TAI-SAW TECHNOLOGY CO., LTD.

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Product Specifications Approval Sheet

Product Description: Crystal Unit SMD 1.6x1.2 38.4MHz

TST Part No.: TZ2325A

Customer Part No.:_____

Customer signature required

Company:_____

Division:_____

Approved by :_____

Date:_____

Checked by:_____ Ginger Huang Ginger Huang

Approved by:_____ Kelly Huang Kelly Huang

Date:_____ 02/22/2012

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.

Crystal Unit SMD 1.6x1.2 38.4MHz

MODEL NO.: TZ2325A REV. NO.: 1.0

Revise:

Rev.	Rev. Page	Rev. Account	Date	Ref. No.	Revised by
1	N/A	Initial release	02/22/12’	N/A	Ginger Huang

TAI-SAW TECHNOLOGY CO., LTD.

Crystal Unit SMD 1.6x1.2 38.4MHz

MODEL NO.: TZ2325A REV. NO.: 1.0

Features:

RoHS Compliant
Lead free
Lead-free soldering

- Surface Mount Hermetic Package
- Excellent Reliability Performance
- Good Frequency Perturbation and Stability over temperature
- Ultra Miniature Package

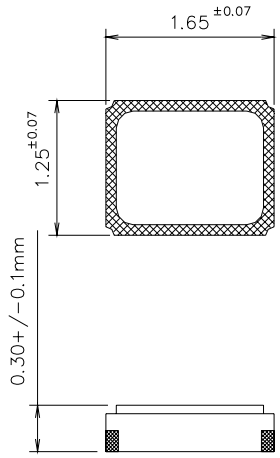
Description and Applications:

Surface mount 1.6mmx1.2mm crystal unit for use in wireless communications devices, especially for a need of ultra miniature package for mobility.

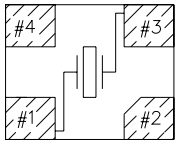
Electrical Specifications:

TZ2325A	**Specification**
Nominal Frequency	38.400000 MHz
Mode of Oscillation	Fundamental
Storage Temperature Range	-40°C to +85°C
Operating Temperature Range	-25°C to +75°C
Frequency Stability over Operating Temperature Range	+/-10 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 typ.100 uW max.
Shunt Capacitance (Co)	5.0 pF max
Load Capacitance (CL)	8 pF
Insulation Resistance	500 MΩ min./DC 100V
Marking	Laser Marking
Unit Weight	5.7mg+/-0.5mg

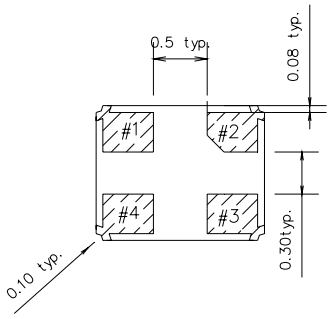
Mechanical Dimensions (mm):



Internal Connections
(Top View)



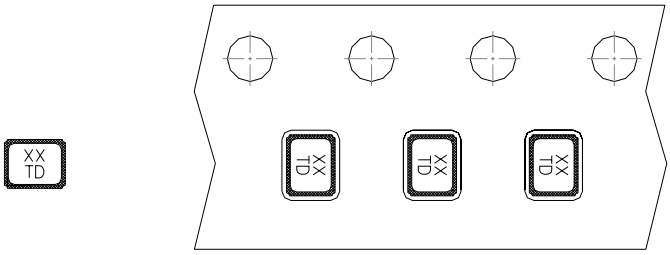
[NOTE] #4=NC, #2 is connected with a metal cover



	Pin connection
#1 pin	IN/OUT
#2 pin	GND
#3 pin	IN/OUT
#4 pin	NC

Marking:

Line 1: XX; Frequency (38)
Line 2: T ; Traceable Code + D ; date Code of Year/Month

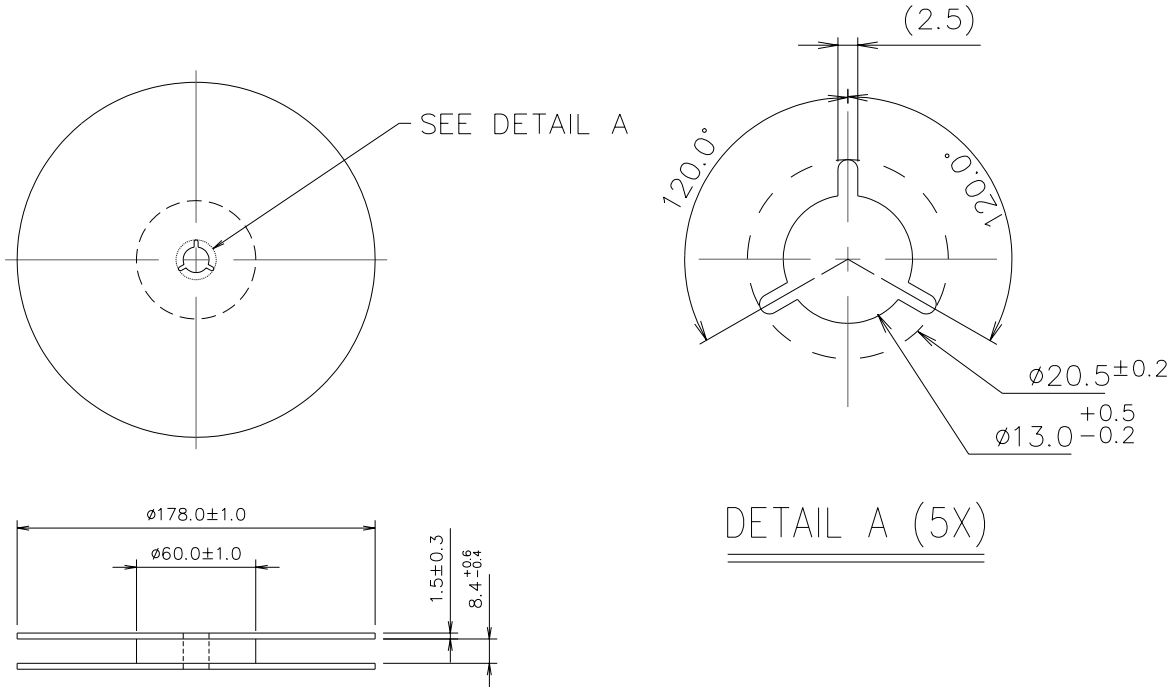


Date Code Table: Year/Month

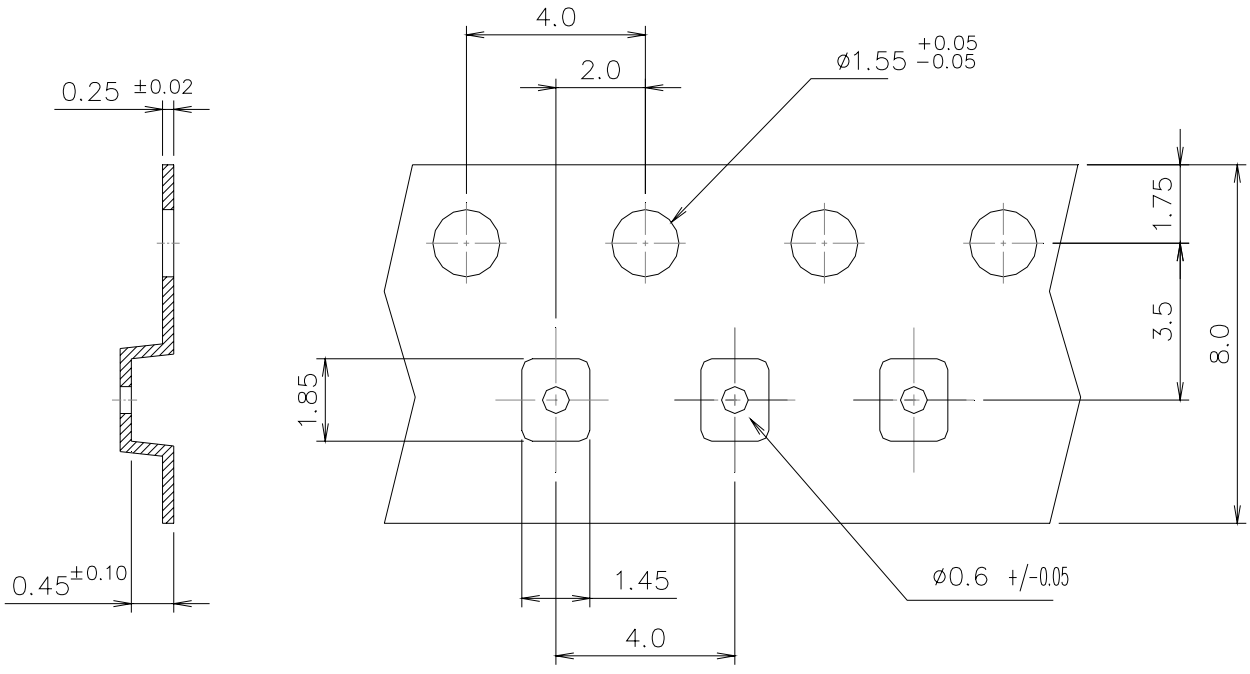
Year/Month	1	2	3	4	5	6	7	8	9	10	11	12
2009	n	p	q	r	s	t	u	v	w	x	y	z
2010	A	B	C	D	E	F	G	H	J	K	L	M
2011	N	P	Q	R	S	T	U	V	W	X	Y	Z
2012	a	b	c	d	e	f	g	h	i	j	k	m
2013	n	p	q	r	s	t	u	v	w	x	y	z
2014	A	B	C	D	E	F	G	H	J	K	L	M
2015	N	P	Q	R	S	T	U	V	W	X	Y	Z
2016	a	b	c	d	e	f	g	h	i	j	k	m
2017	n	p	q	r	s	t	u	v	w	x	y	z
2018	A	B	C	D	E	F	G	H	J	K	L	M

2019	N	P	Q	R	S	T	U	V	W	X	Y	Z
2020	a	b	c	d	e	f	g	h	i	j	k	m
2021	n	p	q	r	s	t	u	v	w	x	y	z

Reel Dimensions (mm):



Tape Dimensions (mm):

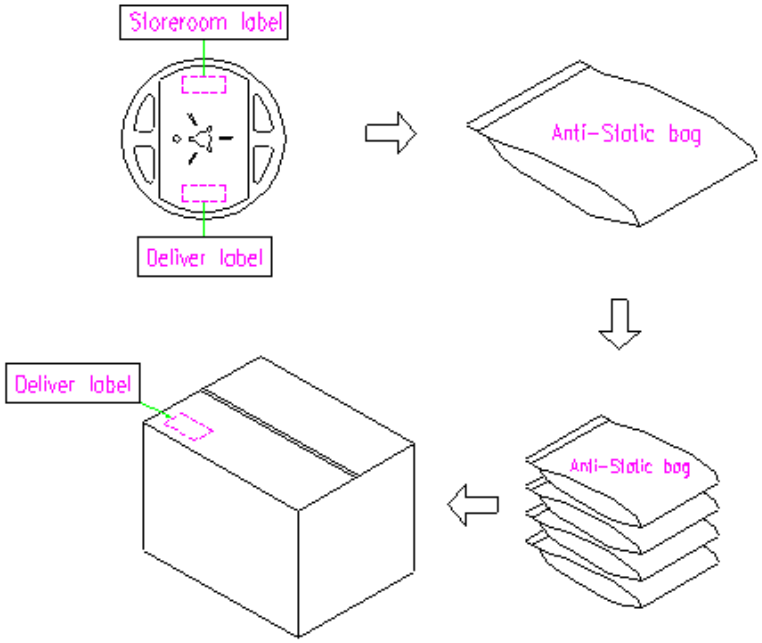


[NOTE]:

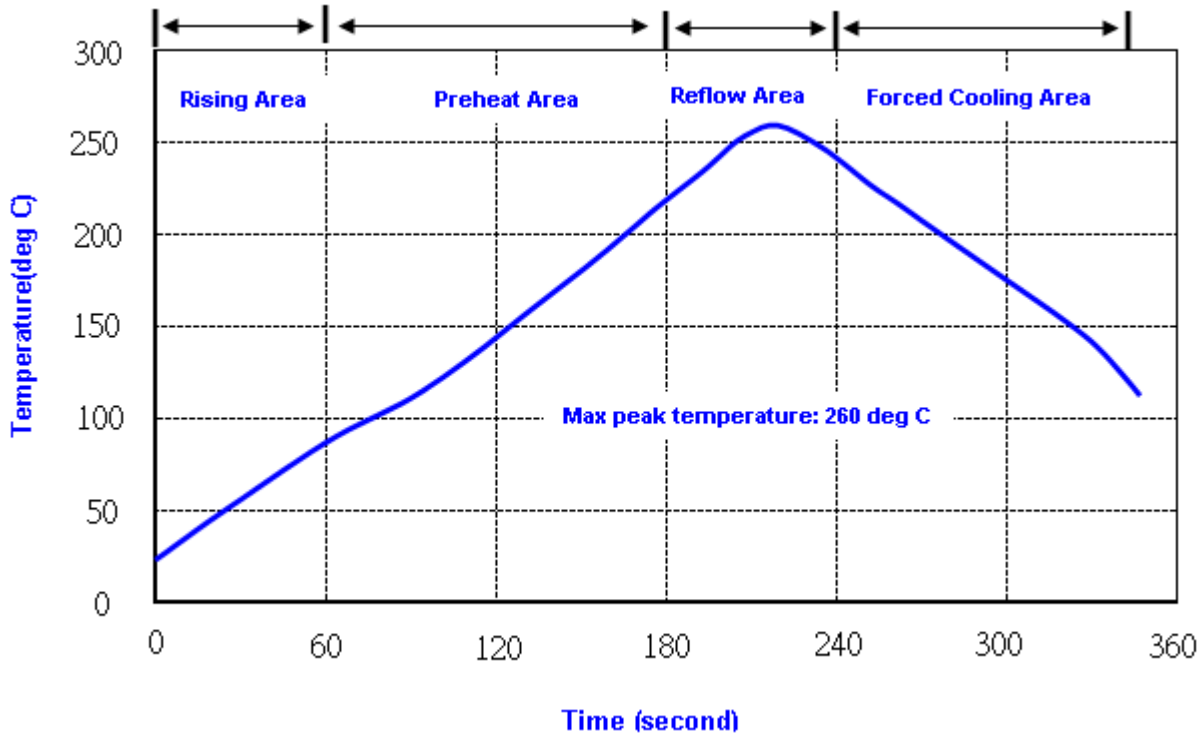
1. Unless otherwise specified tolerance on dimension +/-0.1 mm.
2. Material: conductive polystyrene with color black.
3. 10 pitch cumulative tolerance +/-0.2 mm.

Packing Quantity/Packing:

3K pcs maximum per reel



Reflow Profile:



Note: 1.Max peak temperature: 260+/-5 deg C; Time: 10+/-2 sec

2. Temperature: 217+/-5 deg C; Time: 90~100 sec

Reliability Specifications

Test name	Test process / method	Reference standard
Mechanical characteristics		
resistance to Soldering heat (IR reflow)	Temp./ Duration : 260°C /10sec ×2 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 ℃ (30min) ⟷ 125 ℃ (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