

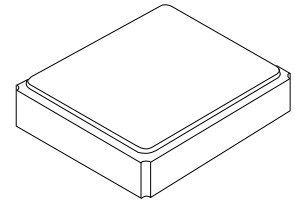
## Features:

- Miniature SMD Package
- Moisture Sensitivity Level (MSL) : Level-2

## Description and Applications:

Surface mount 3.2mmx2.5mm TCXO

**32.768 KHz**  
**TCXO**



SM3225-4

## Electrical Specifications:

<b>XTC4004P-1</b>	<b>Specifications</b>
Nominal Frequency, Fo	32.768 KHz
Storage Temperature Range	-55°C to +105°C
Operating Temperature Range	-40°C to +85°C
Power Supply Voltage, Vdd	2 ~ 3.465 V (Nominal to 3.3V)
Output Waveform	CMOS Square Wave
Output Load	15pF
“0” Level “1” Level	0.4V max I <sub>OL</sub> =0.1mA V <sub>dd</sub> -0.4V min I <sub>OH</sub> =-0.1mA
Power Supply Current, I <sub>cc</sub>	1uA typical 2uA max without load
Initial Frequency Tolerance	+/- 3.0 ppm max @ 25°C +/- 2°C
Duty Cycle	40% ~ 60% Typical
Rise Time ( 20% -> 80% of final RF level in V <sub>p-p</sub> ) Fall Time ( 80% -> 20% of final RF level in V <sub>p-p</sub> )	100 nsec max. 100 nsec max.
Frequency Stability a. Vs. Temperature (-40~85°C) b. Vs. Supply Voltage Delta Freq/V	+/- 5.0 ppm reference to 25°C +/- 1.2 ppm/V
Reflow	+/-1 ppm max
Start –Up Time	1 s max @ 25°C, 3 s max over-40°C to +85°C
Aging	+/-3 ppm per years

Tri-State Enable Voltage (High) Disable Voltage (Low) output Tri-state Open	80% Vdd min 20% Vdd max Forbidden
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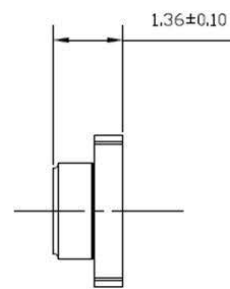
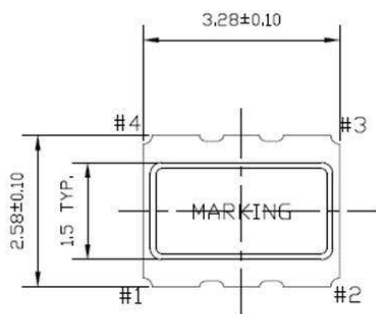
**CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.**

**NOTES:**

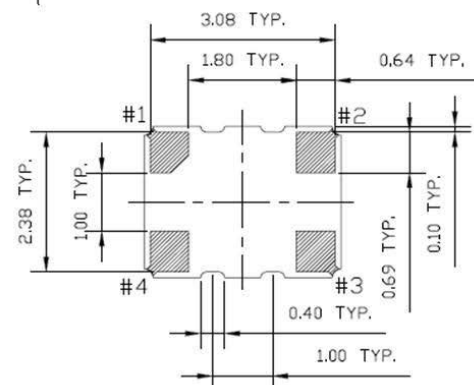
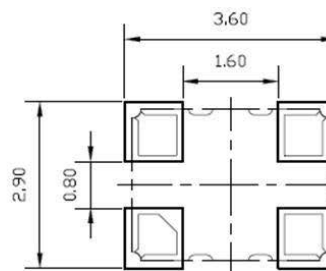
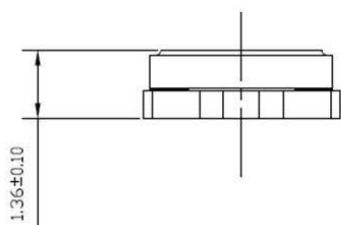


1. The design, manufacturing process, and specifications of this device are subject to change.
2. US or International patents may apply.
3. RoHS compliant from the first date of manufacture.

## Mechanical Dimensions (mm):



Recommended Land Pattern  
(Top View)

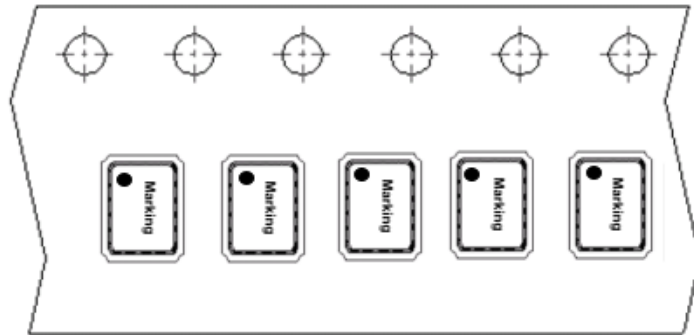


Unit: mm

	Pin Connection
#1	Output Enable
#2	Ground
#3	Frequency Out
#4	Supply Voltage

# Marking:

Y = Year, W = Week

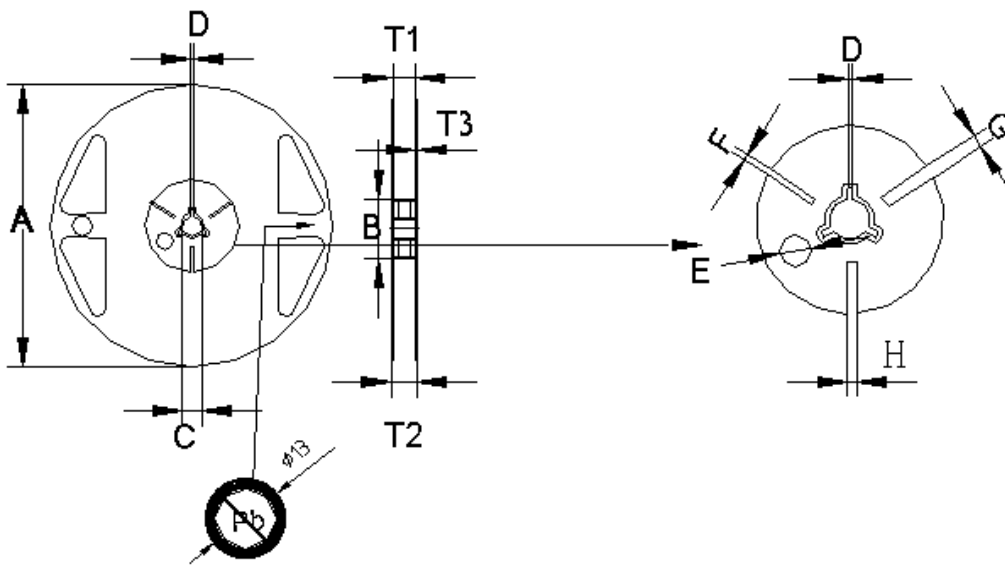


# Packing (mm):

## 1..Reel Dimension

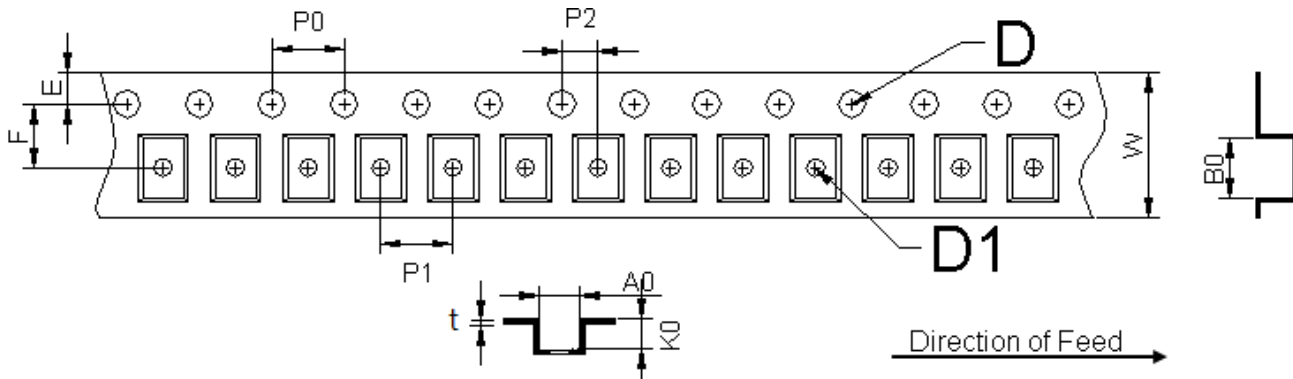
Tape and Reel Standard per ANSI/EIA-481

Reel Count: 7" = 3000



	A	B	C	D	E	F	H	G	T2	T1	T3
Dimensions	180	60	13.0	2.0	9.1	2.9	3.9	4.9	11.4	9.0	1.2
Tolerance	±1.0	+1.0	±0.2	±0.5	±0.5	±0.5	±0.5	±0.5	±1.0	±0.3	±0.1

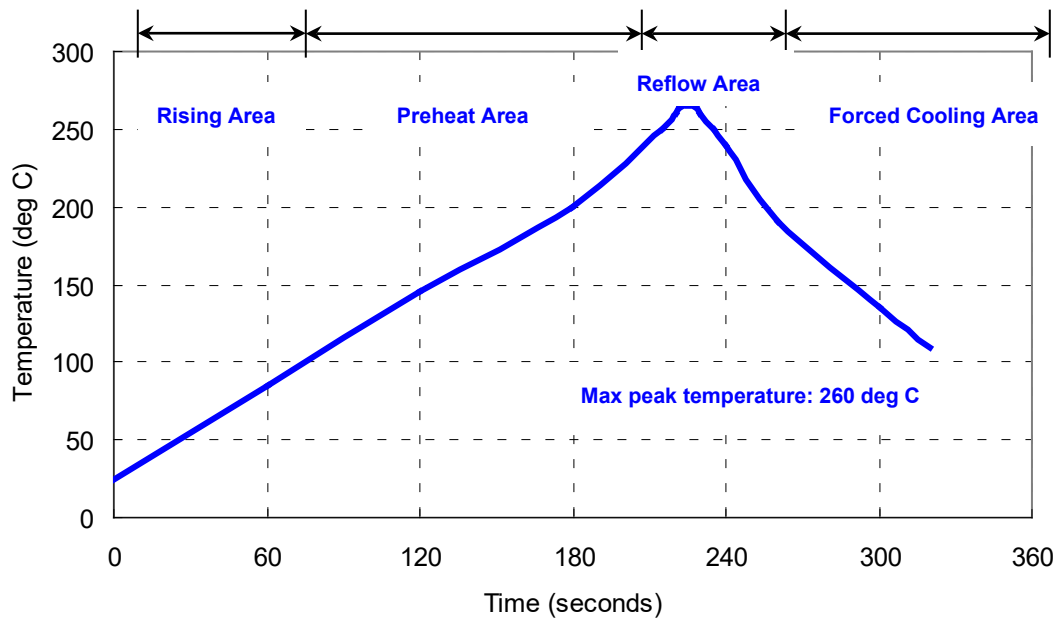
## 2. Tape Dimension



Unit: mm	A0	B0	W	F	E	P0	P1	P2	D1	D	K0	t
Dimension	2.80	3.71	8.00	3.5	1.75	4.00	4.00	2	1.50	1.0	1.75	0.25
Tolerance	±0.1	±0.1	+0.3/-0.1	±0.05	±0.1	±0.1	±0.1	±0.05	+0.1/-0.00	+0.25/-0.00	±0.1	±0.02

Reflow Profile:

Reflow Profile:



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## Notes of the Usage:

1. Touch the solder iron at  $260 \pm 5$  deg C onto the leads for  $10 \pm 2$  sec max or touch the solder at  $350 \pm 5$  deg C onto the leads for  $3 \pm 0.5$  sec.
2. In the customer's reflow process, if it will remain some mechanical stress at the soldering terminals, also make some cracks on the soldering termination. Some cracks will cause open or short circuit and cause of thermal increasing or smoking. Don't make any excess mechanical stress to soldering points.
3. In case of giving a heavy shock to the products, it may make an open or short circuit and cause of thermal increasing and smoking. To avoid heavy shock impact applying to products is strictly required.

## Notes of the Storage:

1. To keep products under the condition at the room temperature ( $-5 \sim 35$  deg C) with normal humidity (45~75%). Absorption of moisture and dewdrop may make inferiority of characteristics and a short circuit.
2. Oxidization of terminals shall make the solderability more inferior. Dusts and corrosive gas will make a cause of the open or short circuit. Keep it in the clean place where is not in dusty and no corrosive gas.
3. Use the anti-static material to the storage package.
4. Don't put any excess weight to the TCXO in the storage process.