



# Model XO7080-014 Voltage Controlled Crystal Oscillator

## Electrical Specifications

**Nominal Frequency (F<sub>0</sub>):** 125.0MHz

### Frequency Stability

Over Temperature: ±20ppm, maximum  
Aging 1<sup>st</sup> Year: ±1ppm, maximum  
vs. Supply Variation (V<sub>CC</sub> ±5%): ±0.5ppm  
vs. Load Variation (50Ω, ± 10%): ±0.5ppm

### Frequency Adjustment

Method: External Voltage (V<sub>c</sub>), 0 to +5.0V<sub>DC</sub>  
Tuning Range: ±25ppm typical  
Current Draw (@ Pin 5): ≤ 0.1mA  
Modulation Bandwidth: 3kHz minimum  
Input Impedance: > 10KΩ  
Slope: Negative

### Output (Sinewave)

Level: 0dBm, ±3dB  
Load: 50Ω, ± 10%

### Power Supply

Voltage (V<sub>s</sub>): +5.0V<sub>DC</sub> ±5%  
Current Consumption: 3.0mA, maximum

**Harmonics:** -20dBc, maximum

**Non-Harmonics:** -90dBc, maximum

### SSB Phase Noise Under Static Conditions (typical)

-70dBc/Hz @ 10Hz offset  
-97dBc/Hz @ 100Hz offset  
-127dBc/Hz @ 1kHz offset  
-150dBc/Hz @ 10kHz to 1MHz offset

### SSB Phase Noise Under Sinusoidal Vibration Conditions (typical)

-59dBc/Hz @ 4Hz offset  
-48dBc/Hz @ 15Hz offset  
-50dBc/Hz @ 16Hz offset  
-46dBc/Hz @ 25Hz offset  
-43dBc/Hz @ 26Hz offset  
-41dBc/Hz @ 33Hz offset  
-127dBc/Hz @ 1kHz offset  
-150dBc/Hz @ 10kHz to 1MHz offset

### Environmental (survival and operating)

Temperature Range  
Operating: -40°C to +85°C  
Non-operating: -55°C to +105°C

#### Shock:

Three (3) ½ sine shock pulses of the given force and duration on each of the three (3) axis. The VCXO shall operate during and after the shock pulses.

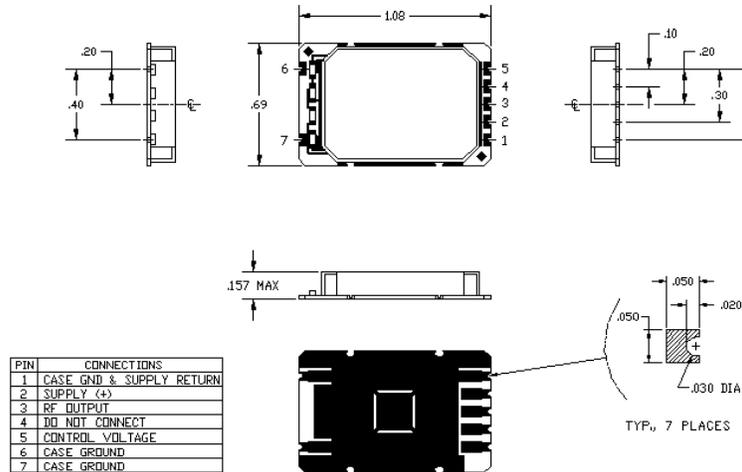
Direction: Force	Duration (msec)
Vertical: 160 G's	3 to 5
Front to Back: 80 G's	3 to 5
Side to Side: 80 G's	3 to 5

#### Vibration:

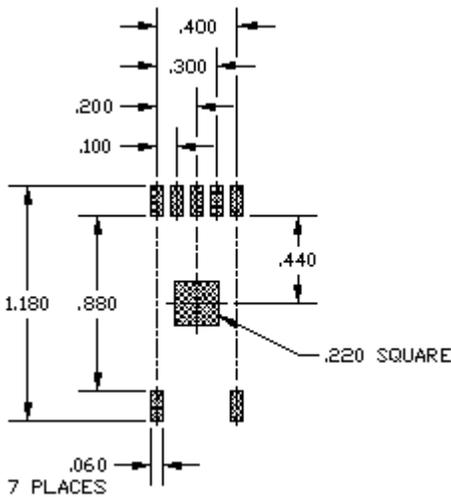
The VCXO shall operate for periods up to 2-hours duration when subjected to any of the vibration in the given ranges, with the corresponding input amplitude listed. The requirement shall be met regardless of the direction of the vibration

Frequency (Hz)	Input Amplitude (inches)
4 – 15	0.04 ±0.008
16 - 25	0.03 ±0.006
26 - 33	0.04 ±0.008

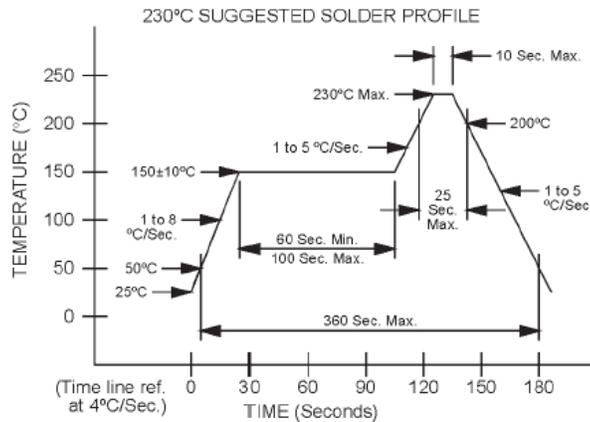
**Note:** The XO7080-014 is an SMT device that is a reflow assembly compatible device. (Recommended Reflow Profile in Figure 3). It is compatible with automated assembly processes; including post reflow aqueous and non-aqueous cleaning.



**Figure 1 - XO7080-014 Outline Drawing**



**Figure 2 - Recommended PAD Layout**



**Figure 3 - Recommended Reflow Profile**