



TAI-SAW TECHNOLOGY CO., LTD.

No. 3, Industrial 2nd Rd., Ping-Chen Industrial District,
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Approval Sheet For Product Specification

Issued Date: 2/17/2004 (REV. NO: 2)

Product Name: SMD 5.0x3.2 40.0MHz Crystal Unit

TST Parts No.: TZ0227A

Customer Parts No. : _____

Company: _____
Division: _____
Approved by: _____
Date: _____

Checked by: _____ Jay Tseng

Approval by: _____ TF Yang

Date: _____ 2/17/2004



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SMD 5.0x3.2 40.0MHz Crystal Unit

MODEL NO.: TZ0227A

REV. NO.: 2

Features:

- Surface Mount Seam Weld Package
- Excellent Aging
- Good Frequency Perturbation and Stability over temperature
- Ultra Miniature Package

RoHS Compliant
Lead free
Lead-free soldering

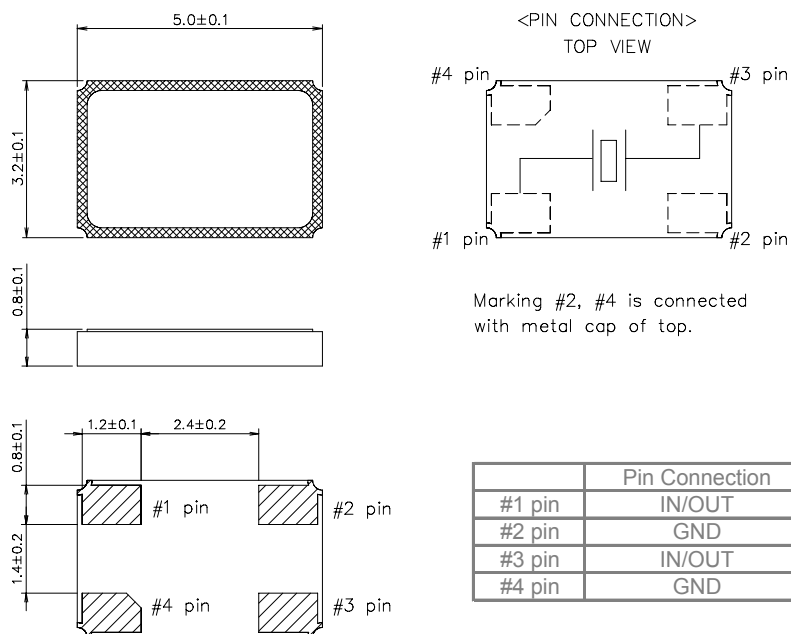
Description and Applications:

Surface mount 5.0mmx3.2mm crystal unit for use in wireless telecommunications devices, especially for a need of ultra miniature package for mobility.

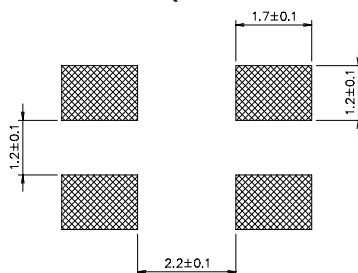
Electrical Specifications:

TZ0227A	Specification
Nominal Frequency	40.000000 MHz
Mode of Oscillation	Fundamental
Storage Temperature Range	-40°C to +85°C
Operating Temperature Range	-20°C to +70°C
Frequency Stability over Operating Temperature	+/-20 ppm (referred to the value at 25°C)
Frequency Make Tolerance (FL)	+/-10 ppm @ 25°C +/- 3°C
Equivalent Series Resistance (ESR)	30 Ω max
Nominal Drive Level	10 uW
Shunt Capacitance (Co)	3.0 pF max
Load Capacitance (CL)	20 pF
Drive Level Dependence (Max R) Drive Level Dependence (Delta R) Drive Level Dependence (Delta F)	40 Ω max 15 Ω max 15 ppm max 8 drive points (0.1,1,10,20,30,50,100,0.1 uW)
Insulation Resistance	500 MΩ min./DC 100V
Aging	+/- 1.0 ppm/year @25°C
Marking	Laser marking

Mechanical Dimensions (mm):



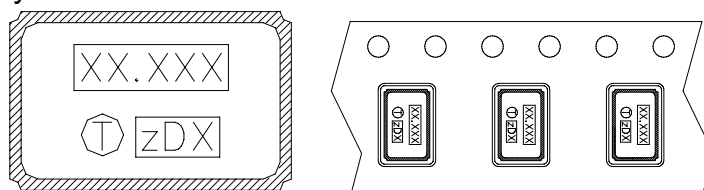
Recommended Land Pattern: (unit: mm)



Marking:

Line 1: Customer Frequency (40.000)

Line 2: TST Logo + Crystal Product Code + Date Code



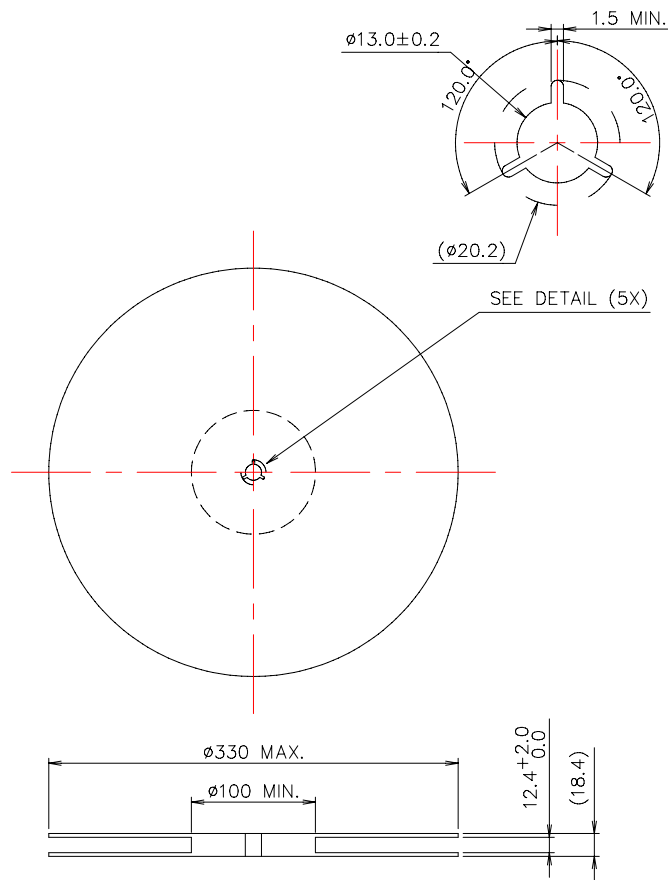
Product Code Table

Year	2001 2005	2002 2006	2003 2007	2004 2008
Product Code	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. Unless otherwise specified tolerance on dimension ± 0.1 mm.
2. Material: conductive polystyrene with color black.
3. 10 pitch cumulative tolerance ± 0.2 mm.

Reflow Profile:

1. Preheating shall be fixed at 140 ~ 160 °C for 60 ~ 90 seconds.
2. Ascending time to preheating temperature 150 °C shall be 30 seconds min.
3. Heating shall be fixed at 200 °C for 50 ~ 60 seconds and at 230±10 °C peak.

