



TAI-SAW TECHNOLOGY CO., LTD.

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Approval Sheet For Product Specification

Issued Date: 9/15/2004 (REV. NO: 1)

Product Name: SMD 4.0x2.5 12.0MHz Crystal Unit

TST Parts No.: TZ0433A

Customer Parts No : _____

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

Checked by: _____ Kelly Huang

Approval by: _____ TF Yang

Date: _____ 9/15/2004



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SMD 4.0x2.5 12.0MHz Crystal Unit

MODEL NO.: TZ0433A

REV. NO.: 1

Features:

- Surface Mount Seam Weld Package
- Excellent Reliability Performance
- Good Frequency Perturbation and Stability over Temperature
- Ultra Miniature Package

RoHS Compliant
Lead free
Lead-free soldering

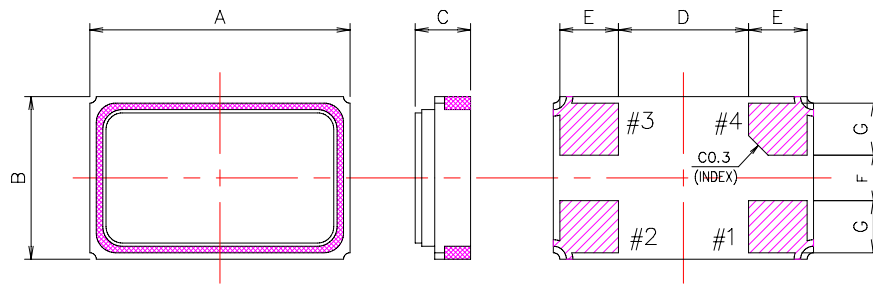
Description and Applications:

Surface mount 4.0mmx2.5mm crystal unit for use in wireless telecommunications devices, especially for a need of ultra miniature package for mobility.

Electrical Specifications:

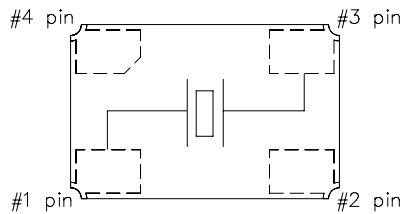
TZ0433A	Specification
Nominal Frequency	12.000000 MHz
Mode of Oscillation	Fundamental
Storage Temperature Range	-40°C to +85°C
Operating Temperature Range	-40°C to +85°C
Frequency Stability over Operating Temperature Range	+/-25 ppm (referred to the value at 25°C)
Frequency Make Tolerance (FL)	+/-10 ppm @ 25°C +/- 3°C
Equivalent Series Resistance (ESR)	100 Ω max.
Nominal Drive Level	10 uW
Shunt Capacitance (Co)	3 pF max
Load Capacitance (CL)	12 pF
Marking	Laser Marking

Mechanical Dimensions (mm):



UNIT \ ITEM	A	B	C	D	E	F	G
mm	4.0 ±0.10	2.5 ±0.10	0.80 MAX.	2.0 REF.	0.9 ±0.10	0.7 REF.	0.8 ±0.10

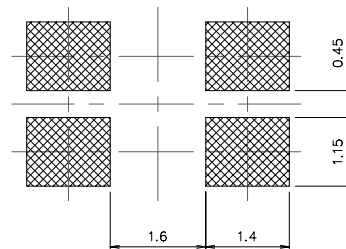
<PIN CONNECTION>
TOP VIEW



	Pin Connection
#1 pin	IN/OUT
#2 pin	GND
#3 pin	IN/OUT
#4 pin	GND

Marking #2, #4 is connected with metal cap of top.

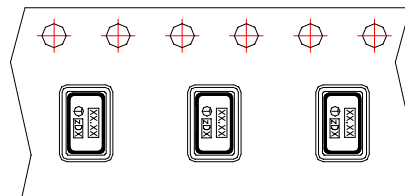
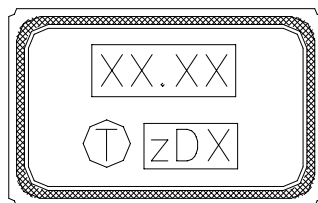
Recommended Land Pattern (mm):



Marking:

Line 1: Frequency (12.00)

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	⌊	⌋

[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.

