



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: 10/28/2002 (REV. NO: 1)

Product Name: SMD 5.0x3.2 13.0MHz Crystal Unit

TST Parts No.: TZ0169A

Customer Parts No.: _____

Company: _____

Division: _____

Approved by: _____

Date: _____

Checked by: _____ Kelly Huang

Approval by: _____ TF Yang

Date: _____ 10/28/2002



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SMD 5.0x3.2 13.0MHz Crystal Unit

MODEL NO.: TZ0169A

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

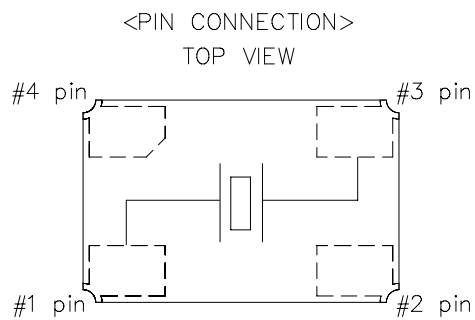
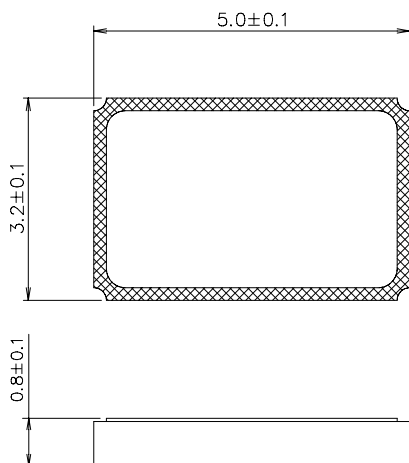
Description and Applications:

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

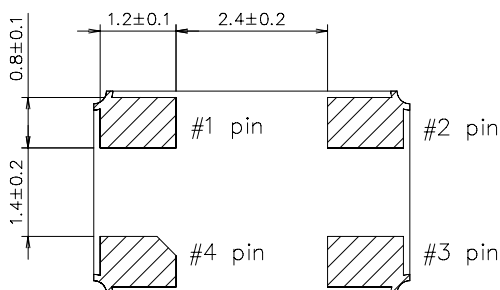
Electrical Specifications:

TZ0169A	Specification
Nominal Frequency	13.0 MHz
Mode of Oscillation	Fundamental
Storage Temperature Range	-40°C to +85°C
Operating Temperature Range	-20°C to +85°C
Frequency Stability over Operating Temperature	+/-10 ppm (referred to the value at 25°C)
Frequency Make Tolerance	+/-10 ppm @ 25°C +/- 3°C
Equivalent Series Resistance (Rs)	40 Ω max.
Drive Level	10+/-2 uW
Shunt Capacitance (Co)	2.0 pF max
Load Capacitance (CL)	8 pF +/-0.2 pF
Pulling Sensitivity	22.5 ppm/pF +/-15% (@8 pF Load)
Aging	$\pm$ 1.0 ppm/year @25°C
Insulation Resistance	500 M Ω min./DC 100V
Marking	Laser marking

Mechanical Dimensions (mm):

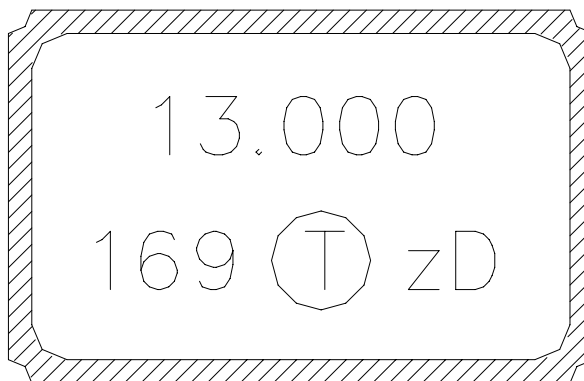


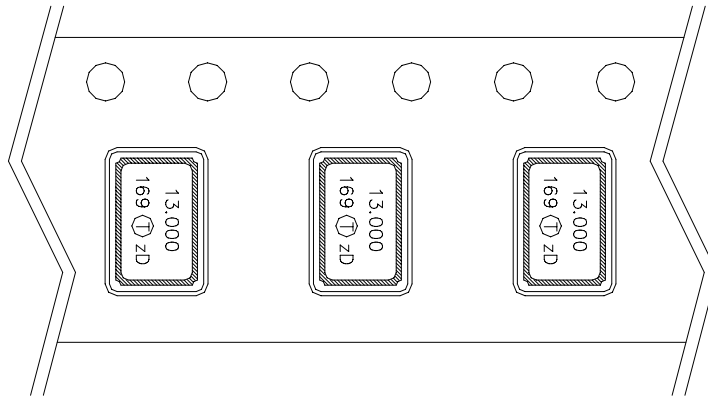
Marking #2, #4 is connected with metal cap of top.



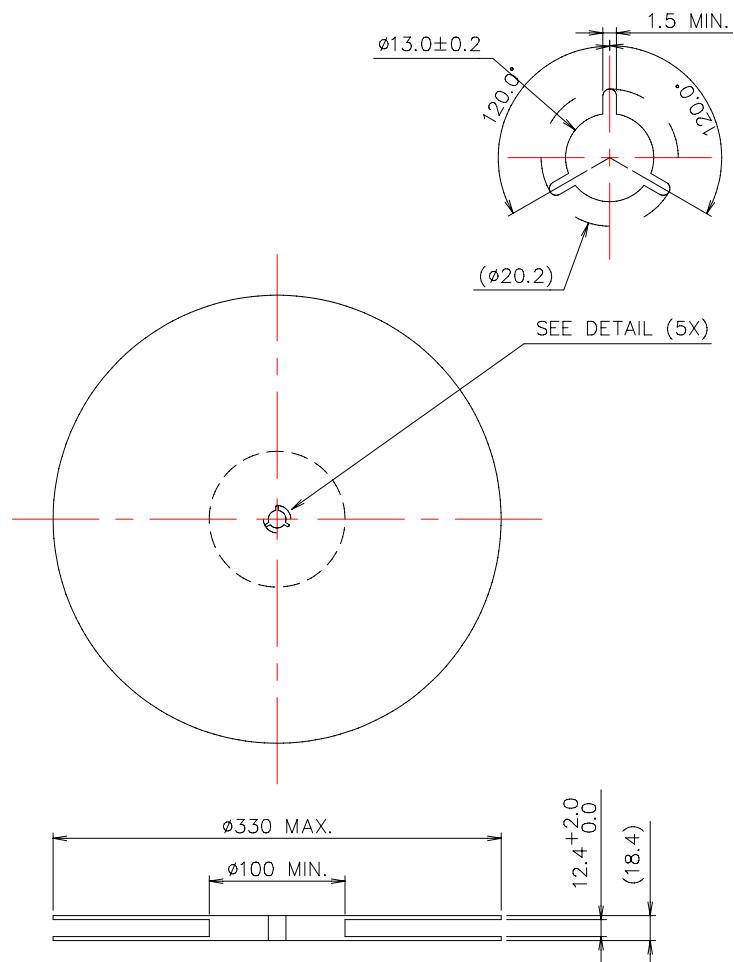
	Pin Connection
#1 pin	IN/OUT
#2 pin	GND
#3 pin	IN/OUT
#4 pin	GND

Marking:

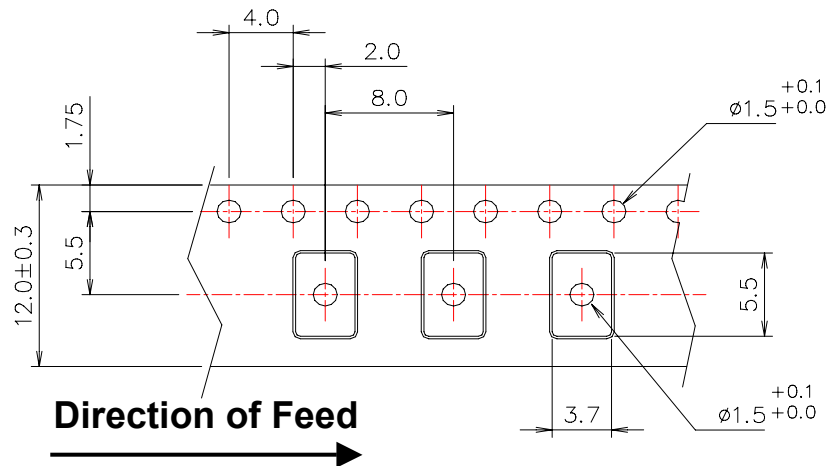




Reel Dimensions (mm):



Tape Dimensions (mm):



[NOTE]:

1. Unless otherwise specified tolerance on dimension +/-0.1 mm.
2. Material: conductive polystyrene.
3. Color: black.
4. 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.

