



High Reliability OCXO Announcement

MTI-Milliren Technologies Inc. introduces a new level of Oven Controlled Crystal Oscillator (OCXO) performance to defense and aerospace OEM's with the release of the extremely durable model 229. Designed to withstand the most demanding environments the model 229 has been tested and survived multiple 100G shocks as well as random acceleration of 46gRMS up to 2KHz. The 229 can be nuclear hardened to tactical levels for Gamma, Neutron, and Total Dose exposures. Further complimenting the model 229's ability to survive incredibly harsh environmental conditions is the use of acceleration compensating technology to allow for low g sensitivity performance. The model 229 maintains a long heritage from MTI's proven commercial technology and is available in a frequency range of 10MHz to 100MHz with thermal stability performance of +/-1.0E-008 from -54C to +85C at 10MHz. This rugged precision OCXO is perfect for Space, Airborne, Shipboard, or Ground Fixed GPS applications. See the detailed specification below. For more information or to request a quote send an email to sales@mti-milliren.com.

Electrical Specification

Output Frequency: 10.23MHz
Thermal Stability: +/-1.0E-008
Temperature Range: -54C to +85C
Frequency Tolerance: +/-1.0E-007 @ +25C
Daily Aging: 3.0E-009 after 24 hours continuous operation
Mechanical tuning: +/-1.0E-006
Warm Up: 3.0E-008 after 3 minutes referenced to 30 minutes @-40C
Oven Supply Voltage: 20Vdc +/-5%. 8 watts max warm-up and 1.8 watts continuous at -40C.
Oscillator Supply Voltage: 10 to 16Vdc 0.200 watts max
Output power: +1dBm +/-2dB
Short Term Stability: 1.0E-011

Output Spectrum

Spurious: -80dBc
Harmonics: -20dBc
Phase noise:

Offset	Level
10Hz	-110 dB
100Hz	-130 dB
1000Hz	-135 dB
10000Hz	-140 dB



Environmental

Shock: MIL-STD-202 Method 213 Test Condition I (100 G's, 6 microseconds, Sawtooth).
Vibration: MIL-STD-202, Method 204, Swept Sine, Test Condition G (0.06 inch double amplitude from 10-100 Hz, 30G from 100-2000 Hz). Random, 10 – 2000Hz up to 46Grms any axis.
Salt Spray: MIL-STD-202, Method 101, Test Condition B; **Hermetic Seal:** MIL-STD 202 Method 112, TC-D
Altitude MIL-STD-202: Test Condition C (except to 80,350 ft)
Radiation Hardened: Gamma, XRay, Neutron, and Total Dose
Package: Dimensions 4.00"Lx1.375"Wx1.8"H, 4-40 blind mounting. **Weight:** 7.3 ounces maximum
RF Output Connector: Gold Plated SMA female
Case Material: Aluminum, Electroless Nickel Plated