

**AS9100 / ISO9001 Certified**

**Space**

MTI-Milliren Technologies, Inc. offers the ultra compact 220 series Oven Controlled Crystal Oscillator for aerospace applications. The 220 series maintains a lengthy heritage from MTI's proven space flight technology and is available in a frequency range from 5MHz to 200MHz. The 220 Series is available nuclear hardened to tactical levels for Prompt Dose Gamma, Neutron and to space flight levels for Total Dose Gamma exposures as well as Heavy Ion with no latch up behavior. This hermetically sealed, precision OCXO is ideal for Space flight applications. This part is fully assembled and tested in the USA.



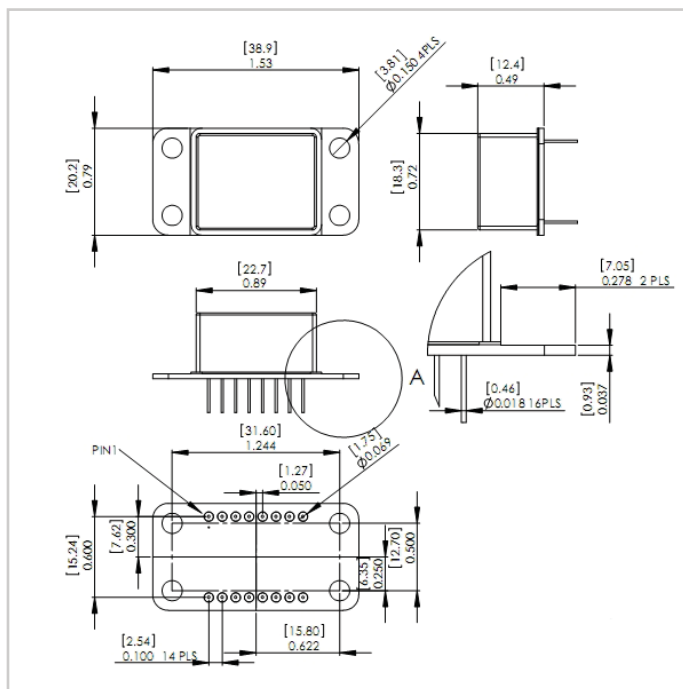
### Typical Performance (@10MHz)

- **Thermal Stability:**  $\pm 1.0E-08$  over  $-40^{\circ}\text{C}$  to  $+75^{\circ}\text{C}$
- **Daily Aging:**  $1.0E-09$ /day after 24 Hours Continuous Operation
- **Short Term Stability:**  $5.0E-12$  at 1 Second
- **Phase Noise:**  $-85\text{dBc/Hz}$  @ 1 Hz Offset,  $-155\text{dBc/Hz}$  @ 100kHz Offset
- **Warm Up:**  $1.0E-08$  after 3 Minutes referenced to 30 Minutes @  $-40^{\circ}\text{C}$
- **Continuous Power:** 2.0W Max
- **Output:** Sinewave +7dBm,  $\pm 2\text{dB}$

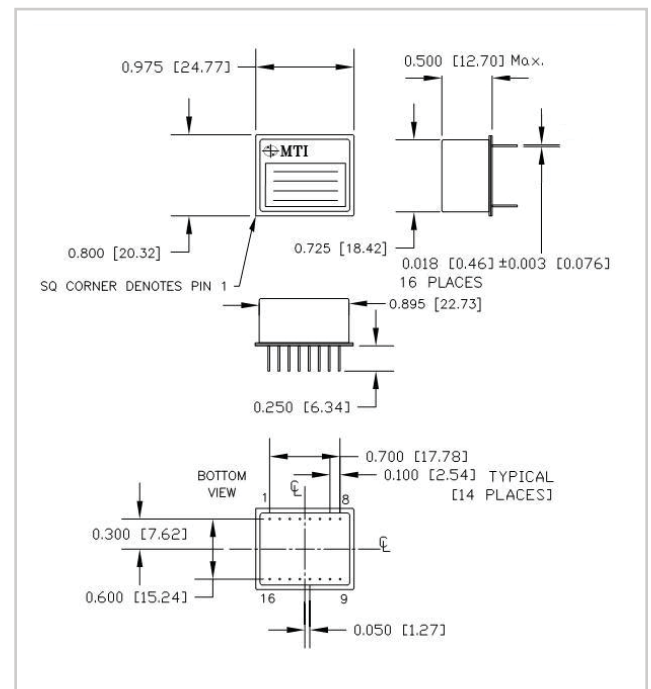
### Key Features

- **Low Component Count**
- **Ultra Compact**
- **Light Weight**
- **Radiation Hardened**
- **Wide Frequency Range**
- **Significant Heritage**

### 220 Series Flange Mount Interface Drawing



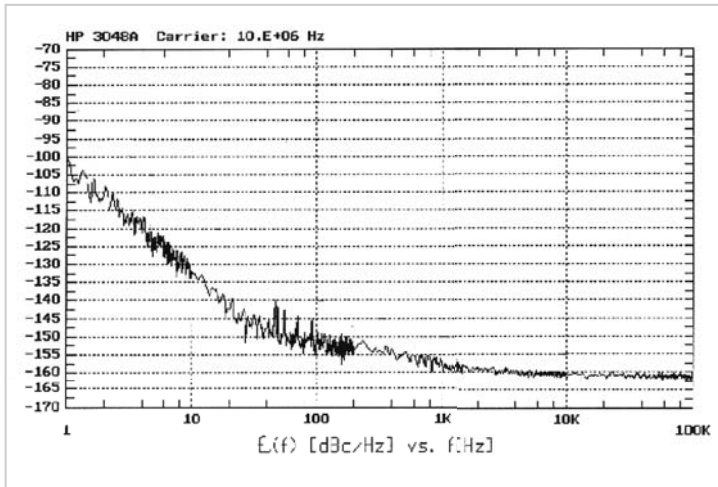
### 220 Series PCB Pin Mount Interface Drawing



\*RoHS compliant available

\*Parameters can be modified to meet specific requirements

## Phase Noise



## Frequency vs. Temperature (-40 ° C to 75 ° C)

