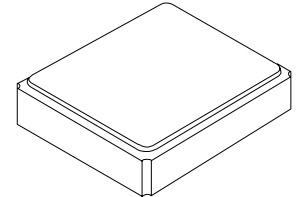




# Preliminary

**XVT9012**

**19.200000 MHz  
VCTCXO**



**SM3225-4 Case**

- **Voltage Controlled Temperature Compensated Crystal Oscillator**
- **Excellent Frequency Stability & Low Phase Noise**
- **3.2 x 2.5 x 1.2 mm Surface-mount Case**
- **Complies with Directive 2002/95/EC (RoHS)** 

## Electrical Characteristics

| Characteristic   | Sym              | Notes | Minimum                    | Typical   | Maximum | Units            |
|--|------------------|-------|----------------------------|-----------|---------|------------------|
| Nominal Frequency  | f <sub>o</sub>   |       |                            | 19.200000 |         | MHz              |
| Component Storage Temperature Range                                      |                  |       | -30                        |           | +85     | °C               |
| Storage Temperature Range in Tape and Reel                               |                  |       | -30                        |           | +85     | °C               |
| Soldering Profile, 10 seconds, up to 5 cycles                            |                  |       |                            |           | 260     | °C               |
| Operating Temperature Range  |                  |       | -20                        |           | +70     | °C               |
| Power Supply Voltage   | V <sub>cc</sub>  |       | 3.14                       | 3.30      | 3.46    | V                |
| Output Voltage with Load 10 pF  10 KΩ                                    | V <sub>out</sub> |       | 0.8                        |           |         | V <sub>P-P</sub> |
| Output Waveform  |                  |       | clipped sinewave           |           |         |                  |
| Power Supply Current   | I <sub>cc</sub>  |       |                            |           | 2.0     | mA               |
| Control Voltage  | V <sub>con</sub> |       | 0.5                        |           | 2.5     | V                |
| Control Voltage Input Impedance  |                  |       | 100K                       |           |         | ohms             |
| Frequency Tolerance, Single Solder Reflow, V <sub>control</sub> = 1.50 V |                  |       | ±2.0 ppm max @ 25 °C ±2 °C |           |         |                  |
| Frequency Stability versus:  |                  |       |                            |           |         |                  |
| Temperature, -20 to 70 °C  |                  |       |                            | ±1.0      |         | ppm              |
| Supply Voltage, 3.14 to 3.46 V   |                  |       |                            | ±0.2      |         | ppm              |
| Load 10 pF  10 KΩ ±10%   |                  |       |                            | ±0.2      |         | ppm              |
| Control Voltage Frequency Range, 0.5 to 2.5 V                            |                  |       | ±13                        |           | ±17     | ppm/V            |
| Start Up Time, 90% of final RF level in V <sub>P-P</sub>                 |                  |       |                            |           | 5.0     | ms               |
| Aging @ 25 °C  |                  |       |                            | ±1        |         | ppm/year         |
| Harmonics  |                  |       |                            |           | -5.0    | dBc              |
| SSB Phase Noise @ 1 kHz Carrier Offset                                   |                  |       |                            |           | -130    | dBc/Hz           |
| Lid Symbolization  |                  |       | 9012/YWWS                  |           |         |                  |



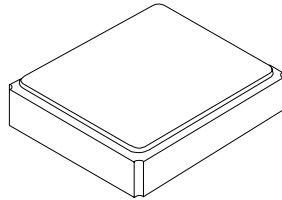
**CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.**

### Notes:

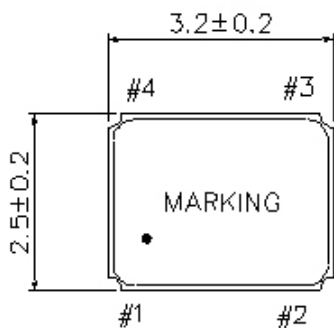
1. The design, manufacturing process, and specifications of this device are subject to change without notice.

# SM3225-4 Case

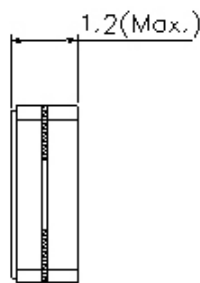
## 4-Terminal Surface-Mount Seam Weld Case 3.2 x 2.5 mm Nominal Footprint



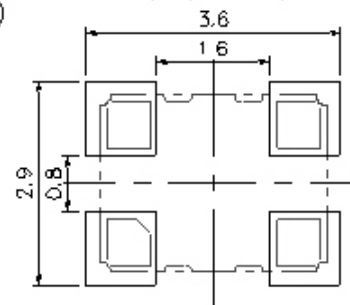
Top View



Side View

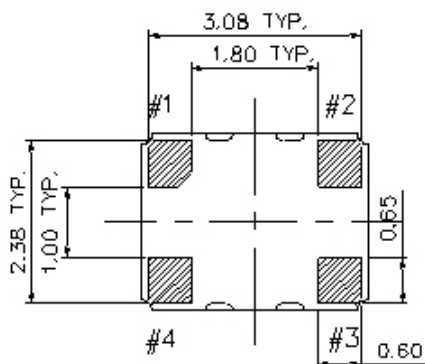


Recommended Land Pattern  
(Top View)



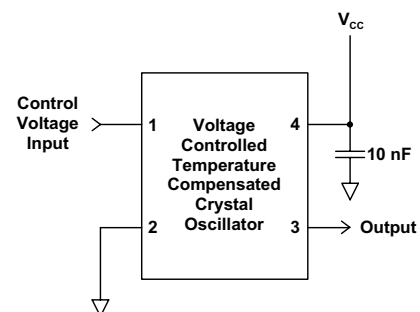
Unit : mm

Bottom View

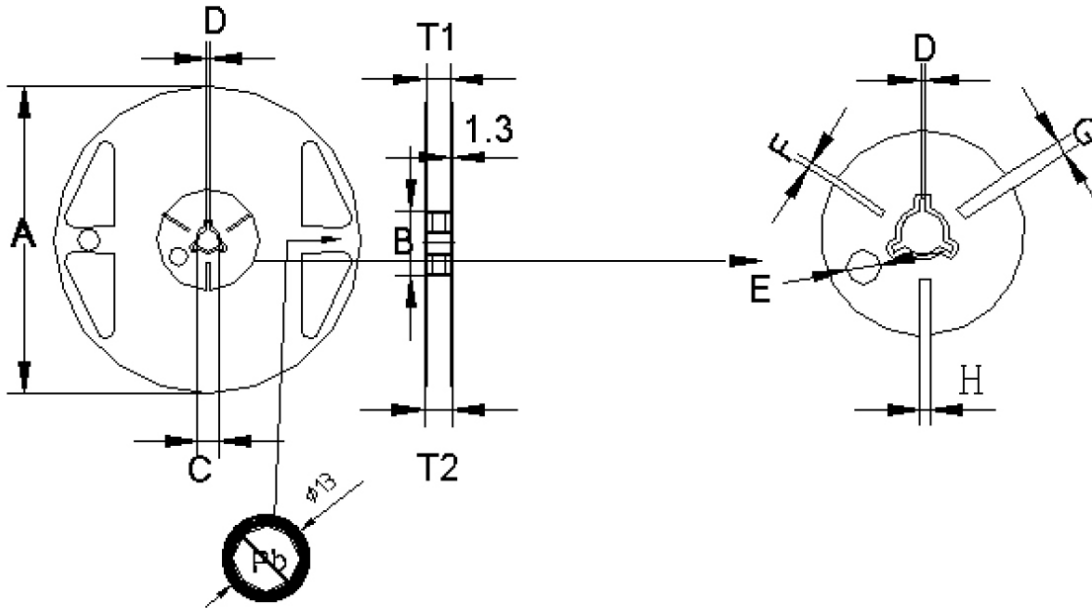


| Pin | Connection   |
|-----|--------------|
| 1   | Vcon         |
| 2   | GND/CASE GND |
| 3   | Output       |
| 4   | Vcc          |

Application Circuit

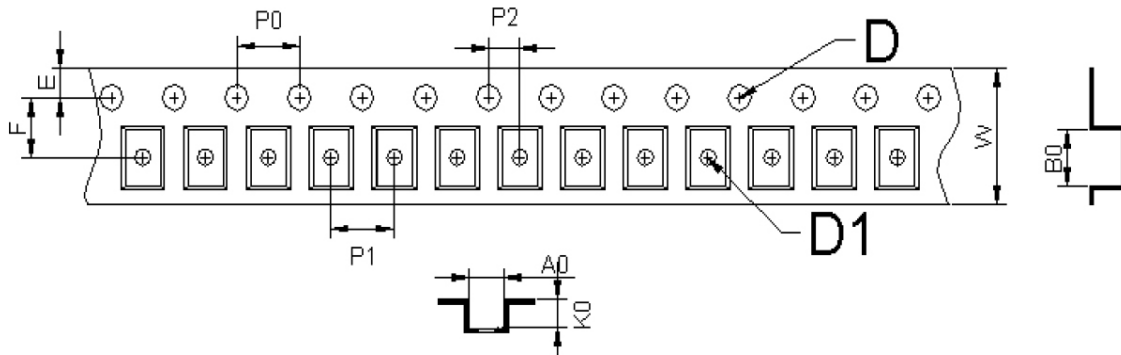


## Reel Dimensions



| mm        | A    | B         | C    | D    | E    | F    | G    | H    | T1   | T2   | T3   |
|-----------|------|-----------|------|------|------|------|------|------|------|------|------|
| Dimension | 180  | 60        | 13.0 | 2.0  | 9.1  | 2.9  | 4.9  | 3.9  | 9.0  | 11.4 | 1.2  |
| Tolerance | ±1.0 | +1.0/-0.0 | ±0.2 | ±0.5 | ±0.5 | ±0.5 | ±0.5 | ±0.5 | ±0.3 | ±1.0 | ±0.1 |

## Tape Dimensions



| mm        | A0    | B0    | W           | F     | E     | P0    | P1    | P2    | D1          | D           | K0    | t     |
|-----------|-------|-------|-------------|-------|-------|-------|-------|-------|-------------|-------------|-------|-------|
| Dimension | 2.80  | 3.71  | 8.00        | 3.50  | 1.75  | 4.00  | 4.00  | 2.00  | 1.50        | 1.00        | 1.75  | 0.25  |
| Tolerance | ±0.10 | ±0.10 | +0.30/-0.10 | ±0.05 | ±0.10 | ±0.10 | ±0.10 | ±0.05 | +0.10/-0.00 | +0.25/-0.00 | ±0.10 | ±0.02 |