

**LOW NOISE CRYSTAL OSCILLATORS > VIBRATION ISOLATED VHF CITRINE**
**FEATURES:**

- Frequencies from 25 MHz to 160 MHz, fixed
- Standard, Premium or Golden Phase Noise
- Ruggedized for Dynamic Environments
- Low G-Sensitivity to 2E-10/g per axis
- Natural Mount Frequency: ~50Hz, typical
- Effective G-Sensitivity to 5E-12/g (2 kHz offset)

**APPLICATIONS:**

- Military Applications
- Airborne and Ground
- Radar Systems
- Tactical Radio
- Vehicular Communication



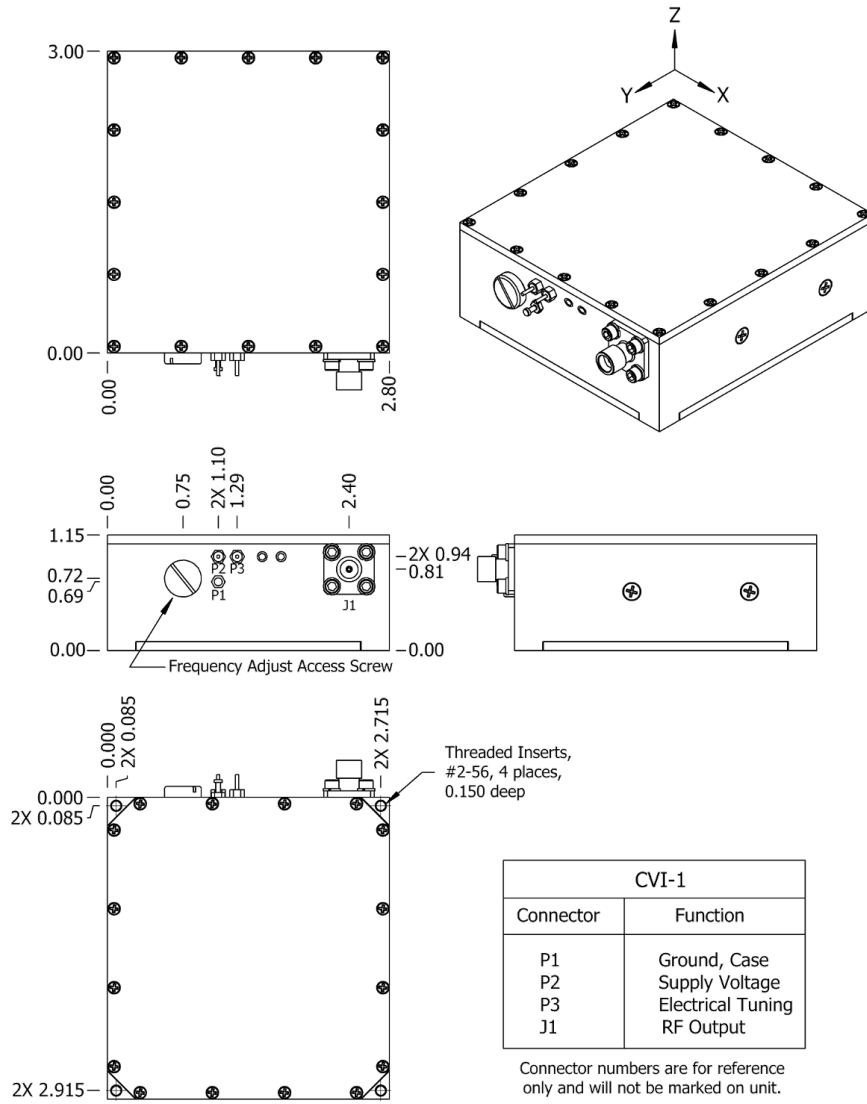
Electrical Specifications	
Output Frequency (fixed; specify within range)	<b>25 MHz to 160 MHz</b>
Output Level	+13 dBm ±2 dB into 50 ohms
Aging	<i>(100 MHz model, typical)</i>
Per day after 30 days operating, typical	$5 \times 10^{-9}$
Second year, typical	$5 \times 10^{-7}$
Per year thereafter, typical	$3 \times 10^{-7}$
Temperature Stability (consult factory for other ranges)	<i>(100 MHz model, typical)</i>
Range E: 0 to +50°C (Ref: +25°C)	$\leq \pm 5 \times 10^{-7}$
Range F: -20 to +70°C (Ref: +25°C)	$\leq \pm 1 \times 10^{-6}$
Range G: -55 to +85°C (Ref: +25°C)	$\leq \pm 2 \times 10^{-6}$
Phase Noise	<i>(Frequency Dependent: See Std Specifications and Part Numbers table below for details)</i>
Harmonics	$\leq -30$ dBc
Spurious	$\leq -80$ dBc
Tuning	<i>(MT and ET ranges can be reversed upon request)</i>
- 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	<i>(Positive Slope available on some ET only models)</i>
Supply Voltage	+15 VDC or +12 VDC (±5%)
Warm-up	$\leq 6$ Watts for 5 minutes at +25°C
Total	$\leq 3$ Watts at +25°C
Crystal Type	SC-cut
Crystal Acceleration Sensitivity	$5 \times 10^{-10}$ /g, typical; to $2 \times 10^{-10}$ /g, available
Natural Mount Resonant Frequency	~50 Hz, typical
Mechanical	
Packaging	Nickel-Plated Machined Aluminum
Dimensions	3.0" x 2.8" x 1.15"
Connectors / Mounting	SMA(f) and solder pins on side Threaded Inserts, #2-56, 4 places

**DESCRIPTION:**

The Vibration Isolated VHF Citrine is a 25 MHz to 160 MHz fixed frequency rugged OCXO featuring Standard, Premium or Golden phase noise options (to -190 dBc/Hz), good temperature stability and low g-sensitivity (to 2E-10/g per axis), mounted within an outer enclosure using shock mounts. Although vibration isolation may not be a viable solution for some applications, it works well for dampening vibration beyond the natural resonant frequency of the isolated unit, typically 50 Hz to 70 Hz, and varies depending on the weight of the isolated unit, typically 50 Hz to 70 Hz, and varies depending on the weight of the isolated unit, typically 50 Hz to 70 Hz, and varies depending on the weight of the isolated unit and vibration profile. The Vibration Isolated BHF Citrine is an ideal solution for airborne and mobile applications with random vibration requiring improved dynamic phase noise performance at offsets at and beyond 100 Hz. Effective g-sensitivity to 5E-12/g (2 kHz offset) can be realized. The nickel-plated aluminum outer enclosure is 3" x 2.8" x 1.15". A low noise 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.



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**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						
501-26251	50	-105	-135	-155	-169	-170	+13 ±2	±5E-7, 0 to +50°C	+15	5E-10, typ	SMA(f) & Pins on Side	2.8 x 3 x 1.15
501-26252	50	-105	-135	-158	-175	-176	+13 ±2	±2E-7, 0 to +50°C	+15	5E-10, typ	SMA(f) & Pins on Side	2.8 x 3 x 1.15
501-25842	80	-105	-135	-162	-185	-188	+13 ±2	±2E-7, 0 to +50°C	+15	3E-10, typ	SMA(f) & Pins on Side	2.8 x 3 x 1.75
501-24942	100	-100	-130	-158	-176	-176	+13 ±2	±2E-7, 0 to +50°C	+15	3E-10, typ	SMA(f) & Pins on Side	2.8 x 3 x 1.15
501-24980	100	-100	-130	-150	-165	-165	+13 ±2	±5E-7, 0 to +50°C	+15	3E-10, typ	SMA(f) & Pins on Side	2.8 x 3 x 1.15
501-25843	100	-105	-135	-162	-185	-188	+18 ±2	±2E-7, 0 to +50°C	+15	5E-10, typ	SMA(f) & Pins on Side	2.8 x 3 x 1.75

\* 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.