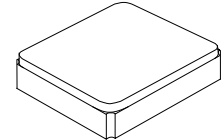


- **High Performance Crystal for Wireless Communications Devices**
- **Excellent Frequency Stability and Reliability**
- **Ultra-Miniature Surface Mount Seam Weld Package**
- **Complies with Directive 2002/95/EC (RoHS)**
- **AEC-Q200 Qualified**
- **Nominal Footprint: 2.0 x 1.6**
- **Moisture Sensitivity Level: 1**

Electrical Characteristics

XTC7031

32.0000 MHz Crystal Unit



SM2016-4

XTC7031	Specifications
Nominal Frequency, Fo	32.000000 MHz
Storage Temperature Range	-40°C to +85°C
Operating Temperature Range	-30°C to +85°C
Power Supply Voltage, Vcc	1.8~3.3 V (Nominal to 3.3V)
Output Voltage with Load 10pF//10KΩ, Vout	0.8 Vp-p min
Power Supply Current, Icc	2.0 mA max
Output Wave form	Clipped Sinewave
Frequency Tolerance as received	+/- 1.0 ppm max @ 25°C +/- 2°C
Frequency Stability	
a. Vs. Temperature (-30~85°C)	+/- 2.5 ppm (reference to 25°C)
b. Vs. Load varied 10pF//10KΩ+/-10%	+/- 0.1 ppm
c. Vs. Supply Voltage varied Vcc+/-5%	+/- 0.1 ppm
Output Load	10KΩ//10pF
Start Up Time (90% of final RF level in Vp-p)	1.0 msec max (fast mode)
Aging	+/-1.0 ppm/ first year @25°C
G Sensitivity 3 axes random vibration 30Hz to 1.5KHz	2.0 ppb per G max
Harmonics	-5.0 dBc max
SSB Phase Noise (@1KHz Carrier Offset)	-130 dBc/Hz max
Marking	Laser marking

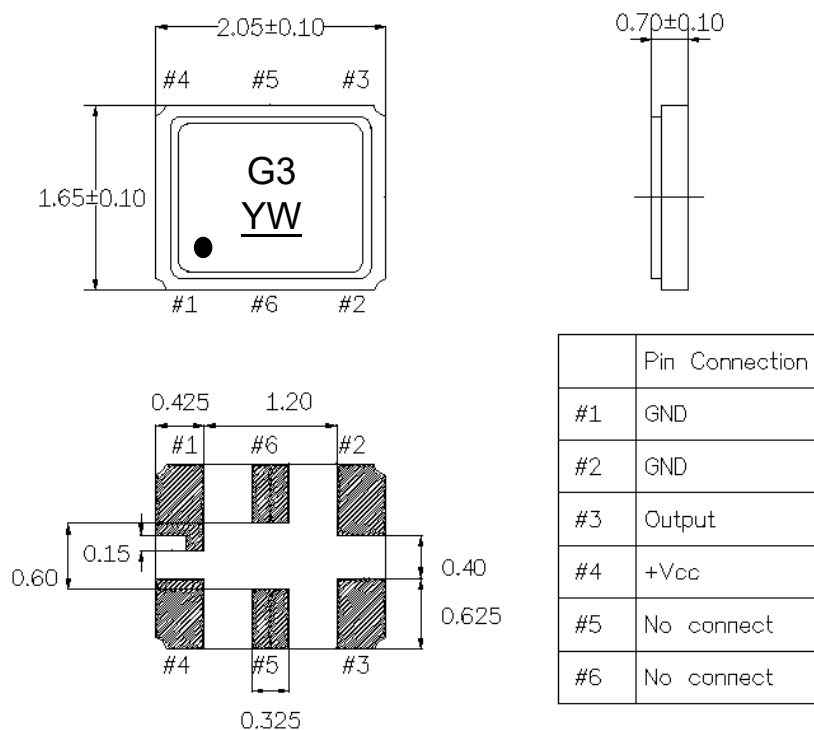


CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.

NOTES:

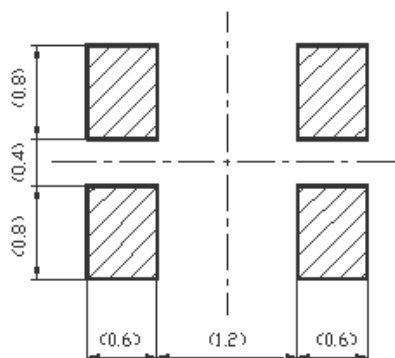
1. The design, manufacturing process, and specifications of this device are subject to change.
2. US or International patents may apply.
3. This component was always RoHS compliant from the first date of manufacture.

Mechanical Dimensions (mm)



Note: This package has two extra pads in the middle (pin #5 and #6) that are used to test the internal Xtal by the factory, but are not intended for customer use. Do not place ground (GND) patterns (including ground pads, via holes, etc.) under the crystal unit, especially under pin #5 and #6. Also, do not run RF signal power or digital line under the package in the multi-layered PCB.

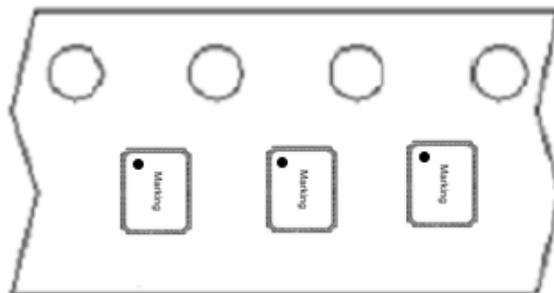
Recommended Land Pattern: (unit: mm)



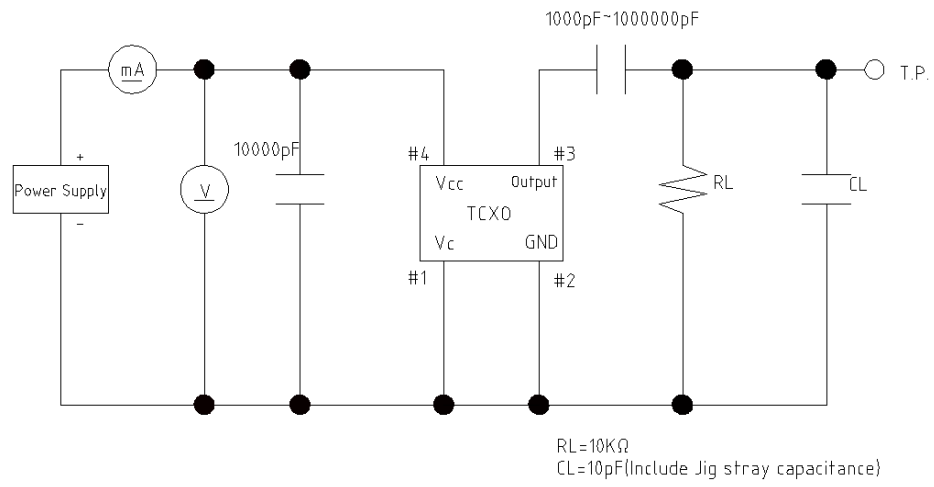
Marking:

Line 1: Symbol Code

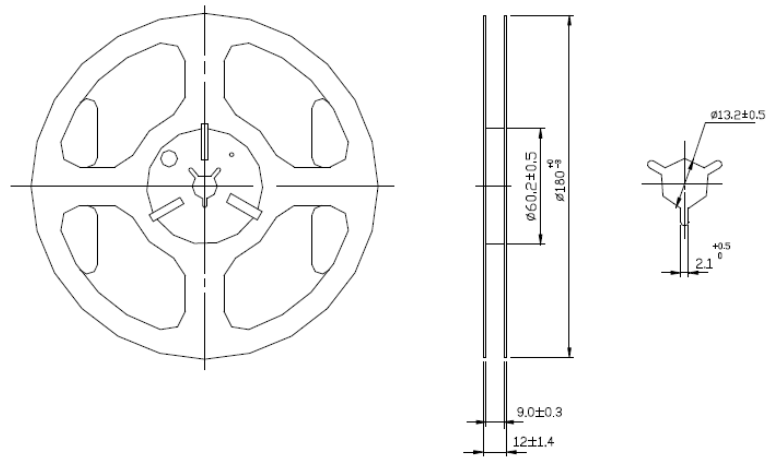
Line 2: Y = Year, W = week



Recommended Circuit

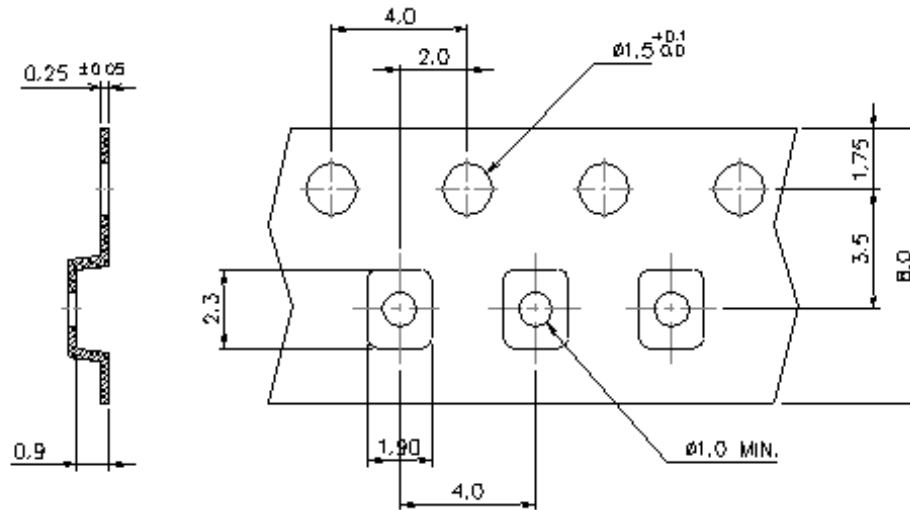


Reel Dimension



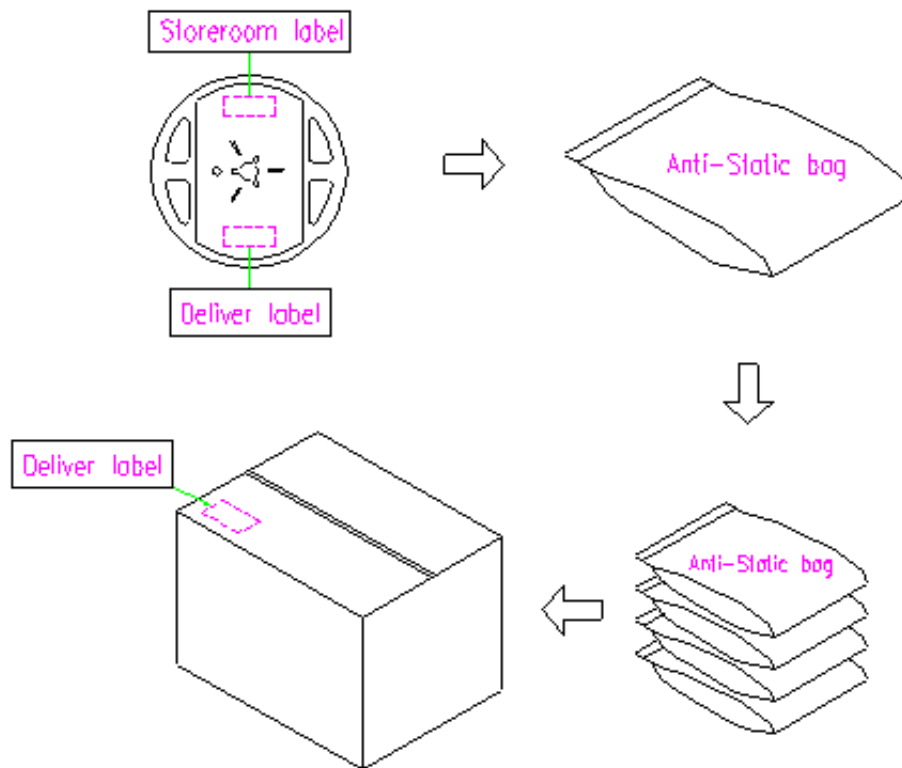
Tape Dimensions (mm)

Tape and Reel Standard per ANSI/EIA-481



Packing Quantity/Packing:

3K pcs maximum per reel



Recommended Reflow Profile

1. Preheating shall be fixed at 150~180°C for 60~90 seconds.
2. Ascending time to preheating temperature 150°C shall be 30 seconds min.
3. Heating shall be fixed at 220°C for 50~80 seconds and at 260°C +0/-5°C peak (10 seconds).
4. Time: 5 times maximum.

