



# TAI-SAW TECHNOLOGY CO., LTD.

No. 3, Industrial 2nd Rd., Ping-Chen Industrial District,  
Taoyuan, 324, Taiwan, R.O.C.

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## Product Specifications Approval Sheet

Product Description: Crystal Unit 3.2x1.5 32.768KHz

TST Part No.: TZ1006A

Customer Part No.: \_\_\_\_\_

Customer signature required
Company: _____
Division: _____
Approved by : _____
Date: _____

Checked by: \_\_\_\_\_ Ginger Huang *Ginger Huang*

Approved by: \_\_\_\_\_ Kelly Huang *Kelly Huang*

Date: \_\_\_\_\_ 01/04/2013

1. Customer signed back is required before TST can proceed with sample build and receive orders.
2. Orders received without customer signed back will be regarded as agreement on the specifications.
3. Any specifications changes must be approved upon by both parties and a new revision of specifications shall be released to reflect the changes.



**TAI-SAW TECHNOLOGY CO., LTD.**  
**3.2x1.5 32.768KHz Crystal Unit**

MODEL NO.: TZ1006A

REV. NO.: 9.0

**Revise:**

Rev.	Rev. Page	Rev. Account	Date	Ref. No.	Reviser
4	P.4	ECN.#201000116	03/24/10'	5.0	Quinton Lo
5	P.3~4	Change Features & Mechanical Dimensions	12/02/11'	6.0	Ginger Huang
6	P.4~5	Change base 1 drawing and making rule	05/30/12'	7.0	Ginger Huang
7	P.3	Add Shunt Capacitance Spec	10/11/12'	ECN-201200289	Ginger Huang
8	P.3	Change Electrical Spec	01/04/13'	ECN-201300009	Ginger Huang



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## SMD 3.2x1.5 32.768KHz Crystal Unit

MODEL NO.: TZ1006A

REV. NO.: 9.0

### Features:

- Ceramic Seam Weld Package or Ceramic Glass Seal Package
- Excellent Reliability Performance
- Ultra Miniature Package
- Available to Surface Mount Technology and IR Reflow Process

RoHS Compliant  
Lead free  
Lead-free soldering

### Description and Applications:

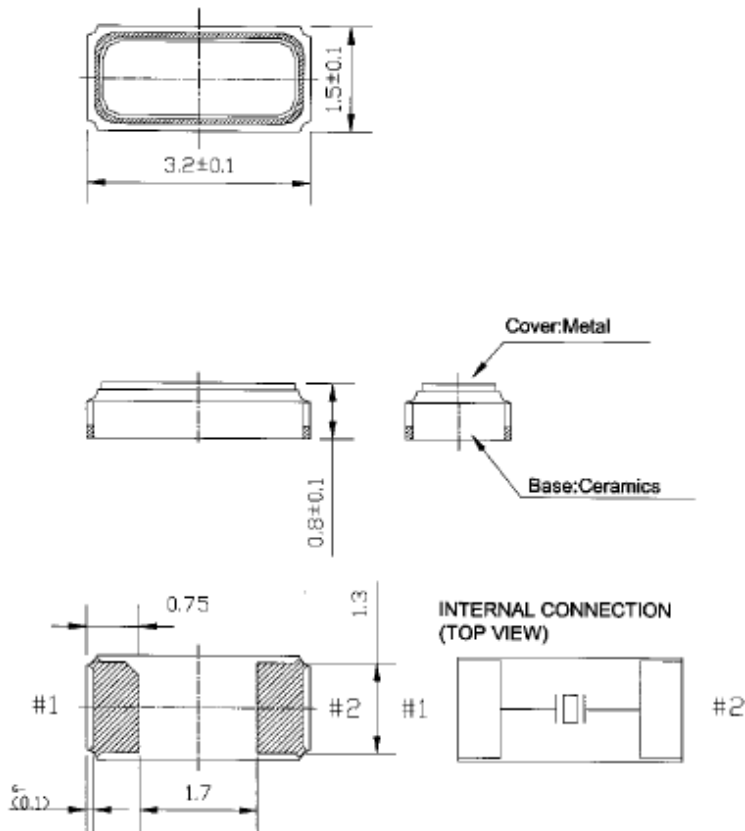
Surface mount 3.2mmx1.5mm crystal unit for use in communications devices,.

### Electrical Specifications:

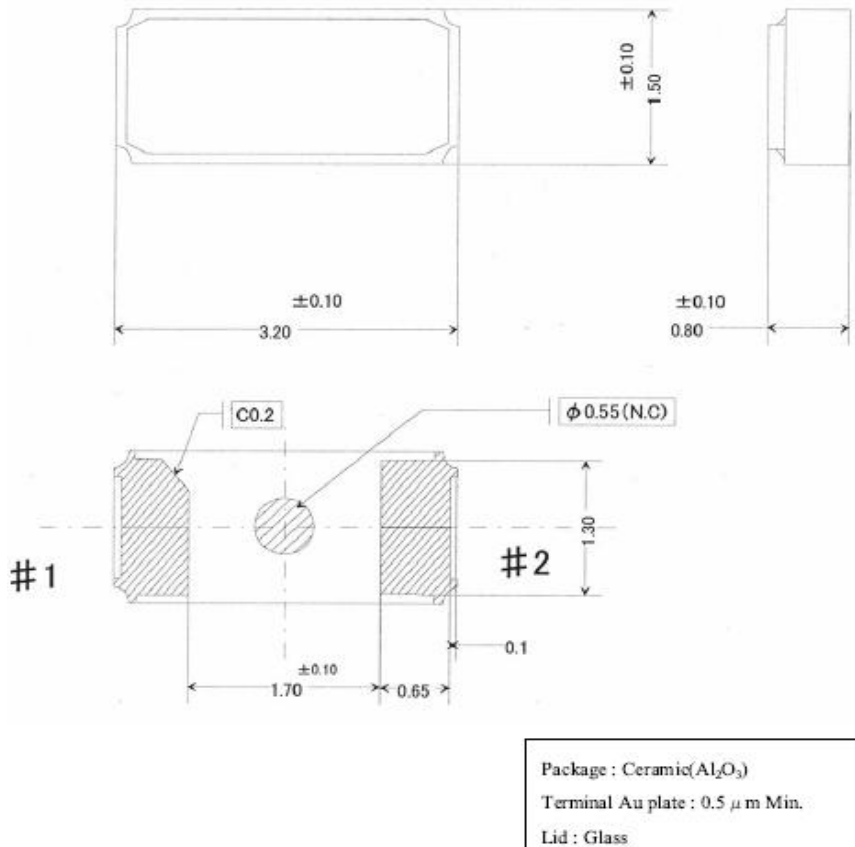
TZ1006A	Specification
Nominal Frequency	32.768000 KHz
Operating Temperature Range	-40°C to +85°C
Turnover Temperature	25 +/- 5 °C
Parabolic Curvature Constant	-0.04 ppm / °C <sup>2</sup> max.
Frequency Make Tolerance (FL)	+/-20 ppm @ 25°C +/- 2°C
Equivalent Series Resistor (ESR)	80 kΩ max.
Drive Level	1.0 uW max.
Load Capacitance (CL)	12.5 pF
Shunt Capacitance (Co)	2.0 pF max ; 0.9 pF typ.
Aging	+/-3.0 ppm/year @25°C
Marking	Laser marking
Insulation Resistance	500M Ω min at DC 100V

# Mechanical Dimensions (mm):

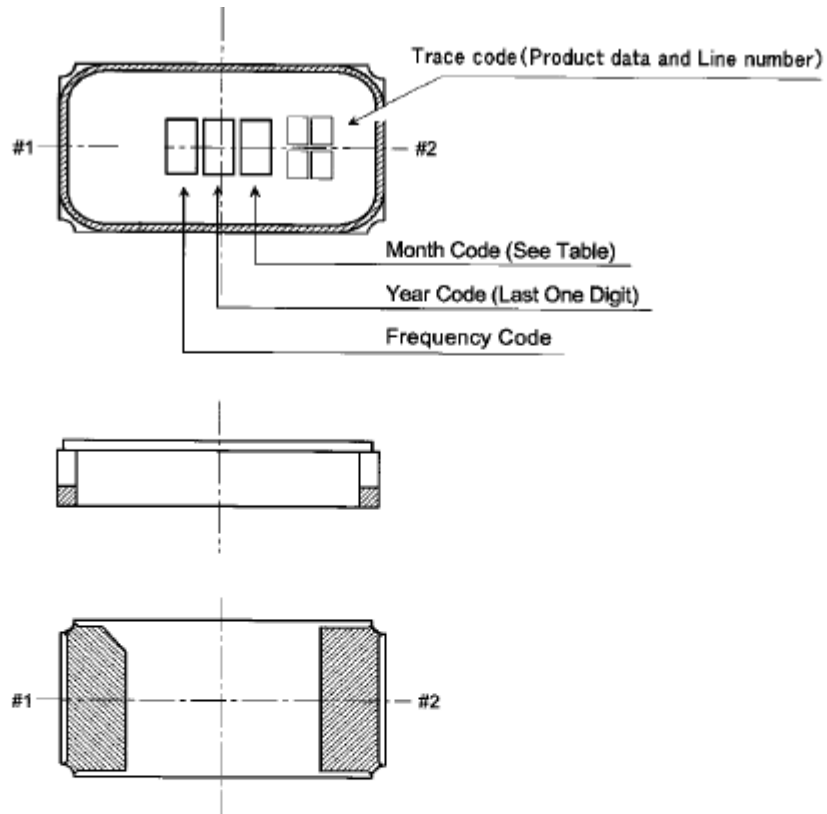
## Base1



## Base2



# Base 1 Marking:



**NOTE**

**1. Month Code**

Month	1 Jan.	2 Feb.	3 Mar.	4 Apr.	5 May	6 June	7 July	8 Aug.	9 Sep.	10 Oct.	11 Nov.	12 Dec.
Month Code	1	2	3	4	5	6	7	8	9	X	Y	Z

**2. Frequency Code**

A : 32.768kHz

**3. Marking Method**

Marking Method is Laser Trimming.

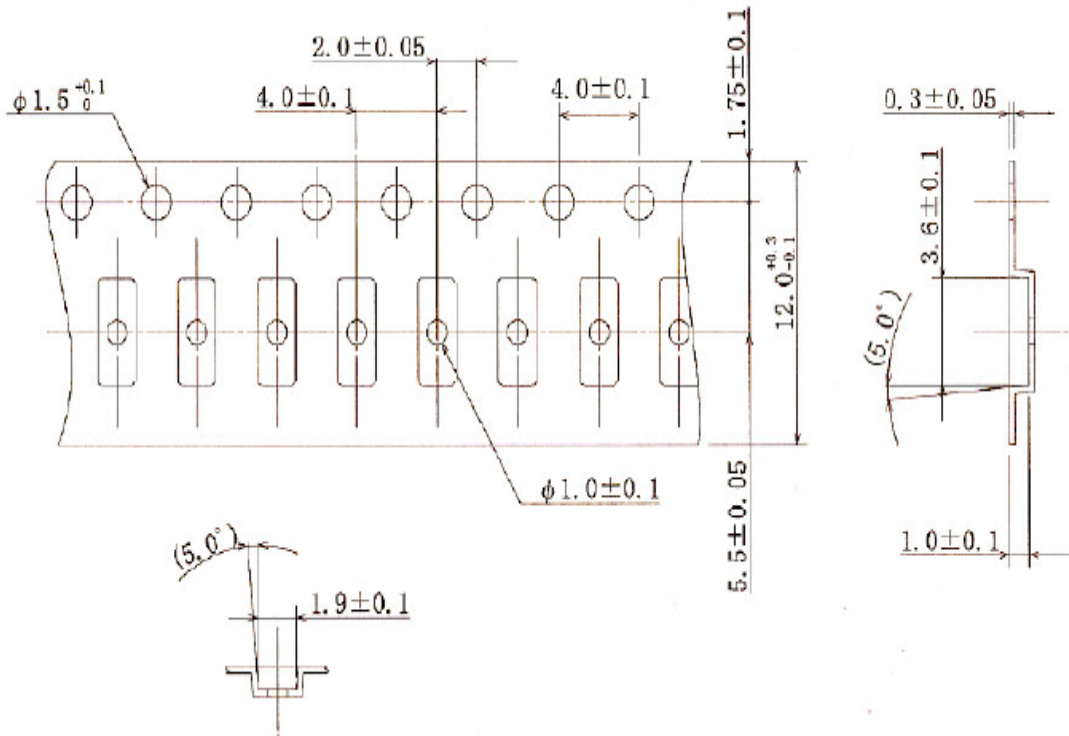
## Base 2 Marking:

Line1 : A (Frequency) + Y (Year code : 9 for 2009) + W (Week code) + X (Traceability Code)

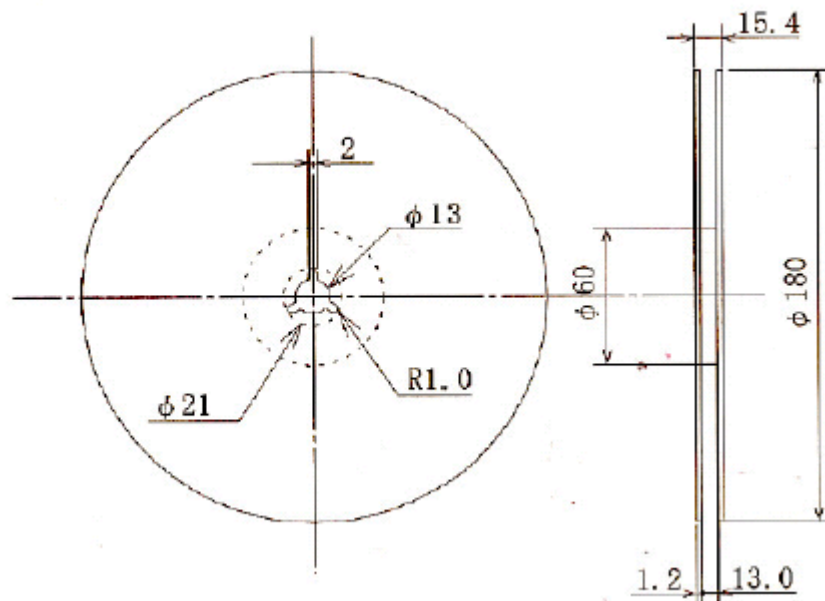
AYWWX

## Tape / Reel and Packing:

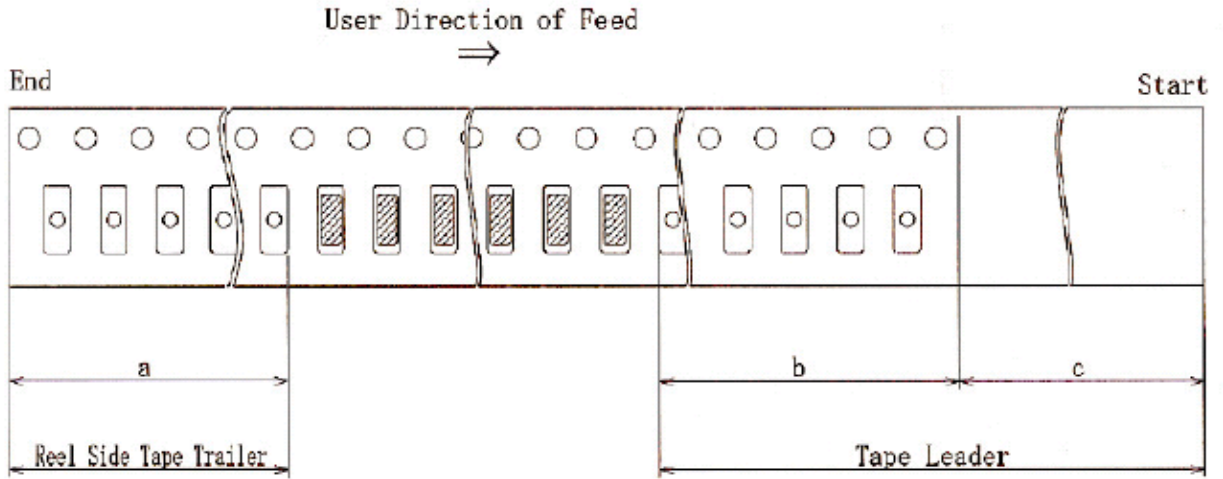
### 【Tape Dimensions】



### 【Reel Dimensions】



**【Packing】**



**Tape Trailer**

- a. Cover Tape 300mm or more
- Empty Pockets 40 pcs or more

**Tape Leader**

- b. Empty Pockets 27+/-2 pcs
- c. Cover Tape 240mm or more

**Reflow Profile:**

