



Low Noise Crystal Oscillators > Vibration Isolated HF Citrine PLO

Features:

- Frequencies from 10 MHz to 25 MHz, fixed
- Standard or Premium Phase Noise
- Ruggedized for Dynamic Environments
- PLL Loop Bandwidth: ≤ 1 Hz
- Low G-Sensitivity to 1E-10/g per axis
- Natural Mount Frequency: ~ 35 Hz, 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)	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)	$\leq \pm 1 \times 10^{-8}$
Range F: -20 to +70°C (Ref: +25°C)	$\leq \pm 2 \times 10^{-8}$
Range G: -55 to +85°C (Ref: +25°C)	$\leq \pm 5 \times 10^{-7}$
Phase Noise	(Frequency Dependent: See Standard 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	5×10^{-10} /g, typical; to 1×10^{-10} /g, available
Natural Mount Resonant Frequency	~ 35 Hz, typical
Mechanical	
Packaging	Nickel-Plated Machined Aluminum
Dimensions	3.25" x 3.05" x 1.75"
Connectors / Mounting	SMA(f) and solder pins on side Threaded Inserts, #2-56, 4 places

Description:

The Vibration Isolated HF Citrine PLO is a 10 MHz to 25 MHz fixed frequency rugged OCXO integrated with a low noise phase lock loop circuit and mounted within an outer enclosure using shock mounts. 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. 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 30 Hz to 50 Hz, and varies depending on the weight of the isolated unit and vibration profile. The Vibration Isolated HF Citrine PLO is an ideal solution for airborne and mobile applications with random vibration requiring improved dynamic phase noise performance at offsets at and beyond 80 Hz. Effective g-sensitivity to 5E-12/g (2 kHz offset) can be realized. The nickel-plated machined aluminum outer enclosure is 3.25" x 3.05" x 1.75". 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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