



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: 12/19/2002 (REV. NO: 1)

Product Name: SMD 3.5x6 13.0MHz Crystal Unit

TST Parts No.: TZ0157A

Customer Parts No.: _____

Company: _____

Division: _____

Approved by : _____

Date: _____

Checked by: _____ CC Hsu

Approval by: _____ TF Yang

Date: _____ 12/19/2002



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SMD 3.5x6 13.0MHz Crystal Unit

MODEL NO.: TZ0157A

REV. NO.: 1

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

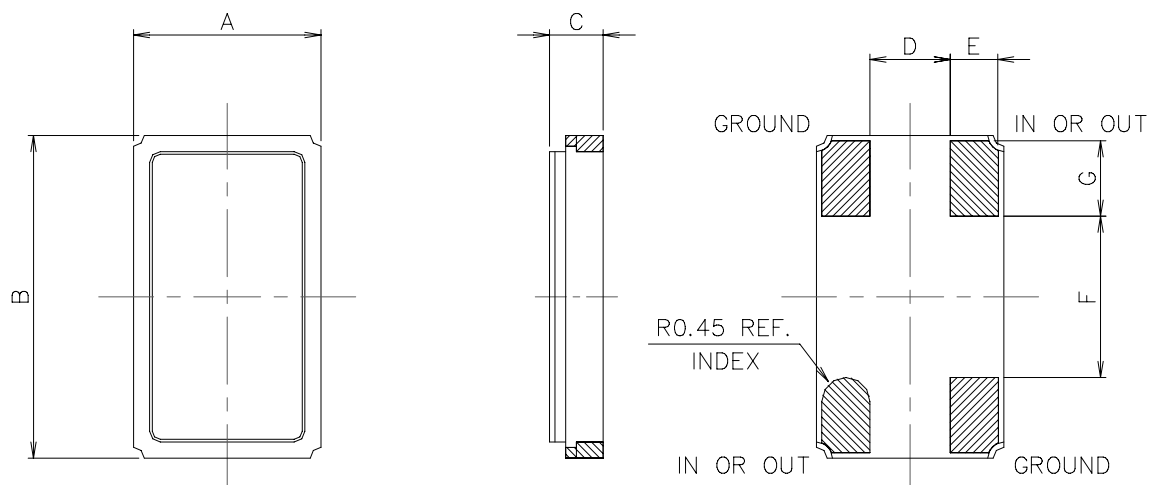
Description and Applications:

Surface mount 3.5mmx6.0mm crystal unit for use in wireless telecommunications devices.

Electrical Specifications:

TZ0157A	Specification
Nominal Frequency	13 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	+/-10 ppm
Activity Dips	+/- 0.5 ppm/deg C
Drive Level	100 uW nominal
Frequency Make Tolerance	+/-10 ppm @ 25°C +/- 3°C
Resonance Resistance (ESR)	40 Ω max.
Shunt Capacitance (Co)	4 pF max
Load Capacitance-CL	16 pF
Pulling Sensitivity (@ Load 16 pF)	8 ppm/pF min (10 ppm/pF typical)
Aging	± 1.5 ppm/year @25°C
Marking	Laser marking

Mechanical Dimensions (mm):

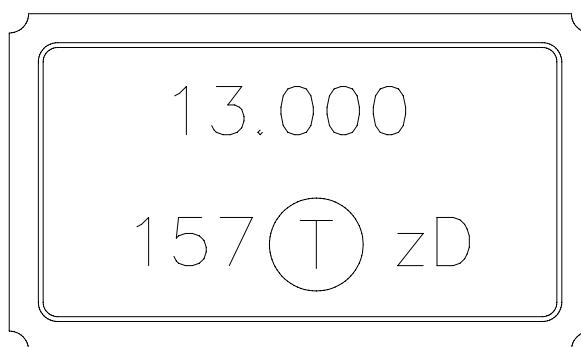


UNIT \ ITEM	A	B	C	D	E	F	G
MM	3.5 ±0.13	6.0 ±0.13	1.0 ±0.16	1.5 ±0.13	0.9 REF.	3.0 ±0.13	1.4 REF.

Marking:

First line: Frequency

Second line: model number+TST Logo+Crystal Family+Date code

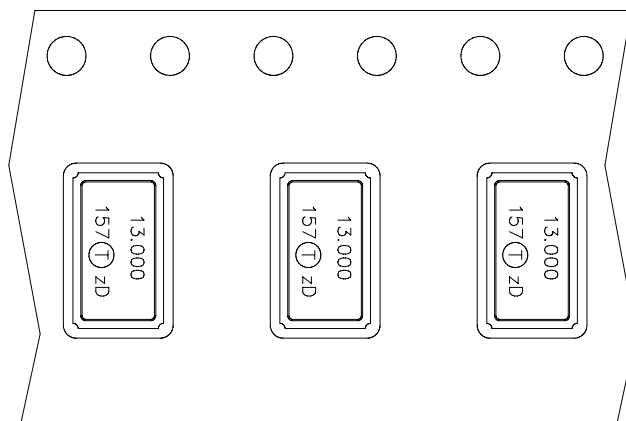


Product Code Table

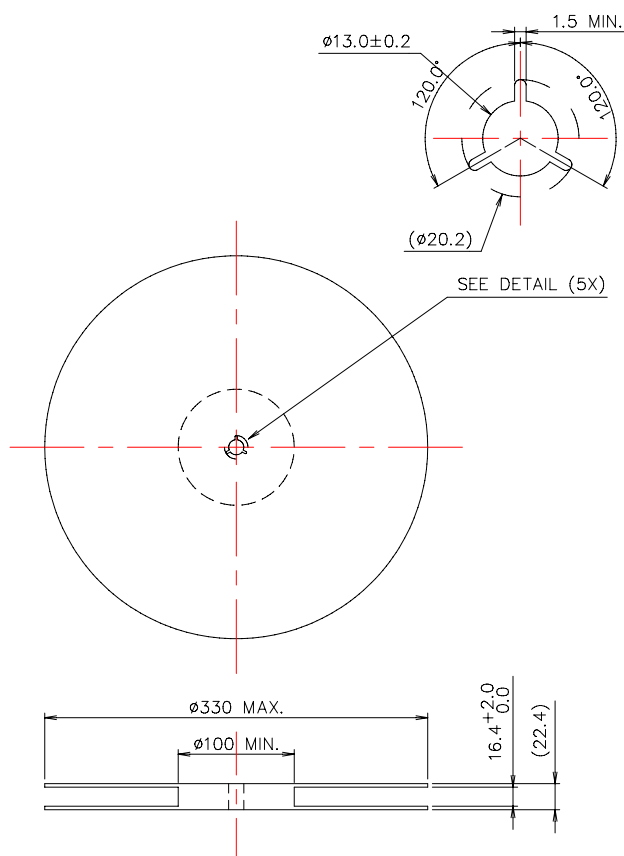
Year	2001 2005	2002 2006	2003 2007	2004 2008
Product Code	Z	z	<u>Z</u>	<u>z</u>

Date Code Table

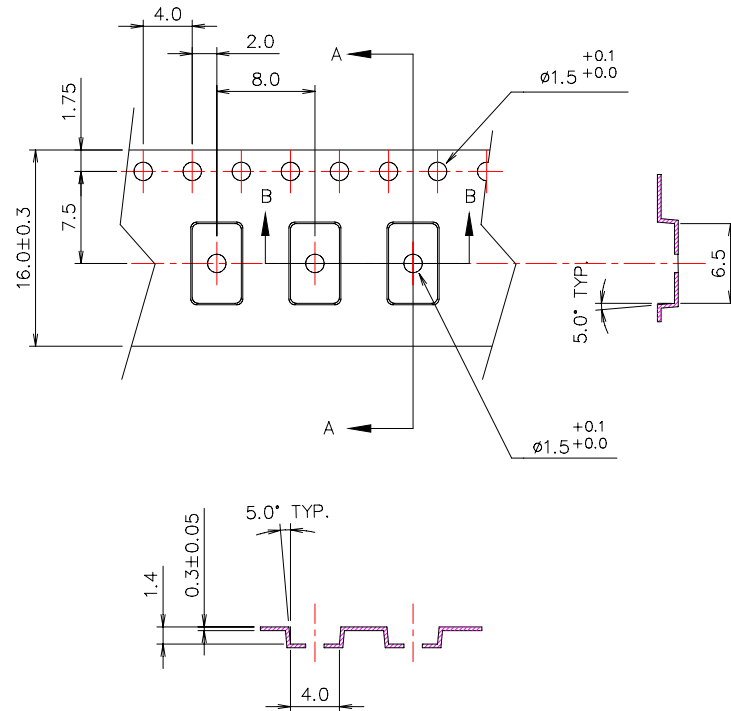
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A	B	C	D	E	F	G	H	I	J	K	L	M
WK14	WK15	WK16	WK17	WK18	WK19	WK20	WK21	WK22	WK23	WK24	WK25	WK26
N	O	P	Q	R	S	T	U	V	W	X	Y	Z
WK27	WK28	WK29	WK30	WK31	WK32	WK33	WK34	WK35	WK36	WK37	WK38	WK39
a	b	c	d	e	f	g	h	i	j	k	l	m
WK40	WK41	WK42	WK43	WK44	WK45	WK46	WK47	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.

