



# 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 7.0x1.5mm Tuning Fork 32.768kHz

TST Part No.: TZ0601C

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

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

Checked by: \_\_\_\_\_ Yifan Chen *Yifan*

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

Date: \_\_\_\_\_ 05/15/2023

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.**  
Tuning Fork 7.0\*1.5 32.768KHz Crystal Unit

MODEL NO.: TZ0601C

REV. NO.: 1.0

**Revise:**

Rev.	Rev. Page	Rev. Account	Date	Ref. No.	Reviser
1	N/A	Initial release	05/15/23'	N/A	Yifan Chen



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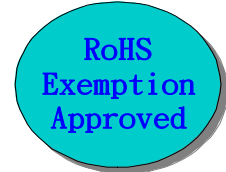
## Tuning Fork 32.768kHz Crystal Unit

MODEL NO.: TZ0601C

REV. NO.: 1.0

### Features:

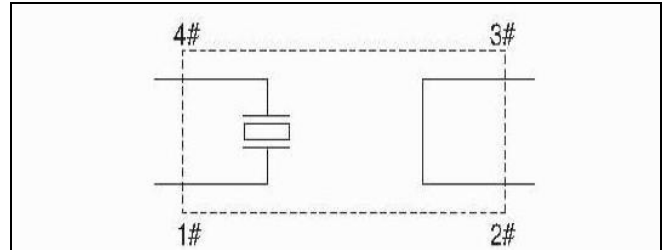
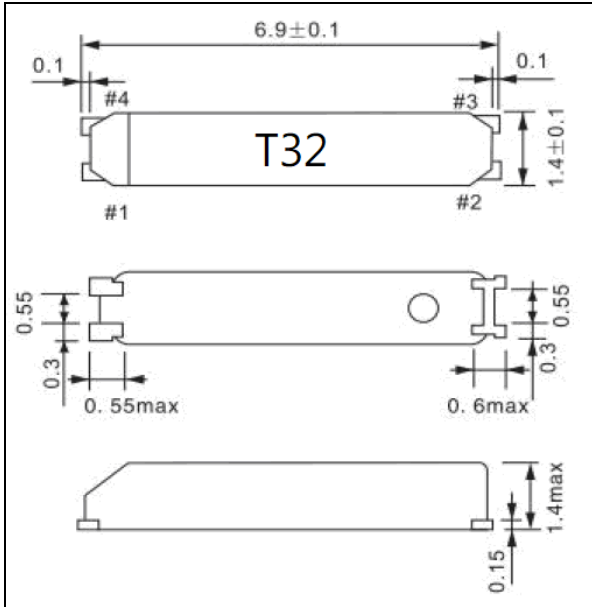
- Moisture Sensitivity Level (MSL) : Level-1



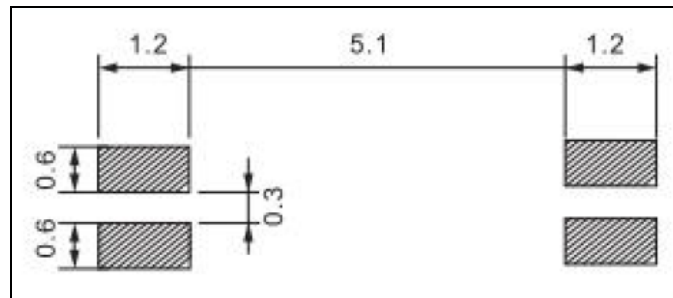
### Electrical Specifications:

TZ0601C	Specification
Nominal Frequency	32.768000 KHz
Storage temperature	-55°C to 125°C
Operating Temperature Range	-40°C to +85°C
Temperature characteristics - Turnover temperature	25+/-5 °C
Temperature characteristics - Parabolic curvature constant	-0.035 +/-0.01 ppm/°C <sup>2</sup>
Frequency Make Tolerance (FL)	+/-20 ppm @ 25°C +/- 2°C
Equivalent Series Resistance (ESR)	65K Ω max.
Drive Level	0.1 uW
Load Capacitance (CL)	12.5 pF
Shunt Capacitance C0	0.8 pF typ
Aging	+/-3.0 ppm max
Marking	Laser Marking

## Mechanical Dimensions (mm):

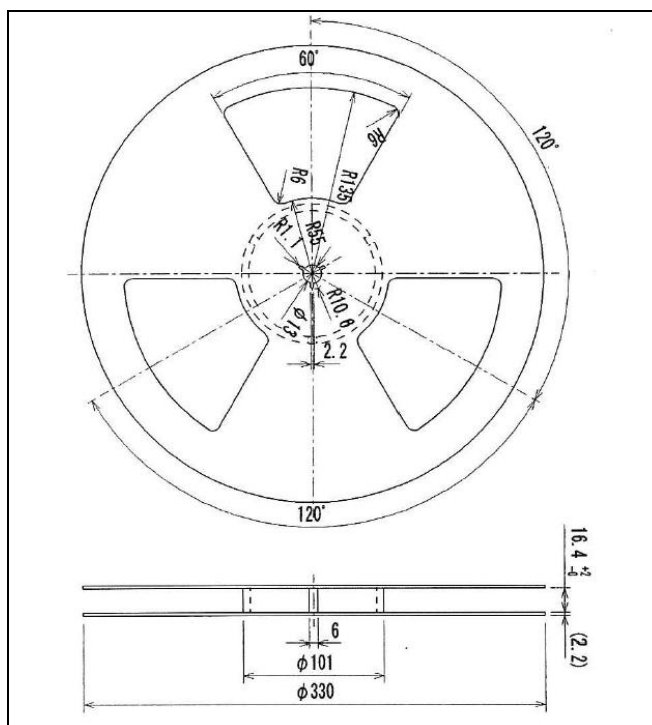


## Recommended Land Pattern: (unit: mm)

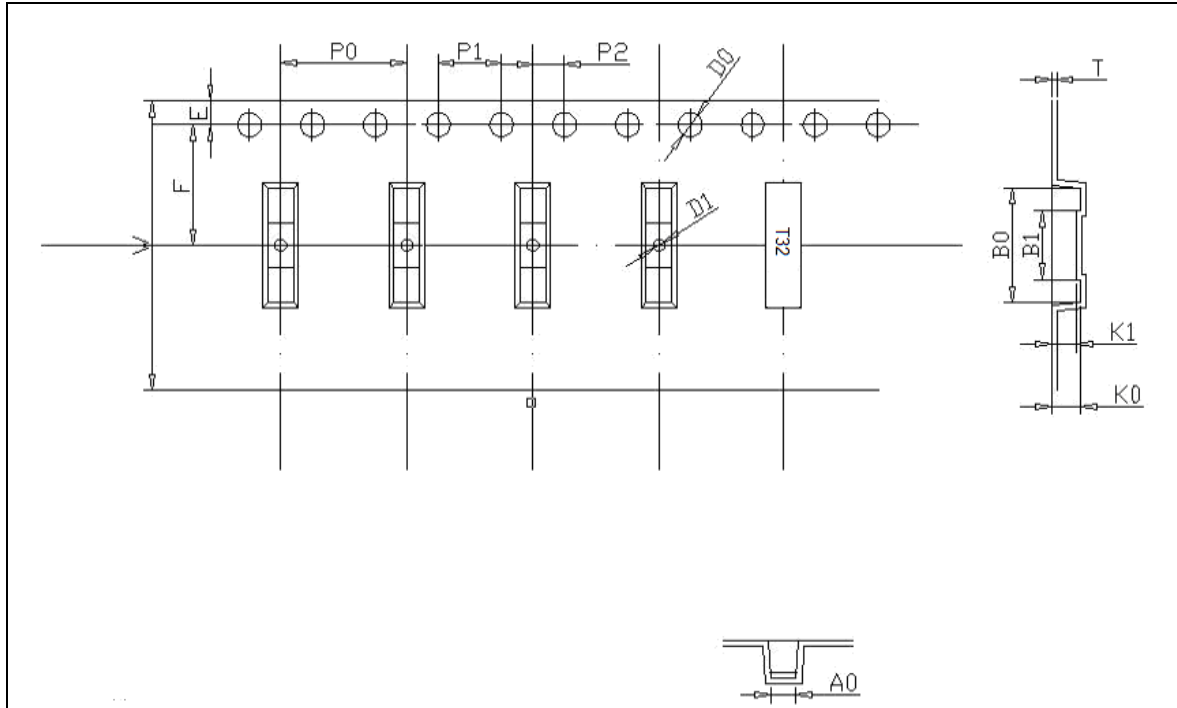


## Marking: T32

## Reel Dimensions (mm):



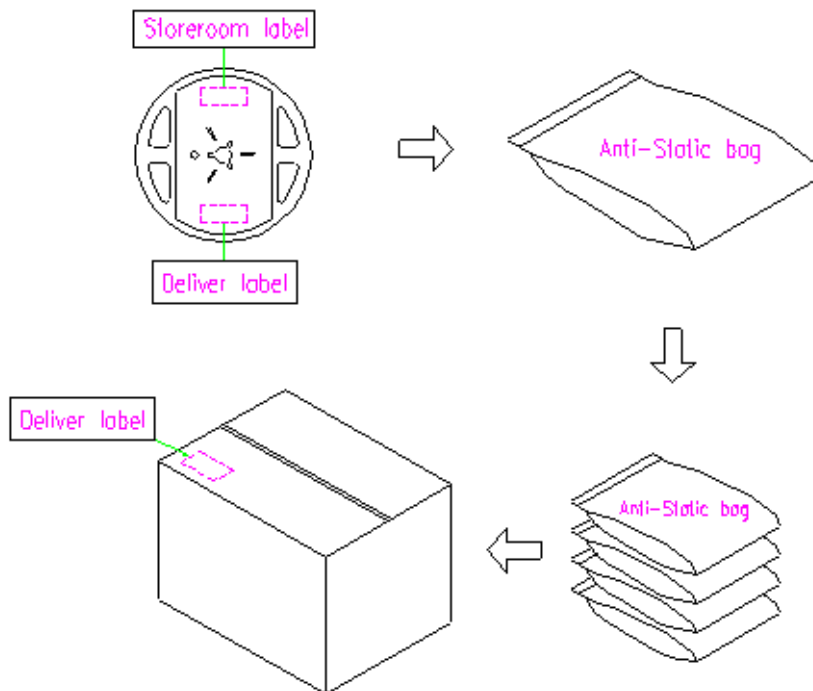
## Tape Dimensions (mm):



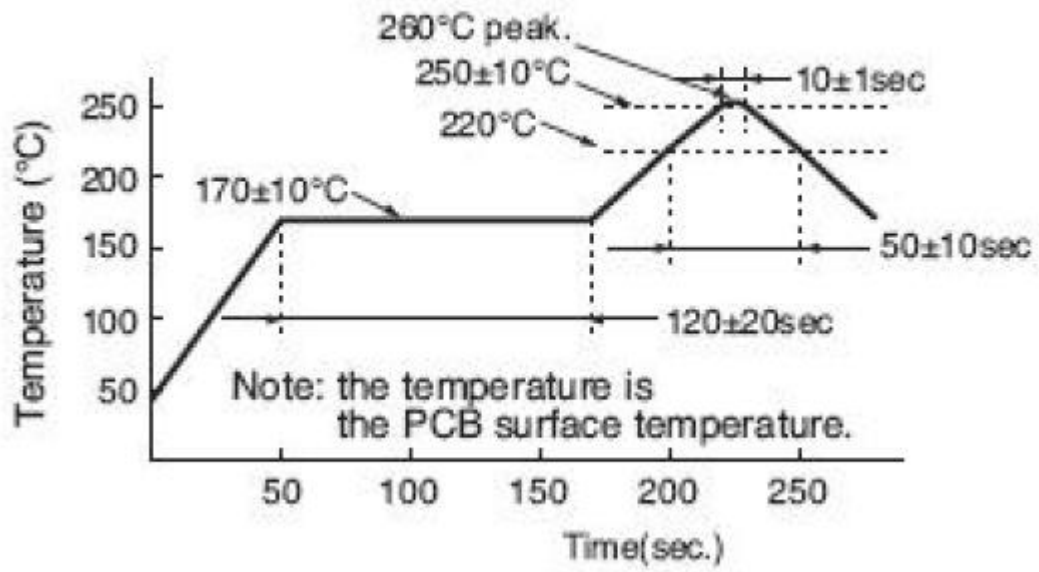
W	E	F	D0	D1	P0	P1	P2
16.00±0.30	1.75±0.1	7.50±0.1	1.5 <sup>+0.1</sup> <sub>-0</sub>	1.0 <sup>+0.1</sup> <sub>-0</sub>	8.00±0.1	4.00±0.1	2.00±0.05
A0	B0	B1	K0	K1	T	10*P <sub>0</sub>	
1.70±0.1	7.20±0.1	4.0±0.1	1.7±0.1	1.25±0.1	0.35±0.05	40.00±0.20	

## Packing Quantity/Packing:

3K pcs maximum per reel



# Reflow Profile:



## Reliability Specifications

Test name	Test process / method	Reference standard
<b>Mechanical characteristics</b>		
resistance to Soldering heat (IR reflow)	Temp./ Duration : 265°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 2000 Hz Sweep period : 20 minute Vibration directions : 3 mutually perpendicular Duration : 2 hr / direc.	MIL-STD 202G method 204
Mechanical Shock	directions : 3 impacts per axis Acceleration : 3000g's, +20/-0 % Duration : 0.3 ms (total 18 shocks) Waveform : Half-sine	MIL-STD 202G method 213
Solderability	Solder Temperature:265±5°C Duration time: 5±0.5 seconds.	J-STD-002
<b>Environmental characteristics</b>		
Thermal Shock	Heat cycle conditions -40 °C (30min) ↔ 85 °C (30min) * cycle time : 10 times	MIL-STD 883G method 1010.8
Humidity test	Temperature : 85 ± 2 °C Relative humidity : 85% Duration : 96 hours	MIL-STD 202G method 103
Dry heat ( Aging test )	Temperature : 125 ± 2 °C Duration : 168 hours	MIL-STD 202G method 108A
Cold resistance (Low Temp Storage)	Temperature : -40 ± 2 °C Duration : 96 hours	IEC 60068-2-1