

LOW NOISE CRYSTAL OSCILLATORS > HF CITRINE PLO
FEATURES:

- Frequencies from 10 MHz to 25MHz, fixed
- Standard or Premium Phase Noise
- Ruggedized for Dynamic Environments
- PLL Loop Bandwidth: ≤ 1 Hz, typ
- Low G-Sensitivity to $1E-10/g$ per axis
- Excellent Temperature Stability
- Low Aging Rate
- Vibration Isolated Version Available

APPLICATIONS:

- Military Applications
- Airborne, Ground, Shipboard
- Radar Systems
- Tactical Radio
- Vehicular Communication
- Reference Source

DESCRIPTION:

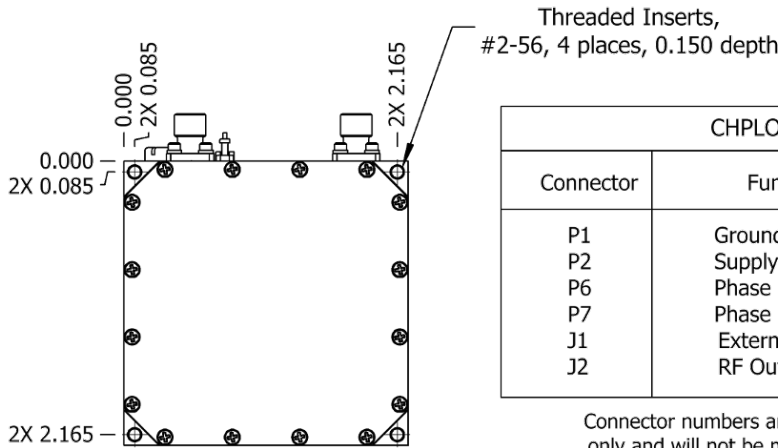
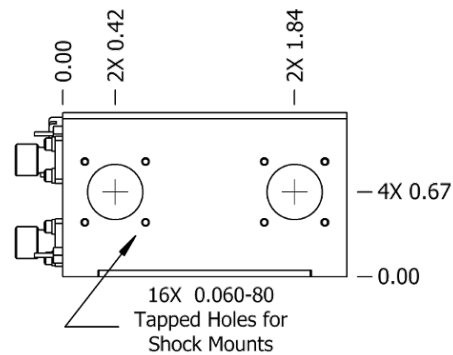
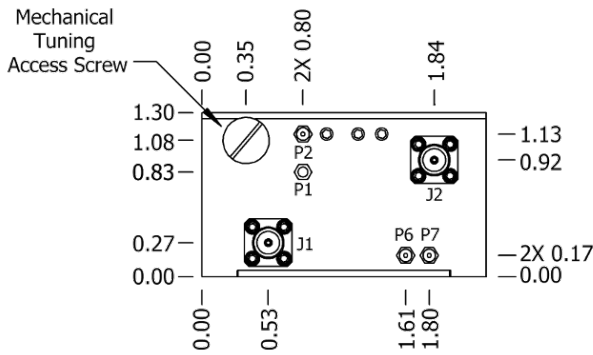
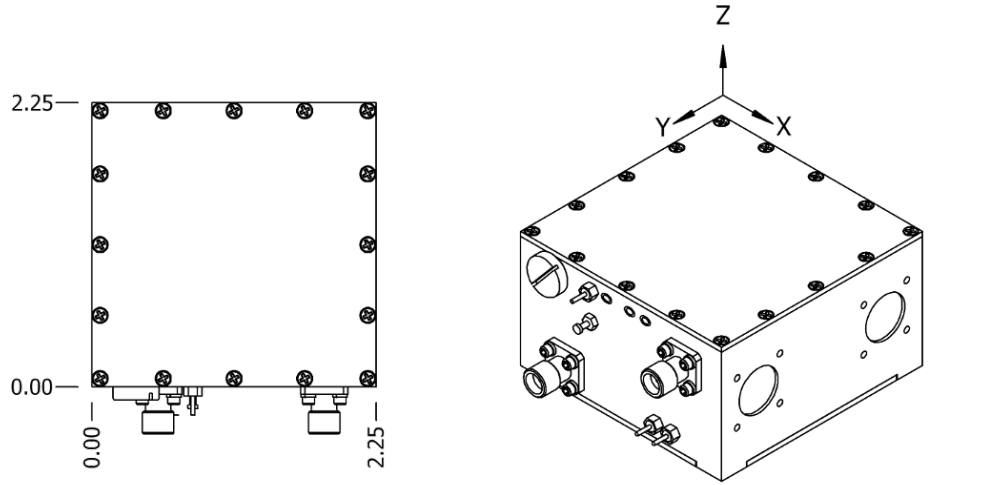
The HF Citrine PLO is a 10 MHz to 25 MHz fixed frequency rugged OCXO integrated with a low noise phase lock loop circuit. The PLO offers excellent aging and temperature stability (when free-running), Standard or Premium phase noise options and low g-sensitivity (to $1E-10/g$ per axis). Frequency dividers are used to prescale the internal HF oscillator and the external reference frequencies to phase lock at a common lower frequency. The PLL loop bandwidth is typically ≤ 1 Hz, but can be configured for optimal performance considering the reference signal provided. Designed for demanding applications, the HF Citrine PLO provides excellent phase noise performance under vibration with both hard mount and a vibration isolated version available. The hard mount nickel-plated machined aluminum package is 2.25" x 2.25" x 1.3". An internal voltage regulator is provided for excellent power supply line rejection. Please consult the factory if you need any specifications to be modified to better suit your application.



Electrical Specifications	
Output Frequency (fixed; specify within range)	10 MHz to 25 MHz
Output Level	+13 dBm ± 2 dB into 50 ohms
External Reference Input Frequency	10 MHz (standard; other options available)
External Reference Input Level	+7 dBm ± 6 dB into 50 ohms
Aging	[10 MHz model, typical]
Per day after 30 days operating, typical	5×10^{-10}
Second year, typical	5×10^{-8}
Per year thereafter, typical	3×10^{-8}
Temperature Stability (consult factory for other ranges)	[10 MHz model, typical]
Range E: 0 to +50°C (Ref: +25°C)	$\leq \pm 5 \times 10^{-8}$
Range F: -20 to +70°C (Ref: +25°C)	$\leq \pm 1 \times 10^{-8}$
Range G: -55 to +85°C (Ref: +25°C)	$\leq \pm 2 \times 10^{-7}$
Phase Noise	(Frequency Dependent: See Std Specifications and Part Numbers table below for details)
Harmonics	≤ -30 dBc
Sub-Harmonics	≤ -50 dBc
PLL & Divider Products	≤ -50 dBc
Spurious	≤ -80 dBc
PLL Loop Bandwidth	≤ 1 Hz or ≤ 10 Hz
Supply Voltage	+15 VDC or +12 VDC ($\pm 5\%$)
Warm-up	≤ 9 Watts for 5 minutes at +25°C
Total	≤ 6 Watts at +25°C
Crystal Type	SC-cut
Crystal Acceleration Sensitivity	$5 \times 10^{-10}/g$, typical; to $1 \times 10^{-10}/g$, available
Mechanical	
Packaging	Nickel-Plated Machined Aluminum
Dimensions	2.25" x 2.25" x 1.3"
Connectors / Mounting	SMA(f) and solder pins on side Threaded Inserts, #2-56, 4 places



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CHPLO	
Connector	Function
P1	Ground, Case
P2	Supply Voltage
P6	Phase Lock Voltage Monitor
P7	Phase Lock Alarm
J1	External Reference Input
J2	RF Output

Connector numbers are for reference only and will not be marked on unit.