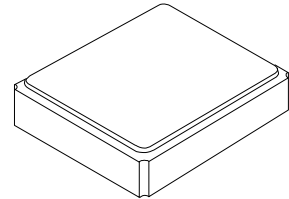


XTC4004P

**32.768 KHz
TCXO**



SM3225-4

Features:

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

Description and Applications:

Surface mount 3.2mmx2.5mm TCXO

Electrical Specifications:

XTC4004P	Specifications
Nominal Frequency, Fo	32.768 KHz
Storage Temperature Range	-55°C to +85°C
Operating Temperature Range	-40°C to +85°C
Power Supply Voltage, Vdd	3.3V +/- 5%
Output Waveform	CMOS Square Wave
Output Load	15pF
“0” Level “1” Level	0.4V max IOL=0.1mA Vdd-0.4V min IOH=-0.1mA
Power Supply Current, Icc	1uA typical 2uA max without load
Initial Frequency Tolerance	+/- 1.5 ppm max @ 25°C +/- 3°C
Duty Cycle	40% ~ 60% Typical
Rise Time (20% -> 80% of final RF level in Vp-p) Fall Time (80% -> 20% of final RF level in Vp-p)	100 nsec max. 100 nsec max.
Frequency Stability a. Vs. Temperature (-40~85°C) b. Vs. Load varied 15pF +/-10% c. Vs. Supply Voltage Delta Freq/V	+/- 5.0 ppm reference to25°C +/- 0.2 ppm +/- 1 ppm/V
Timing error over time	+/-0.432 sec/day max per day +/-12.960 sec/month max per month +/-2.628 min/year max per year
Supply Voltage Variation	0.25 V max
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

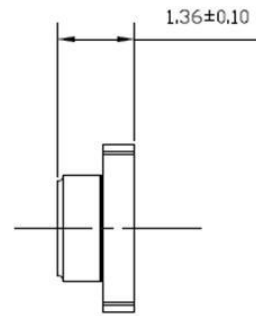
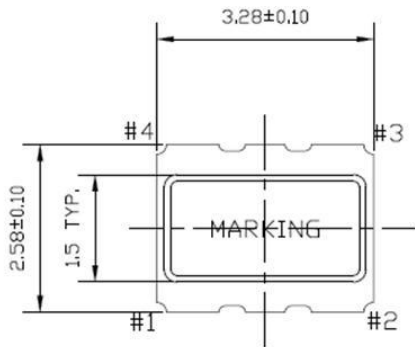


CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.

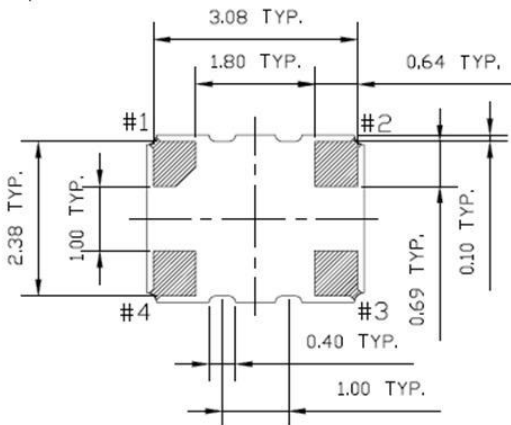
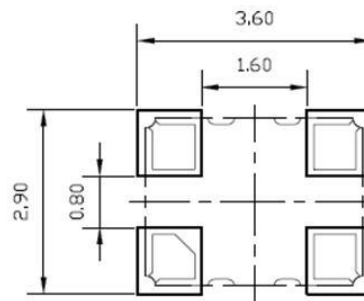
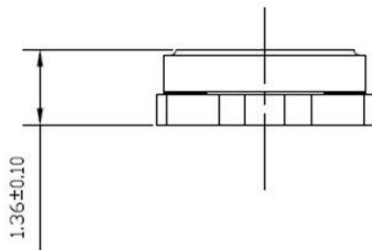
NOTES:

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)



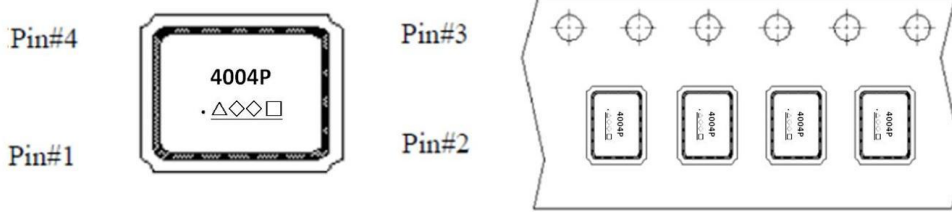
Unit: mm

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

Marking:

Line1: Letter (4004P)

Line2: Symbol(■) + Under line {Years code(△) + Week Code(◇◇) + Shift code(□) }



Years code(△)

Year	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Code	1	2	3	4	5	6	7	8	9	0

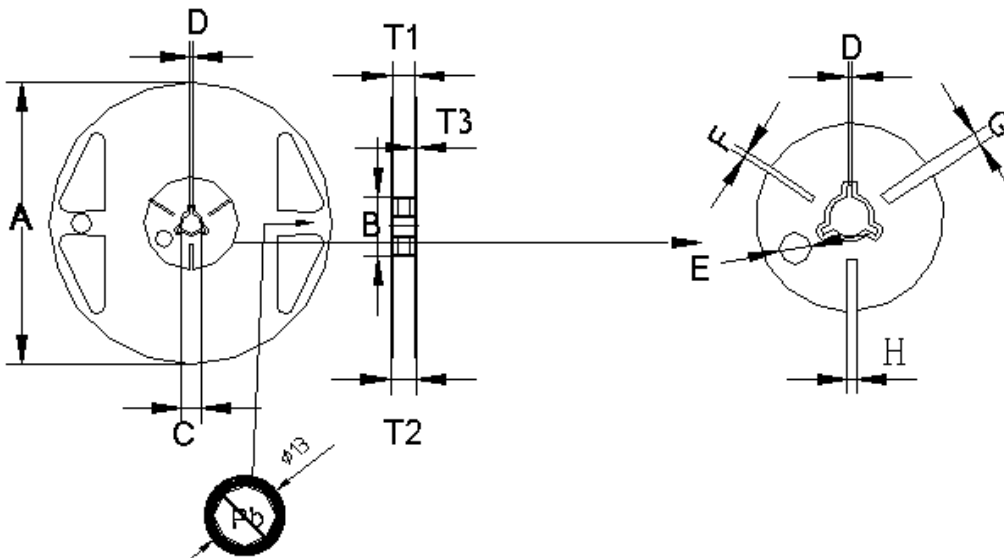
Week Code(◇◇)

Week	01	02	03	04	05	06	07	08	09	10	11	12	13
Code	01	02	03	04	05	06	07	08	09	10	11	12	13
Week	14	15	16	17	18	19	20	21	22	23	24	25	26
Code	14	15	16	17	18	19	20	21	22	23	24	25	26
Week	27	28	29	30	31	32	33	34	35	36	37	38	39
Code	27	28	29	30	31	32	33	34	35	36	37	38	39
Week	40	41	42	43	44	45	46	47	48	49	50	51	52
Code	40	41	42	43	44	45	46	47	48	49	50	51	52

Packing (mm):

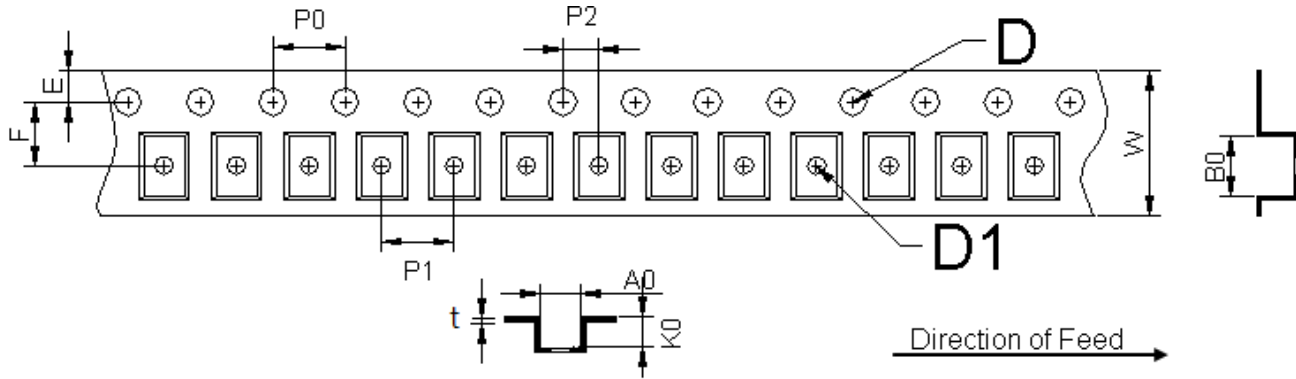
1. Reel Dimension

Reel Count: 7" = 3000



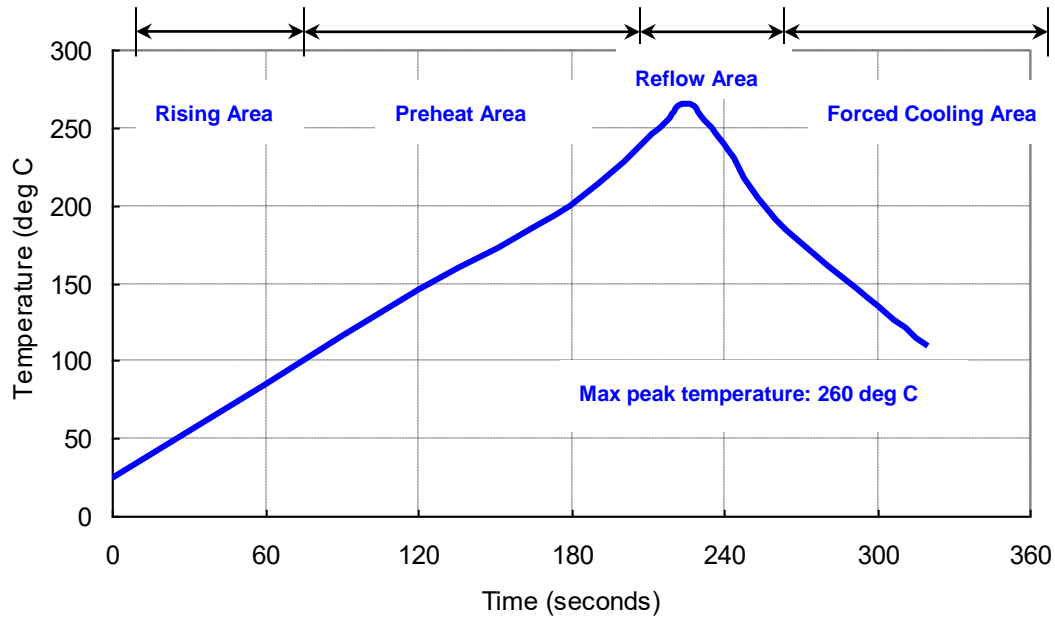
	A	B	C	D	E	F	H	G	T2	T1	T3
Dimensions	180	60	13.0	2.0	9.1	2.9	3.9	4.9	11.4	9.0	1.2
Tolerance	±1.0	+1.0	±0.2	±0.5	±0.5	±0.5	±0.5	±0.5	±1.0	±0.3	±0.1

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:



Notes of the Usage:

1. Touch the solder iron at 260 ± 5 deg C onto the leads for 10 ± 2 sec max or touch the solder at 350 ± 5 deg C onto the leads for 3 ± 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.