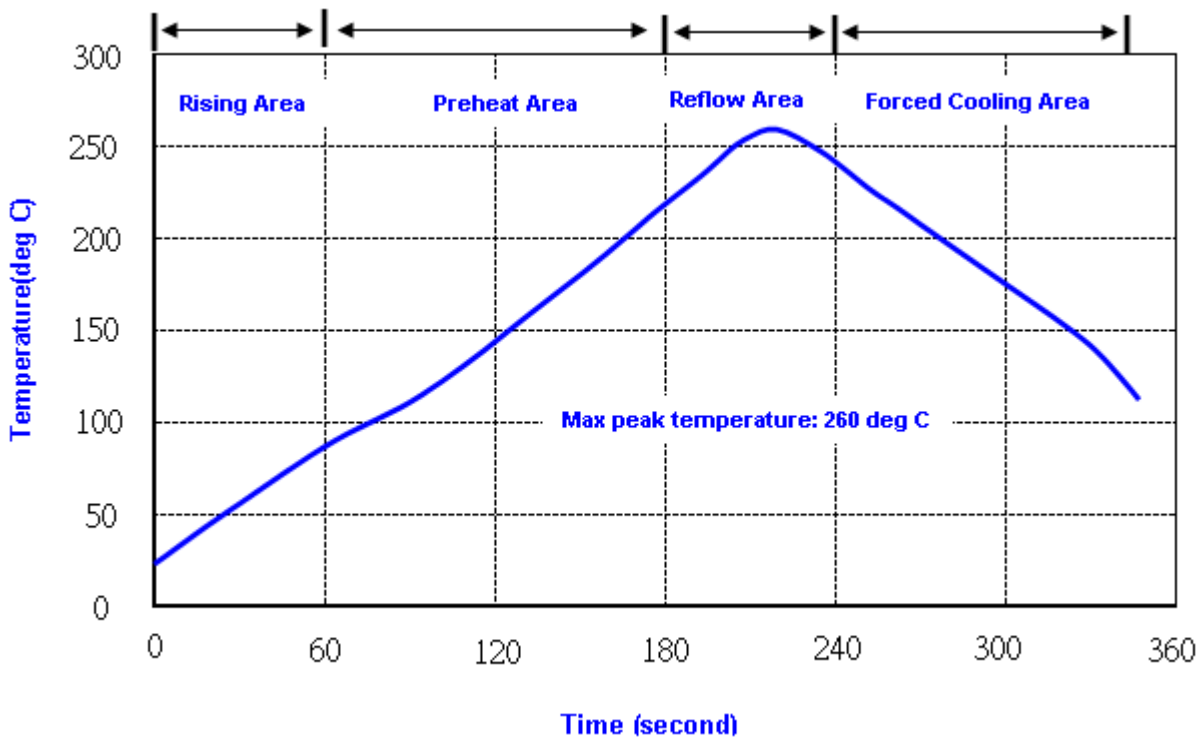
# Packing Quantity/Packing:

1K pcs maximum per reel



Deliver package carton  
 1. L36xW35xH21cm-10 reel max.  
 2. L38xW36xH32cm-15 reel max.

## 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 x2 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