



Low Noise Crystal Oscillators > VHF Citrine Plus

Features:

- Frequencies from 50 MHz to 700 MHz, fixed
- Ruggedized for Dynamic Environments
- Standard or Premium Phase Noise
- Low G-Sensitivity to 2E-10/g per axis
- Good Temperature Stability
- Vibration Isolated Version Available

Applications:

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



Electrical Specifications	
Output Frequency (fixed; specify within range)	50 MHz to 700 MHz
Output Level	+13 dBm ±2 dB into 50 ohms
Aging	
Per day after 30 days operating, typical	5×10^{-9}
Second year, typical	5×10^{-7}
Per year thereafter, typical	3×10^{-7}
Temperature Stability (consult factory for other ranges)	
Range E: 0 to +50°C (Ref: +25°C)	$\leq \pm 2 \times 10^{-7}$
Range F: -20 to +70°C (Ref: +25°C)	$\leq \pm 5 \times 10^{-7}$
Range G: -55 to +85°C (Ref: +25°C)	$\leq \pm 2 \times 10^{-6}$
Phase Noise	(Frequency Dependent: See Standard Specifications and Part Numbers table below for details)
Harmonics	≤ -30 dBc
Sub-Harmonics	≤ -50 dBc
Spurious	≤ -80 dBc
Tuning	(MT and ET ranges can be reversed upon request)
- Mechanical Tuning	$\geq \pm 4 \times 10^{-6}$, typical
- Electrical Tuning	$\geq \pm 5 \times 10^{-7}$, typical
Tuning A: 0 to +10 VDC	$\geq \pm 5 \times 10^{-7}$, typical
Tuning B: ±5 VDC	$\geq \pm 5 \times 10^{-7}$, typical
Slope: Negative	(Positive Slope available on some ET only models)
Supply Voltage	+15 VDC or +12 VDC (±5%)
Warm-up	≤ 7 Watts for 5 minutes at +25°C
Total	≤ 5 Watts at +25°C
Crystal Type	SC-cut
Acceleration Sensitivity	5×10^{-10} /g, typical; to 2×10^{-10} /g, available
Mechanical	
Packaging	Nickel-Plated Machined Aluminum
Dimensions	2" x 2" 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

Description:

The VHF Citrine Plus is a 25 MHz to 160 MHz fixed frequency rugged OCXO coupled with an additional circuit such as a multiplier, divider, amplifier or filter, when the application demands something extra. This integrated assembly can provide a fixed output frequency between 50 MHz and 700 MHz and offers good temperature stability, Standard or Premium phase noise and low g-sensitivity (to 2E-10/g per axis). Designed for demanding applications, the VHF 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" x 2" 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.



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500 MHz Citrine Plus

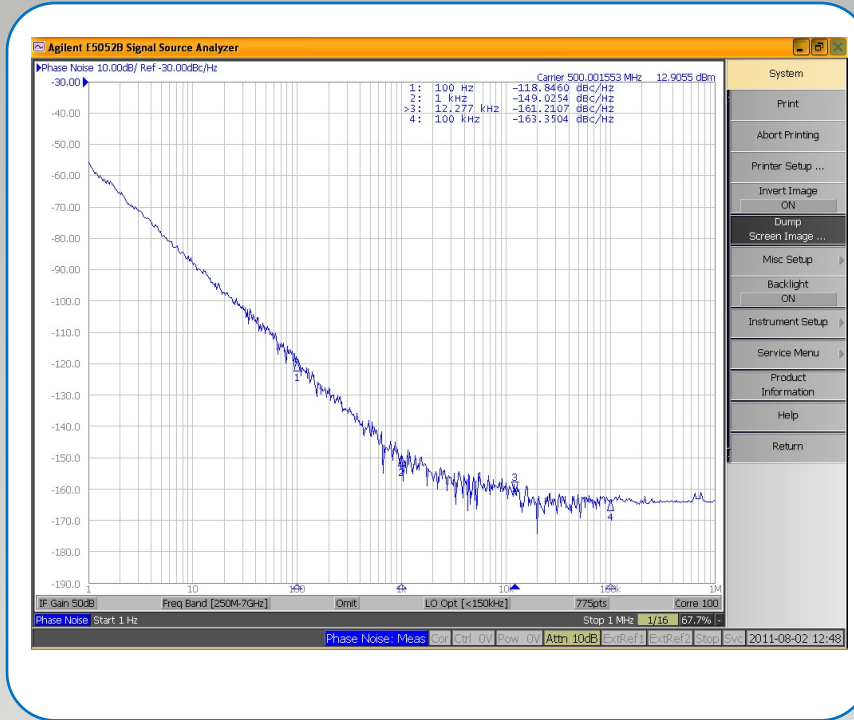


Figure 1: Typical Phase Noise Performance Plot for the 500 MHz Citrine Plus, P/N: 501-23792

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						
501-23792	500	-85	-115	-142	-159	-160	+13 ±2	±5E-7, 0 to +50°C	+15	3E-10, typ	SMA(f) & Pins on Side	2 x 2 x 1.3
501-25015	500	-81	-111	-136	-149	-150	+13 ±2	±5E-7, 0 to +50°C	+15	5E-10, typ	SMA(f) & Pins on Side	2 x 2 x 1.3
501-25997	500/100	-84	-114	-134	-149	-150	+13 ±2	±5E-7, 0 to +50°C	+15	5E-10, typ	SMA(f) & Pins on Side	2 x 2 x 1.3
501-25998	500/100	-84	-114	-142	-159	-160	+13 ±2	±5E-7, 0 to +50°C	+15	5E-10, typ	SMA(f) & Pins on Side	2 x 2 x 1.3
501-26636	320	-88	-118	-141	-151	-152	+13 ±2	±5E-7, 0 to +50°C	+15	5E-10, typ	SMA(f) & Pins on Side	2 x 2 x 1.3
501-26637	320	-88	-118	-143	-160	-161	+13 ±2	±5E-7, 0 to +50°C	+15	5E-10, typ	SMA(f) & Pins on Side	2 x 2 x 1.3
501-26689	320/80	-88	-118	-143	-160	-161	+13 ±2	±5E-7, 0 to +50°C	+15	5E-10, typ	SMA(f) & Pins on Side	2 x 2 x 1.3
501-26792	200	-93	-123	-151	-167	-168	+13 ±2	±5E-7, 0 to +50°C	+15	3E-10, typ	SMA(f) & Pins on Side	2 x 2 x 1.3
501-26845	250	-82	-112	-142	-158	-159	+13 ±2	±5E-7, 0 to +50°C	+15	5E-10, typ	SMA(f) & Pins on Side	2 x 2 x 1.3
501-26846	250	-86	-116	-144	-165	-166	+13 ±2	±5E-7, 0 to +50°C	+15	5E-10, typ	SMA(f) & Pins on Side	2 x 2 x 1.3
501-26945	160/80	-95	-125	-153	-169	-170	+13 ±2	±5E-7, 0 to +50°C	+15	5E-10, typ	SMA(f) & Pins on Side	2 x 2 x 1.3
501-26954	160	-95	-125	-153	-167	-168	+13 ±2	±5E-7, 0 to +50°C	+15	5E-10, typ	SMA(f) & Pins on Side	2 x 2 x 1.3
501-26955	160	-93	-123	-143	-161	-162	+13 ±2	±5E-7, 0 to +50°C	+15	5E-10, typ	SMA(f) & Pins on Side	2 x 2 x 1.3
501-27005	200	-93	-123	-144	-161	-163	+13 ±2	±5E-7, 0 to +50°C	+15	5E-10, typ	SMA(f) & Pins on Side	2 x 2 x 1.3

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

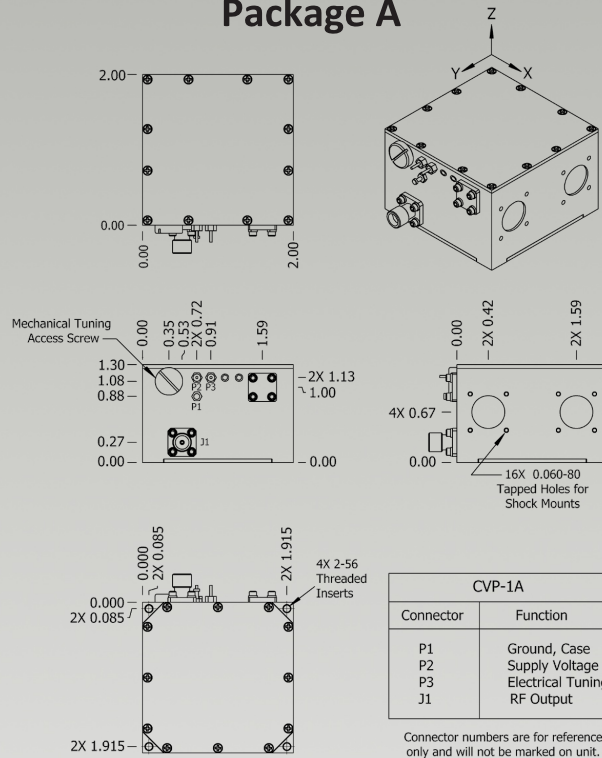
** See website for additional Standard Part Numbers and Specifications.



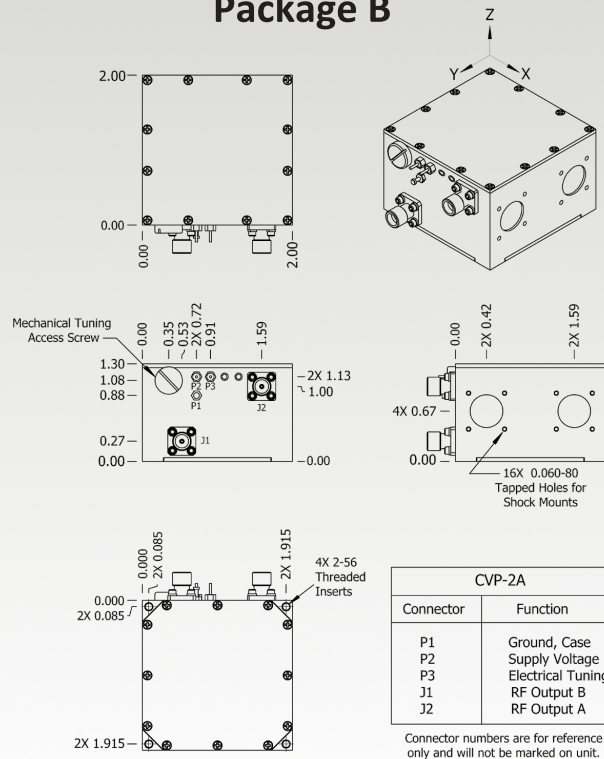


Low Noise Crystal Oscillators > VHF Citrine Plus

Package A



Package B



Crystal Oscillators

RF Modules

Frequency Sources

IMAs

Military

Space

