



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

Approval Sheet For Product Specification

Issued Date: 2/16/2005 (REV. NO: 2)

Product Name: SMD 3.5x6 20.945MHz Crystal Resonator

TST Parts No.: TZ0151A

Customer Parts No.: _____

Company: _____

Division: _____

Approved by : _____

Date: _____

Checked by: _____ Kelly Huang

Approval by: _____ TF Yang

Date: _____ 2/16/2005



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

SMD 3.5x6 20.945MHz Crystal Resonator

MODEL NO.: TZ0151A

REV. NO.: 2

Features:

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

RoHS Compliant
Lead free
Lead-free soldering

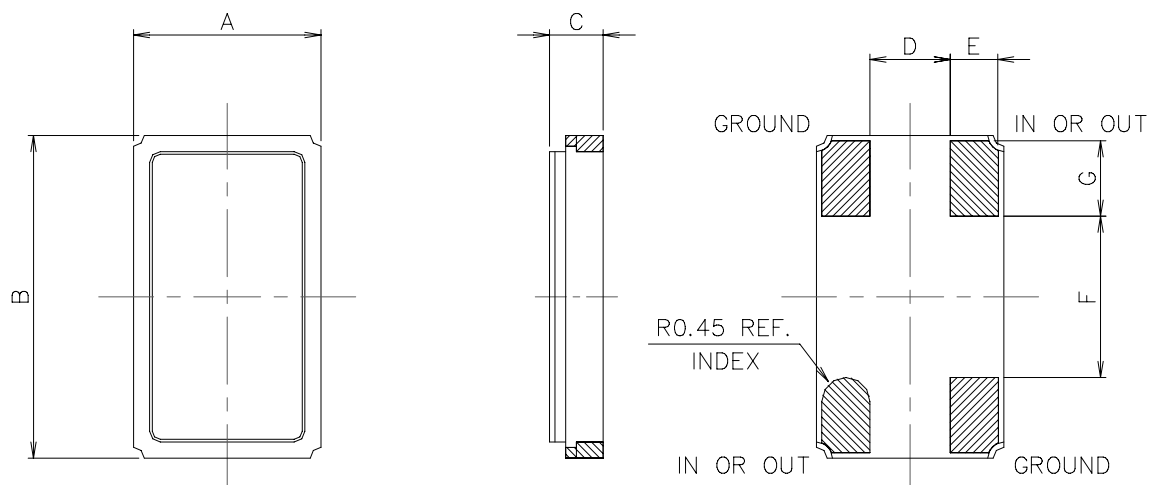
Description and Applications:

Surface mount 3.5mmx6.0mm crystal resonator for use in wireless telecommunications devices, especially for a need of ultra miniature package for mobility.

Electrical Specifications:

TZ0151A	Specification
Nominal Frequency	20.945000 MHz
Mode of Oscillation	Fundamental
Storage Temperature Range	-40°C to +85°C
Operating Temperature Range	-20°C to +60°C
Frequency Stability over Operating Temperature Range	+/-15 ppm
Frequency Perturbation	+/-1.0 ppm
Drive Level	100 uW nominal
Frequency Make Tolerance (FL)	+/-5 ppm @ 25°C +/- 3°C
Equivalent Series Resistance (ESR)	35 Ω max.
Shunt Capacitance (Co)	3 pF max
Load Capacitance (CL)	22 pF
Pulling Sensitivity	3.0 ppm/pF min (@22 pF Load)
Aging	+/-1.0 ppm/year @25°C
Marking	Laser marking

Mechanical Dimensions (mm):

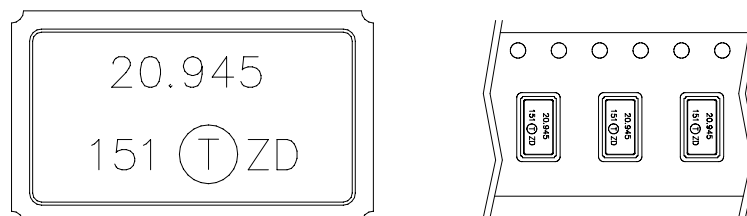


UNIT \ ITEM	A	B	C	D	E	F	G
MM	3.5 ±0.13	6.0 ±0.13	1.0 ±0.16	1.5 ±0.13	0.9 REF.	3.0 ±0.13	1.4 REF.

Marking:

Line 1 : 20.945 (Frequency)

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



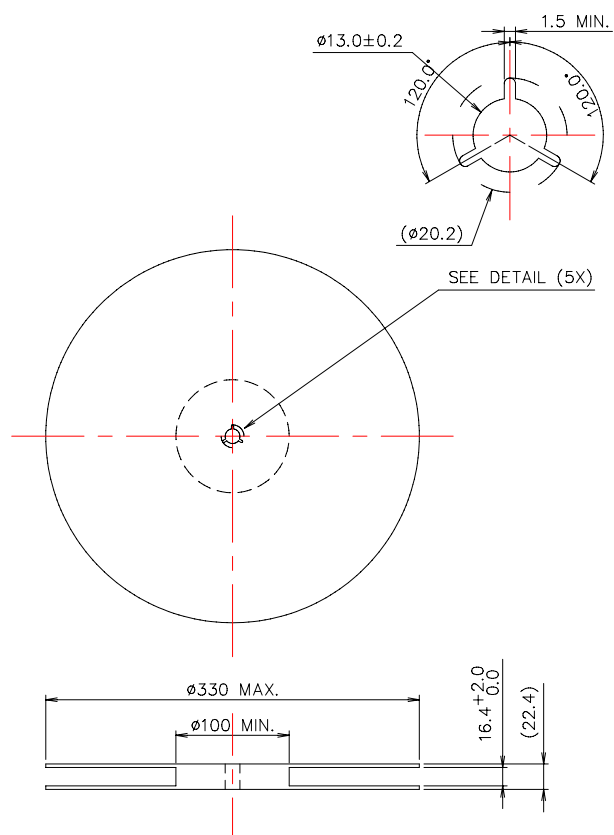
Product Code Table

Year	2001 2005	2002 2006	2003 2007	2004 2008
Product Code	Z	z	<u>Z</u>	<u>z</u>

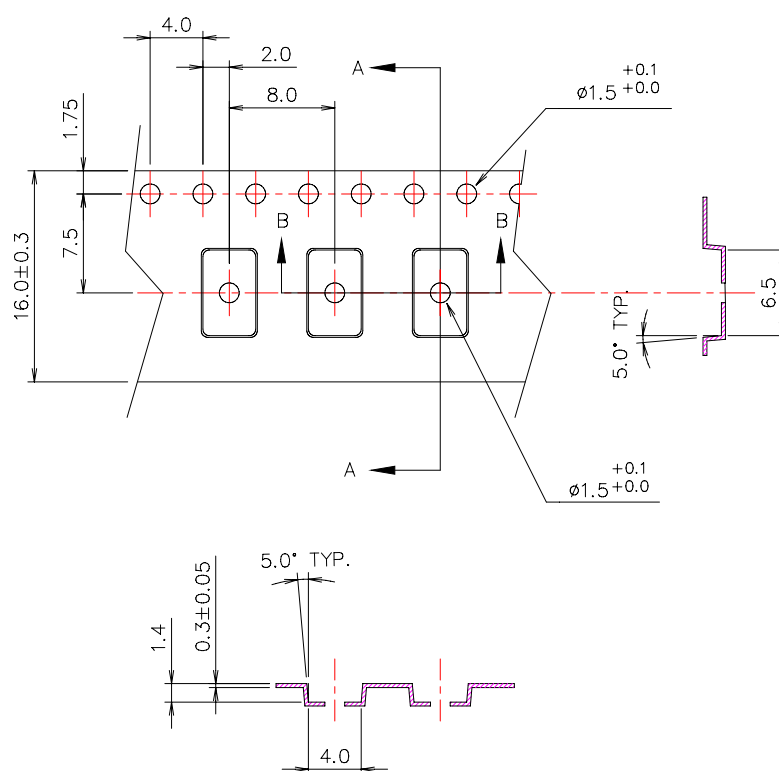
Date Code Table

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):



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.

