



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

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Product Specifications Approval Sheet

Product Description: Crystal Unit 2.0x1.2 32.768KHz

TST Part No.: TZ2065A

Customer Part No.: _____

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

Checked by: _____ Ginger Huang *Ginger Huang*

Approved by: _____ Kelly Huang *Kelly Huang*

Date: _____ 01/27/2014

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.
2.0x1.2 32.768KHz Crystal Unit

MODEL NO.: TZ2065A

REV. NO.: 4.0

Revise:

Rev.	Rev. Page	Rev. Account	Date	Ref. No.	Reviser
1	N/A	Initial release	07/12/10'	N/A	Ginger Huang
2	P4	Marking Change	07/28/10'	ECN-201000269	Ginger Huang
3	P4	Marking Change	08/09/10'	ECN-201000281	Ginger Huang
4	P4	Change Marking	01/27/14'	ECN-201400071	Ginger Huang



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SMD 2.0x1.2 32.768KHz Crystal Unit

MODEL NO.: TZ2065A

REV. NO.: 4.0

Features:

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

RoHS Compliant
Lead free
Lead-free soldering

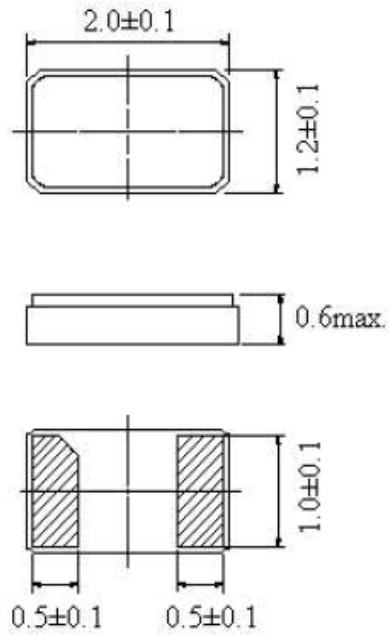
Description and Applications:

Surface mount 2.0mmx1.2mm crystal unit for use in communications devices,.

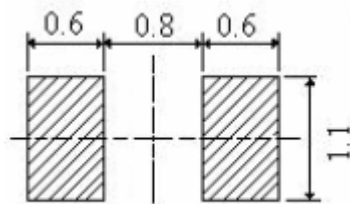
Electrical Specifications:

TZ2065A	Specification
Nominal Frequency	32.768000 KHz
Storage Temperature Range	-40°C to +85°C
Operating Temperature Range	-40°C to +85°C
Turnover Temperature	25 +/- 5 °C
Parabolic Curvature Constant	-0.027 ppm / °C ² max.
Frequency Make Tolerance (FL)	+/-20 ppm @ 25°C +/- 2°C
Equivalent Series Resistor (ESR)	90 kΩ max.
Shunt Capacitance (Co)	2.0 pF Max.
Drive Level	0.5 uW max.
Load Capacitance (CL)	12.5 pF
Aging	+/-3.0 ppm/year @25°C
Marking	Laser marking
Insulation Resistance	500M Ω min at DC 100V

Mechanical Dimensions (mm):



Recommended Land Pattern: (unit: mm)



Marking:

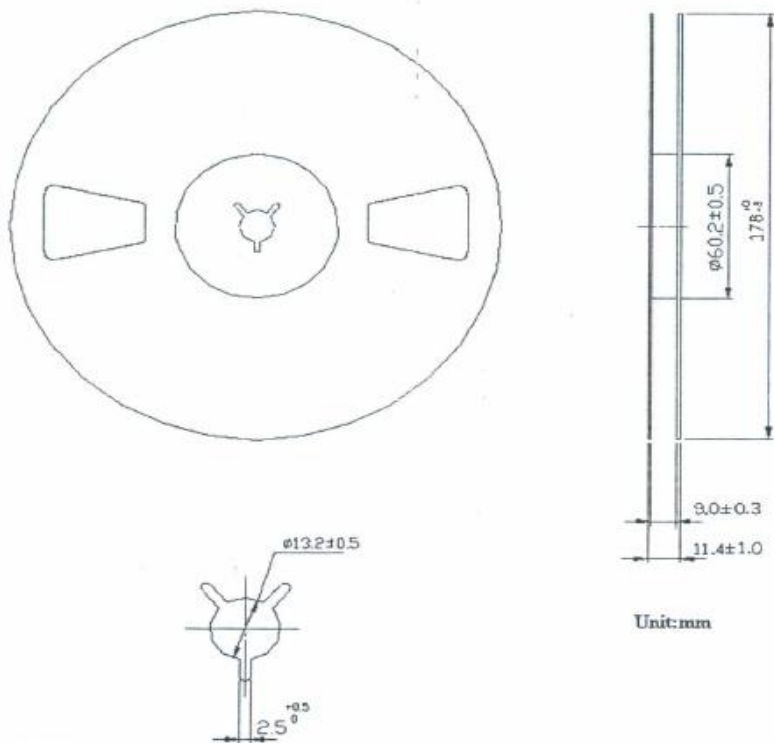
Line1 : 32A (Frequency) + Y (Year code : 3 for 2013) + M (Month Code)

32A3M

Month Code Table:

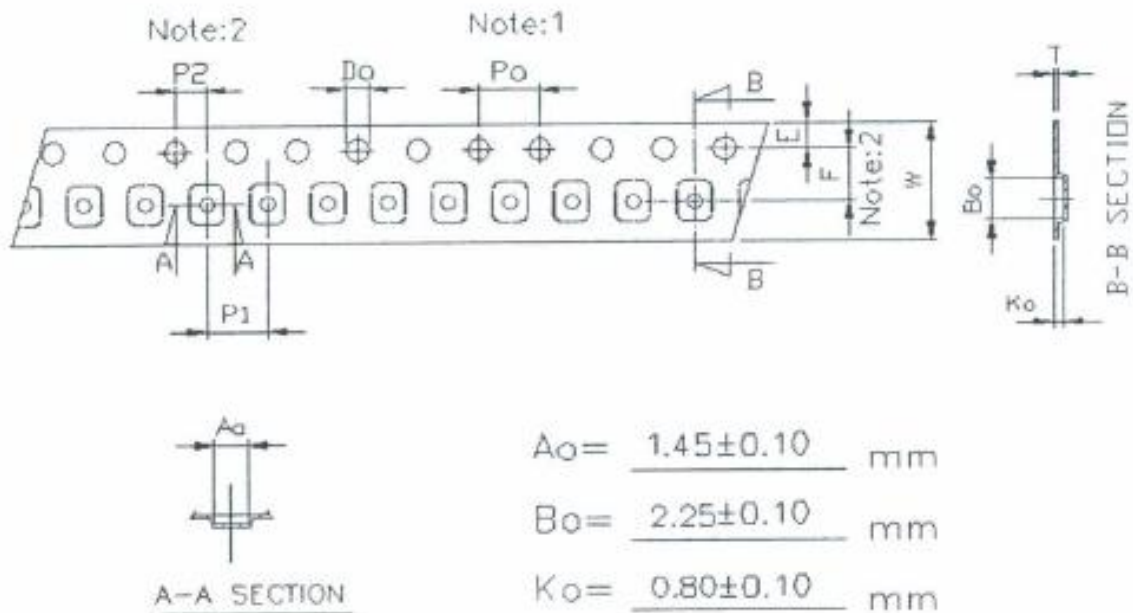
Month	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sep	Oct	Nov	Dec
Code	1	2	3	4	5	6	7	8	9	X	Y	Z

Reel Dimensions (mm):



Unit:mm

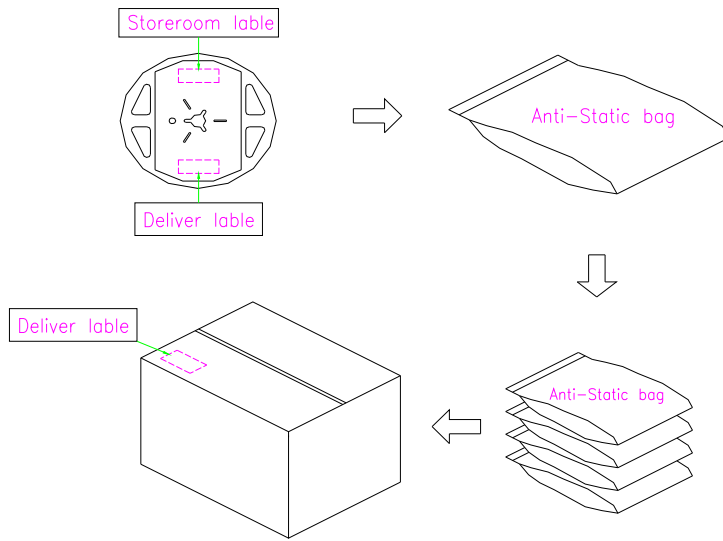
Tape Dimensions (mm):



Unit: mm	W	F	E	Po	P1	P2	Do	10Po	T
Dimension	8.00	3.50	1.75	4.00	4.00	2.00	1.50	40.00	0.25
Tolerance	± 0.2	± 0.05	± 0.1	± 0.1	± 0.1	± 0.05	+0.1-0	± 0.2	± 0.05

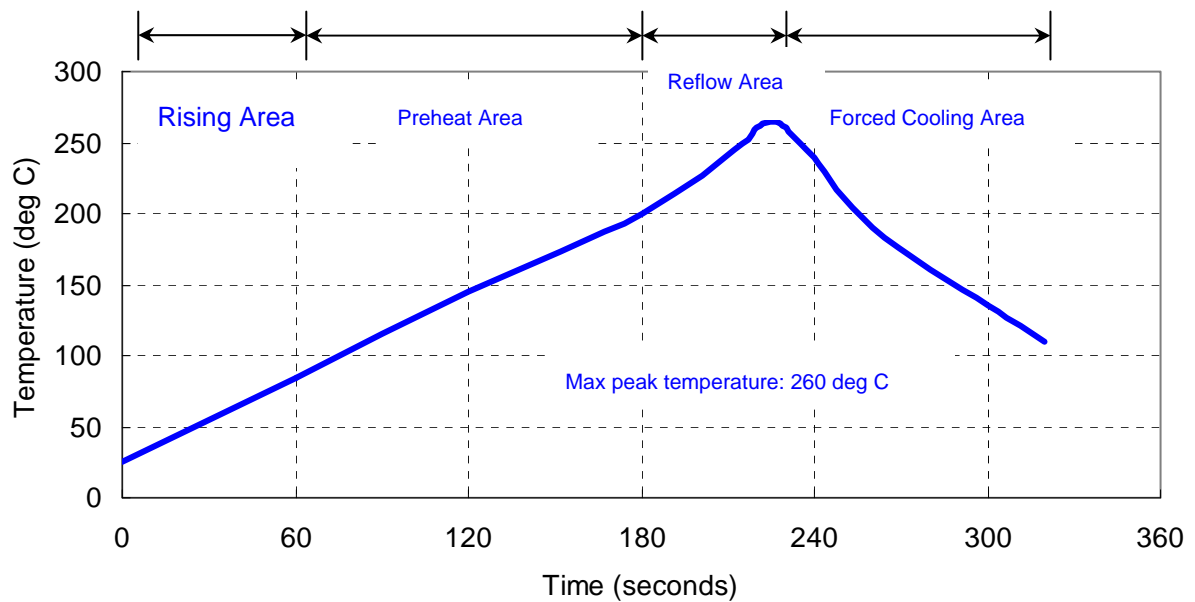
Packing Quantity/Packing:

3K pcs maximum per reel



Deliver package carton
 1. L36xW35xH21cm-10 reel max.
 2. L38xW36xH32cm-15 reel max.

Reflow Profile:



Reliability Specifications

Test name	Test process / method	Reference standard
Mechanical characteristics		
resistance to Soldering heat (IR reflow)	Temp./ Duration : 260°C /10sec x2 times Total time : 4min.(IR-reflow)	EIAJED-4701 -300(301)M(II)
Vibration	Total peak amplitude : 1.5mm Vibration frequency : 10 to 55 Hz Sweep period : 1.0 minute Vibration directions : 3 mutually perpendicular Duration : 2 hr / direc.	MIL-STD 202F method 201A
Mechanical Shock	directions : 3 impacts per axis Acceleration : 3000g's, +20/-0 % Duration : 0.3 ms (total 18 shocks) Waveform : Half-sine	MIL-STD 202F method 213C
Solderability	Solder Temperature:265±5°C Duration time: 5±0.5 seconds.	MIL-STD 883G method 2003
Environmental characteristics		
Thermal Shock	Heat cycle conditions -55 °C (30min) ↔ 125 °C (30min) * cycle time : 10 times	MIL-STD 883G method 1010.7
Humidity test	Temperature : 70 ± 2 °C Relative humidity : 90~95% Duration : 96 hours	MIL-STD 202F method 103B
Dry heat (Aging test)	Temperature : 125 ± 2 °C Duration : 168 hours	MIL-STD 883G method 1008.2 condition C
PCT test	Pressure: 2.06kg/cm ² (2.03*10 ⁵ pa) Temperature : 121 ± 2 °C Relative humidity : 100% Duration : 24 hours	EIAJED-4701-3 B-123A