

## LOW NOISE CRYSTAL OSCILLATORS > HF CITRINE PLUS

### FEATURES:

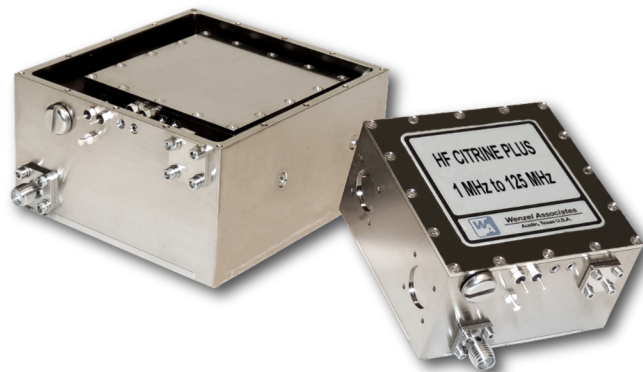
- Frequencies from 1 MHz to 125 MHz, fixed
- Standard or Premium Phase Noise
- Ruggedized for Dynamic Environments
- Low G-Sensitivity to 1E-10/g per axis
- Excellent Temperature Stability
- Low Aging Rate
- Vibration Isolated Version Available

### APPLICATIONS:

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

### DESCRIPTION:

The HF Citrine Plus is a 10 MHz to 25 MHz fixed frequency rugged OCXO coupled with an additional circuit such as a multiplier, divider, amplifier, or filter, when the application demands something extra. The integrated unit can provide output frequencies from 1 MHz to 125 MHz and offers excellent aging and temperature stability, Standard or Premium phase noise and low g-sensitivity (to 1E-10/g per axis). Designed for demanding application, the HF Citrine Plus 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 included, which provides excellent power supply line rejection. Please consult the factory to discuss any custom specification modifications which may better suit your application.



Electrical Specifications	
Output Frequency (fixed; specify within range)	1 MHz to 125 MHz
Output Level	+13 dBm $\pm 2$ dB into 50 ohms
Aging	(50 MHz model, typical)
Per day after 30 days operating, typical	$5 \times 10^{-10}$
Second year, typical	$5 \times 10^{-8}$
Per year thereafter, typical	$3 \times 10^{-8}$
Temperature Stability (consult factory for other ranges)	(50 MHz model, typical)
Range E: 0 to +50°C (Ref: +25°C)	$\leq \pm 5 \times 10^{-9}$
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	$\leq -30$ dBc
Sub-Harmonics	$\leq -50$ dBc
Spurious	$\leq -80$ dBc
Tuning	(MT and ET ranges can be reversed upon request)
- Mechanical Tuning	$\geq \pm 1 \times 10^{-6}$ , typical
- Electrical Tuning	$\geq \pm 2 \times 10^{-7}$ , typical
Tuning A: 0 to +10 VDC	$\geq \pm 2 \times 10^{-7}$ , typical
Tuning B: $\pm 5$ VDC	(Positive Slope available on some ET only models)
Slope: Negative	
Supply Voltage	+15 VDC or +12 VDC ( $\pm 5\%$ )
Warm-up	$\leq 9$ Watts for 5 minutes at +25°C
Total	$\leq 6$ Watts at +25°C
Crystal Type	SC-cut
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	- Package A SMA(f) and solder pins on side Threaded Inserts, #2-56, 4 places
	- Package B SMA(f) x2 and solder pins on side Threaded Inserts, #2-56, 4 places



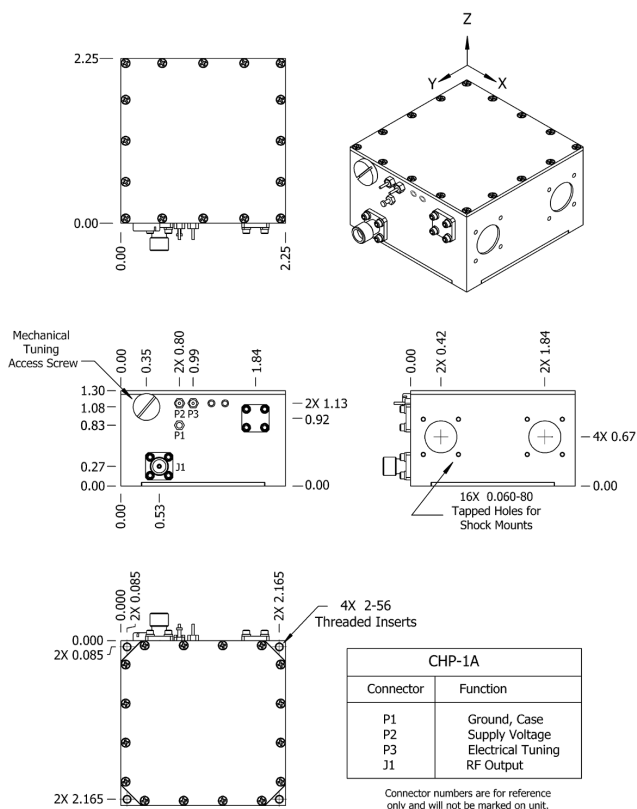
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OCXO  
HF CITRINE PLUS

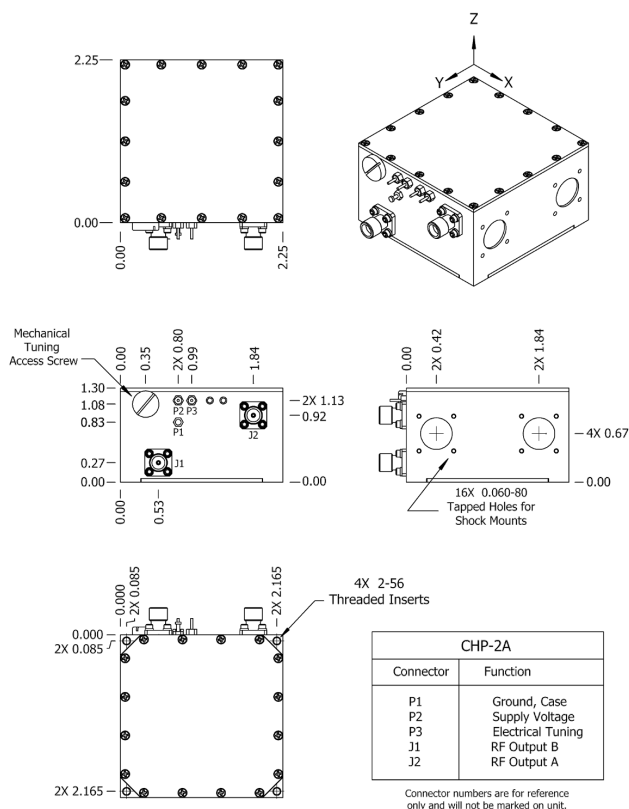
"QUIETLY THE BEST"

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## PACKAGE A



## PACKAGE B



## Standard Specifications and Part Numbers \*\*

Part Number	Output Frequency * (MHz)	Typical Phase Noise [dBc/Hz], Static *					Output Level (dBm) * into 50 ohms	Temperature Stability (Ref: +25°C) *	Supply Voltage (VDC)	Acceleration Sensitivity (/g per axis)*	Package / Connectors	Package Size (inches)
		10 Hz	100 Hz	1 kHz	10 kHz	100 kHz						
501-25557	20	-123	-148	-158	-158	-158	+13 ±2	±5E-8, 0 to +50°C	+15	5E-10, typ	SMA(f) & Pins on Side	2.25 x 2.25 x 1.3
501-25558	20	-128	-153	-165	-167	-168	+13 ±2	±5E-8, 0 to +50°C	+15	5E-10, typ	SMA(f) & Pins on Side	2.25 x 2.25 x 1.3
501-26077	25	-120	-145	-150	-150	-150	+13 ±2	±5E-8, 0 to +50°C	+15	N/A	SMA(f) & Pins on Side	2.25 x 2.25 x 1.3
501-26078	25	-130	-150	-158	-160	-160	+13 ±2	±5E-8, 0 to +50°C	+15	N/A	SMA(f) & Pins on Side	2.25 x 2.25 x 1.3

\* Consult factory for custom frequency, phase noise performance, output level, temperature stability and acceleration sensitivity options.

\*\* See website for additional Standard Part Numbers and Specifications.



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