



TAI-SAW TECHNOLOGY CO., LTD.

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Product Specifications Approval Sheet

Product Description: Crystal Unit SMD 3.2x2.5 24.00MHz

TST Part No.: TZ2441C

Customer Part No.: _____

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

Checked by: _____ Jeraul Chao *Jeraul Chao*

Approved by: _____ Kelly Huang *Kelly Huang*

Date: _____ 4/15/2013

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.
Crystal Unit SMD 3.2x2.5 24.00MHz

MODEL NO.: TZ2441C

REV. NO.: 1

Revise:

Rev.	Rev. Page	Rev. Account	Date	Ref. No.	Revised by
1	N/A	Initial release	4/15/13'	N/A	Jeraul Chao



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Crystal Unit SMD 3.2x2.5 24.00MHz

MODEL NO.: TZ2441C

REV. NO.: 1

Features:

- Surface Mount Hermetic Package
- Excellent Reliability Performance
- Good Frequency Perturbation and Stability over temperature
- Ultra Miniature Package

RoHS Compliant
Lead free
Lead-free soldering

Description and Applications:

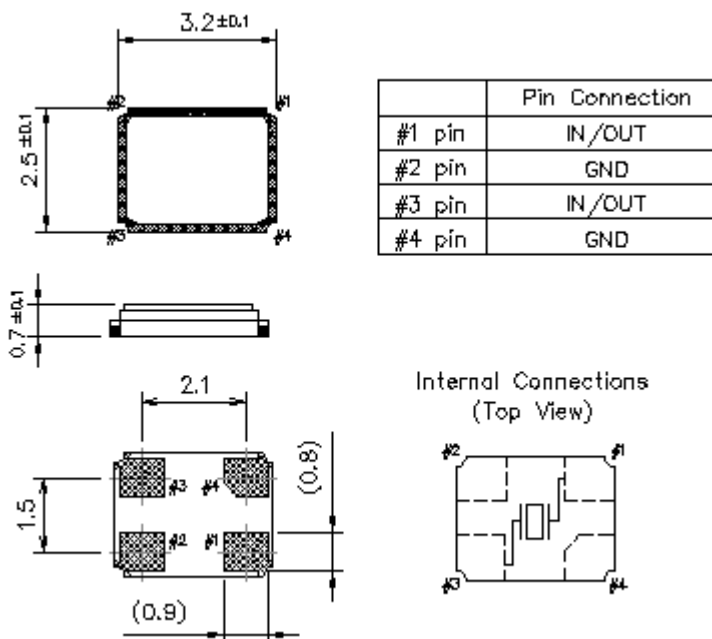
Surface mount 3.2mmx2.5mm crystal unit for use in wireless communications devices, especially for a need of ultra miniature package for mobility.

Electrical Specifications:

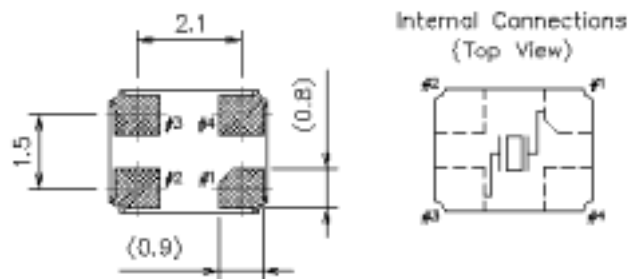
TZ2441C	Specification
Nominal Frequency	24.000000 MHz
Mode of Oscillation	Fundamental
Storage Temperature Range	-40°C to +85°C
Operating Temperature Range	-40°C to +85°C
Frequency Stability over Operating Temperature Range	+/-15 ppm (referred to the value at 25°C)
Frequency Make Tolerance (FL)	+/-10 ppm @ 25°C +/- 3°C
Equivalent Series Resistance (ESR)	60 Ω max
Nominal Drive Level	10uW typical and 100uW max
Shunt Capacitance (Co)	3.0 pF max
Load Capacitance (CL)	12 pF
Insulation Resistance	500 MΩ min./DC 100V
Aging	+/-1ppm
Marking	Laser Marking
Unit Weight	0.017+/-0.005 g

Mechanical Dimensions (mm):

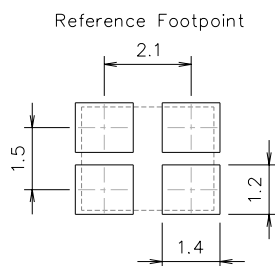
Base 1



Base 2



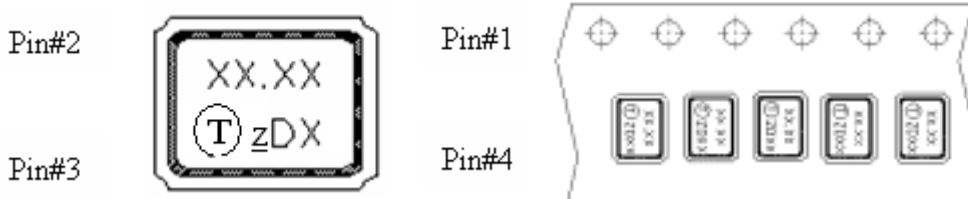
Recommended Land Pattern: (unit: mm)



Marking:

Line 1: Frequency (24.00)

Line 2: TST Logo + Crystal Product Code + Date Code + Traceability code(1 or 2 letters)



The inner vision of Pin#1, Pin#4 side is XTAL blank mounting pad.

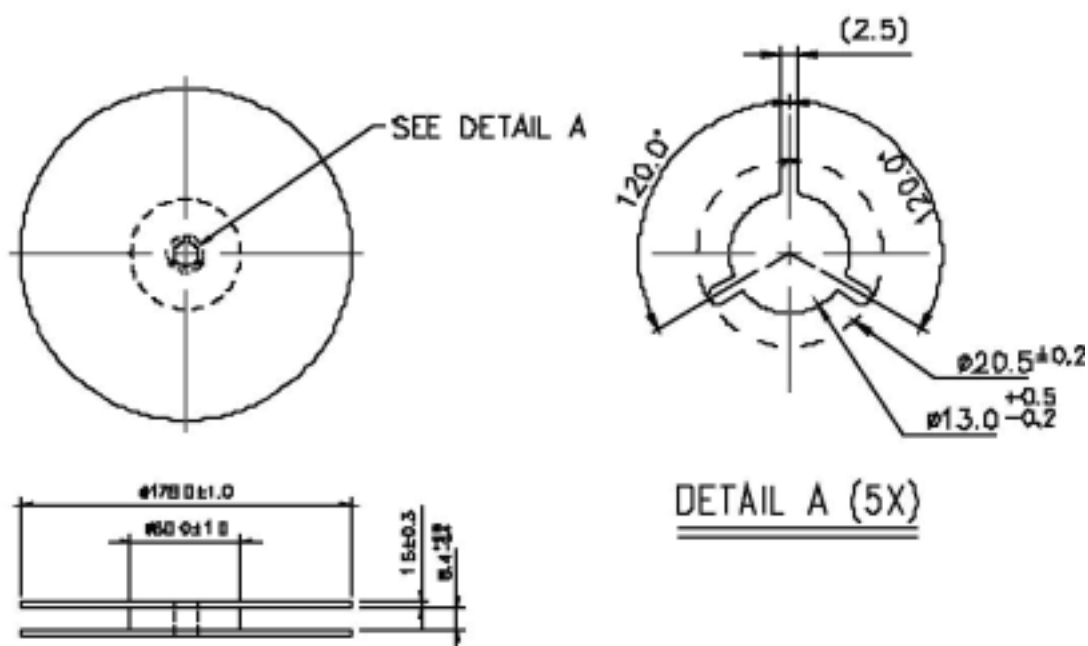
Product Code Table

Year	2009	2010	2011	2012
	2013	2014	2015	2016
	2017	2018	2019	2020
product code	Z	z	Z	z

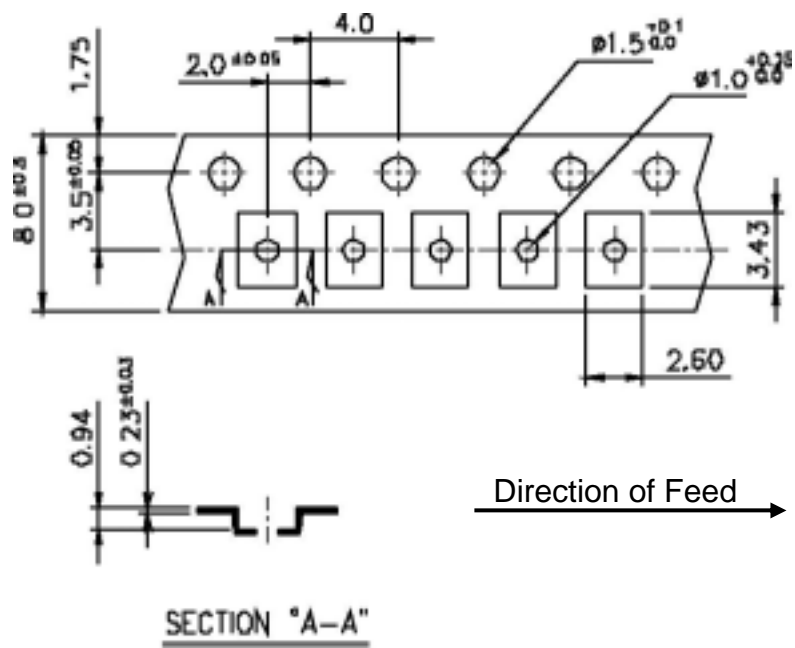
Date Code Table

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):

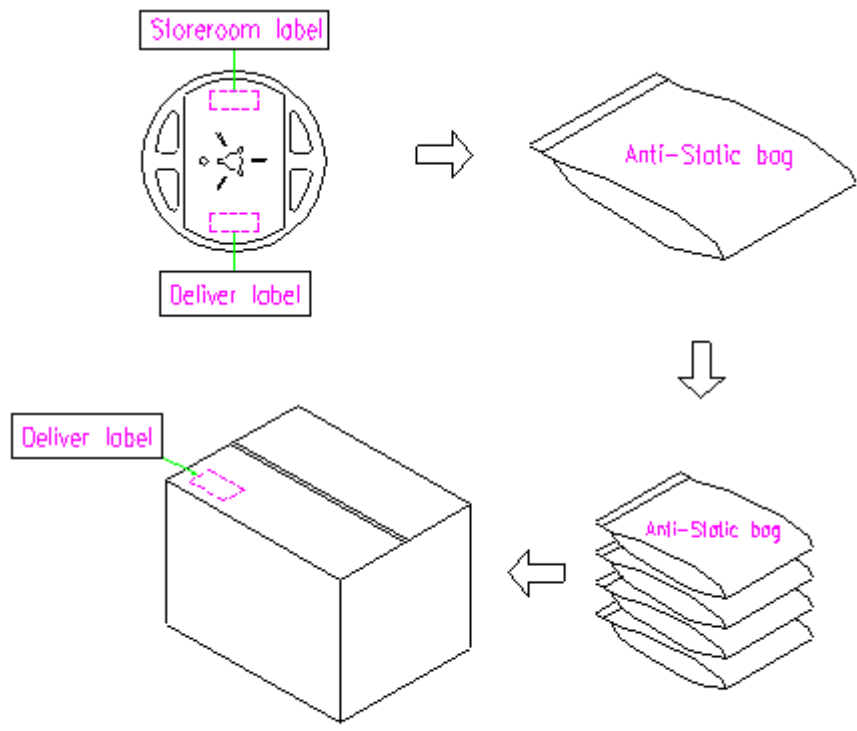


[NOTE]

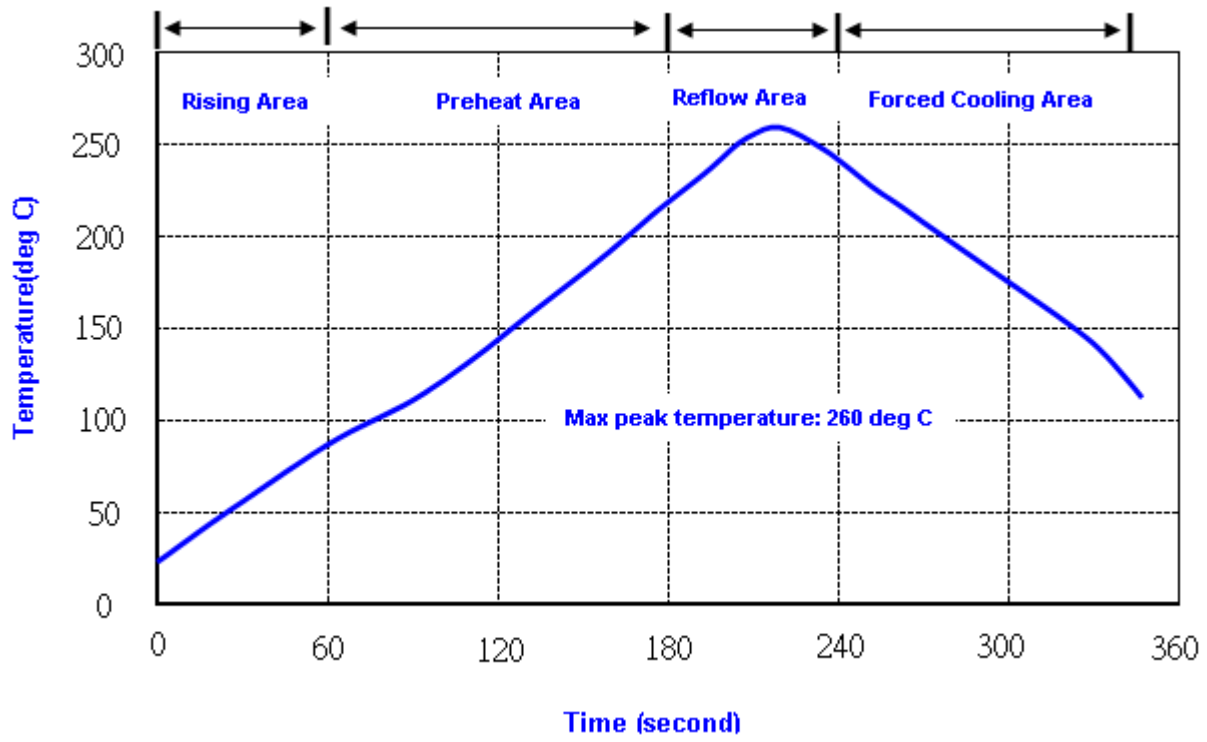
- 1 UNIT : mm.
- 2 UNLESS OTHERWISE SPECIFIED TOLERANCE ON DIM. ± 0.1 mm.
- 3 MATERIAL : CONDUCTIVE POLYSTYRENE.
- 4 COLOR : BLACK.
- 5 10 PITCHES CUMULATIVE TOLERANCE ± 0.2 mm.

Packing Quantity/Packing:

3K 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

