RFMi
BRAND OF AKOUSTIS

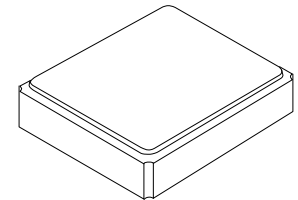**RoHS compliant**

XTC4004

32.768 KHz TCXO

SM3225-4

Features:

- Miniature SMD Package
- Moisture Sensitivity Level: 2

Description and Applications:

Surface mount 3.2mmx2.5mmm TCXO

Electrical Specifications:

XTC4004	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 I_{OL}=0.1mA Vdd-0.4V min I_{OH}=-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 ppm +/- 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

www.rfmi.co

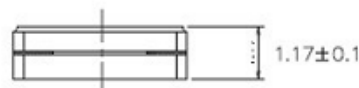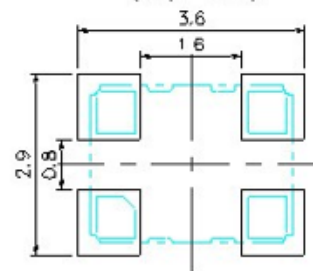| Tri-State	
Enable Voltage (High)	80% Vdd min
Disable Voltage (Low) output Tri-state	20% Vdd max
Open	Forbidden

Mechanical Dimensions (mm):
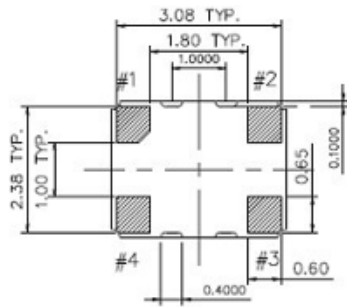
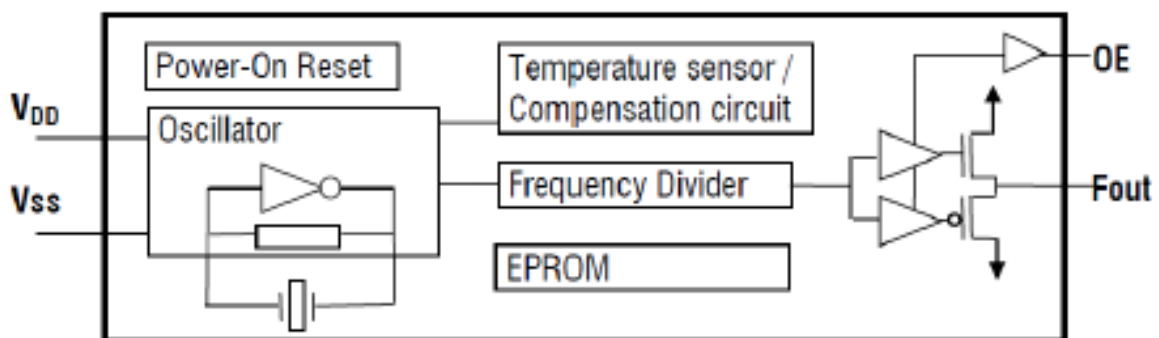| Pin 1	Output Enable
Pin 2	Ground
Pin 3	Frequency out
Pin 4	Supply Voltage
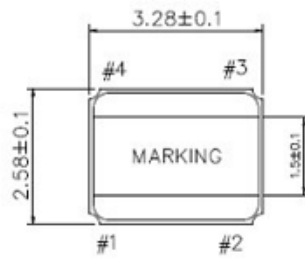
Recommended Land Pattern (Top View)
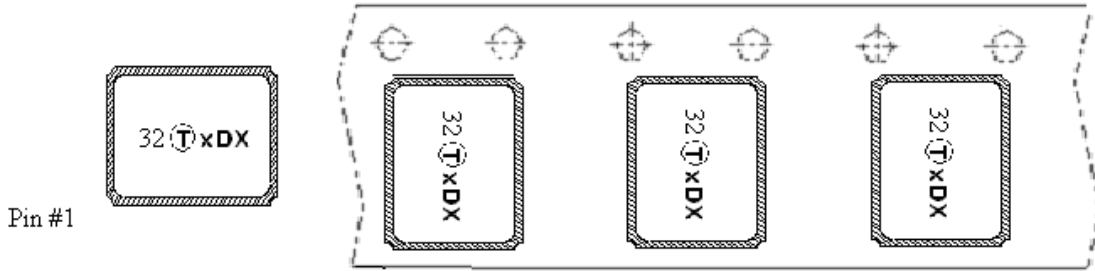
Unit : mm

Block Diagram

Marking:

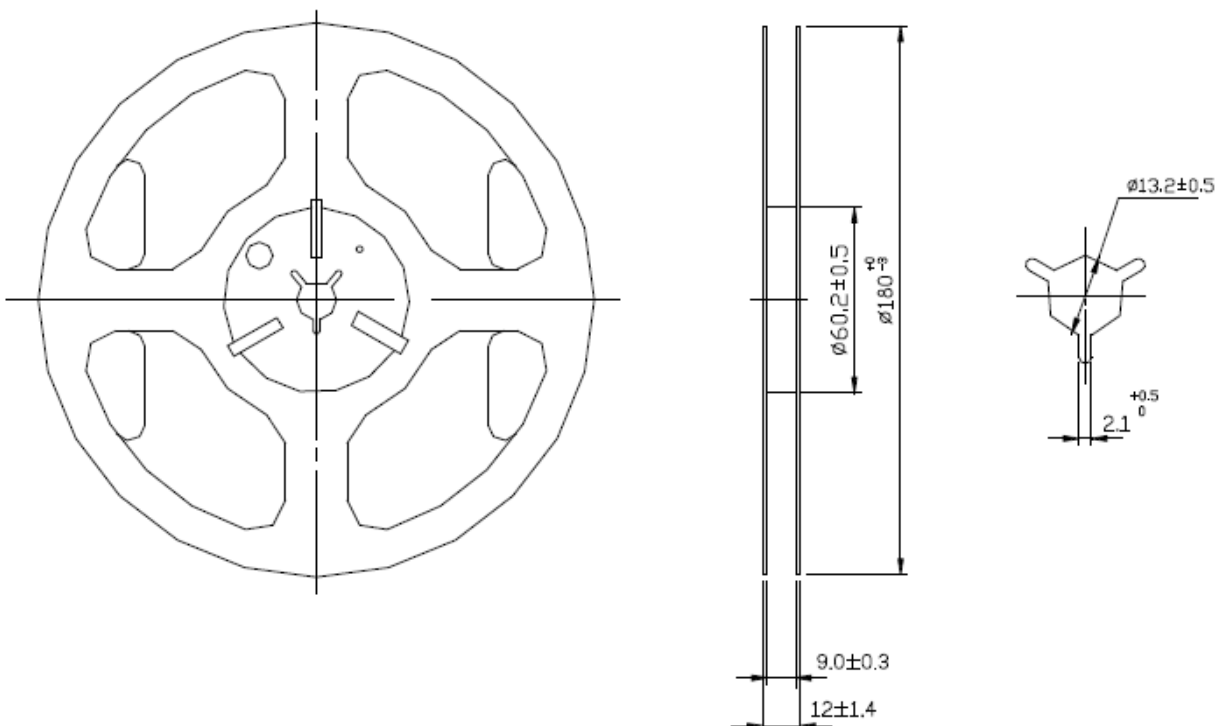Line 1: 32 + Product Code + Date Code + Traceability code (1 or 2 letters)

Pin #1

Product Code Table

Year	2005 2009 2013	2006 2010 2014	2007 2011 2015	2008 2012 2020
Product Code	X	x	X	x

Date Code Table

Date Code Table												
WK01	WK02	WK03	WK04	WK05	WK06	WK07	WK08	WK09	WK10	WK11	WK12	WK13
A	B	C	D	E	F	G	H	I	J	K	L	M
WK14	WK15	WK16	WK17	WK18	WK19	WK20	WK21	WK22	WK23	WK24	WK25	WK26
N	O	P	Q	R	S	T	U	V	W	X	Y	Z
WK27	WK28	WK29	WK30	WK31	WK32	WK33	WK34	WK35	WK36	WK37	WK38	WK39
a	b	c	d	e	f	g	h	i	j	k	l	m
WK40	WK41	WK42	WK43	WK44	WK45	WK46	WK47	WK48	WK49	WK50	WK51	WK52
n	o	p	q	r	s	t	u	v	w	x	y	z

Packing (mm):

1. Reel Dimension

2. Tape Dimension

Ao= 2.70+/-0.10
Bo= 3.40+/-0.10
Ko= 1.40+/-0.10

Unit:mm

Direction of Feed

Reflow Profile:

Rising Area   Preheat Area   Reflow Area   Forced Cooling Area

Max peak temperature: 260 deg C
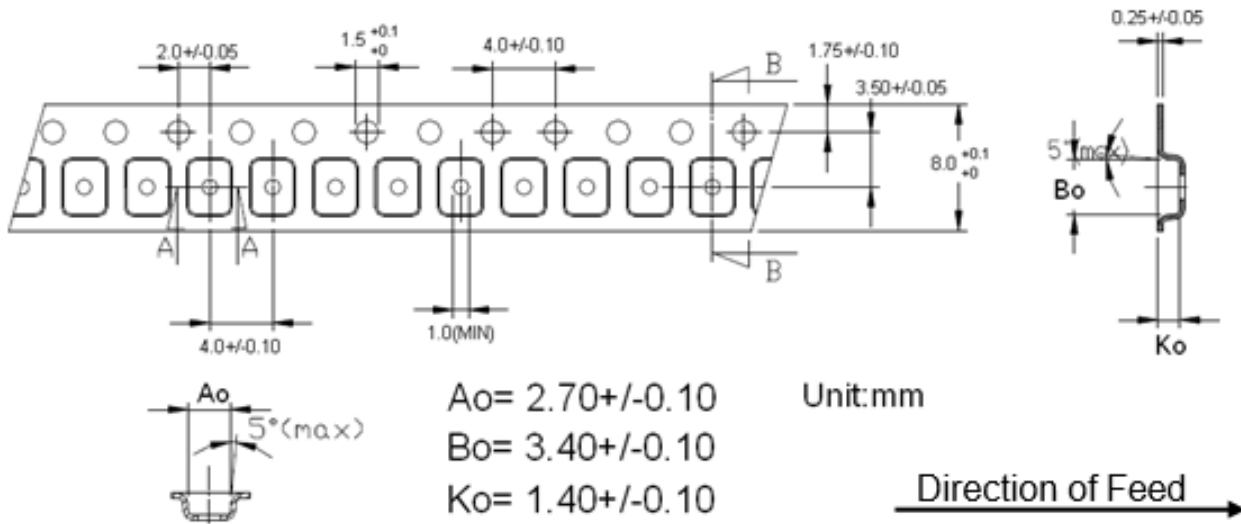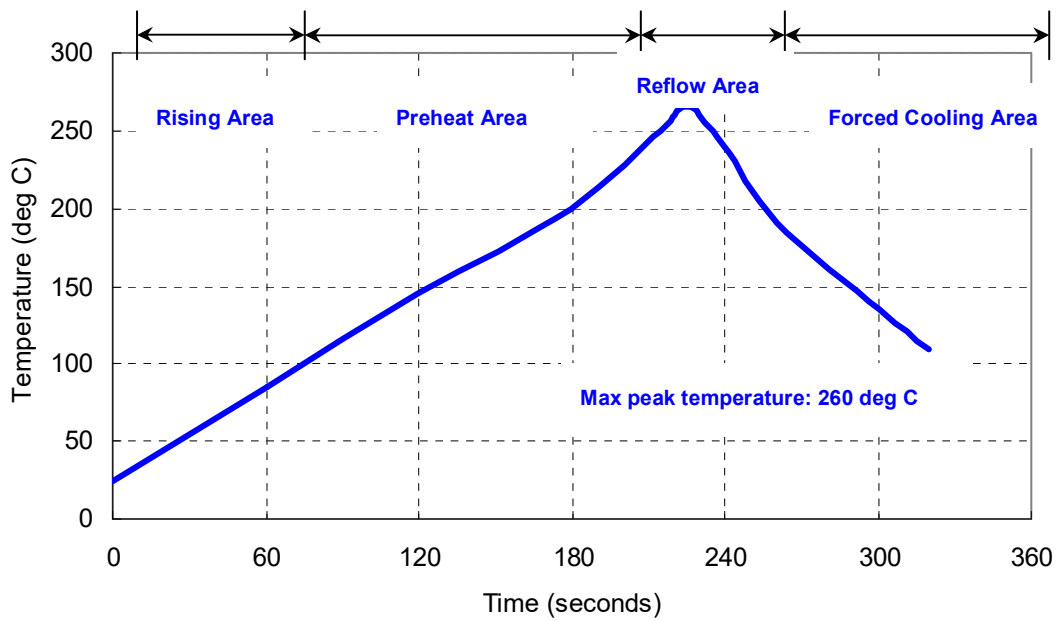
Notes of the Usage:

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.
4. Ultrasonic cleaning should be avoided to prevent damage to the TCXO.
5. Do Not Use Ultrasonic-Wave Soldering or Wave Solder with Package Immersed in Solder.

Notes of the Storage:

1. To keep products under the condition at the room temperature (-5~35 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.
5. Don't move the product from the cold place to the hot place in the short time, otherwise it may make some dew-drop, then a short circuit may happen in case.
6. Storage periods should be maximum 6 months under condition of above item 1 after delivery from the factory.
7. Once open the bag, there is possibility of electrical characteristics deterioration due to absorption of moisture. So, please use parts within 7 days after opening the bag.
8. If you have to keep parts without using after opening the bag, please put the drying agent in the bag, fold the bag and keep it in the place where temperature and humidity are controlled (nitrogen atmosphere box etc.)

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.