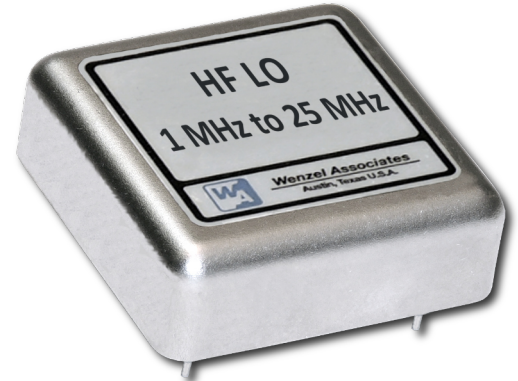


LOW NOISE CRYSTAL OSCILLATORS > HF LO
FEATURES:

- Output Frequency: 1 MHz to 25 MHz
- VHF OCXO with Dividers
- Low Phase Noise
- Low G-Sensitivity (to 2E-10/g per axis)
- Thru Hole PCB Mount
- Internal Voltage Regulator

APPLICATIONS:

- Airborne Applications
- Mobile Transceivers
- Synthesizers
- Instrument Reference

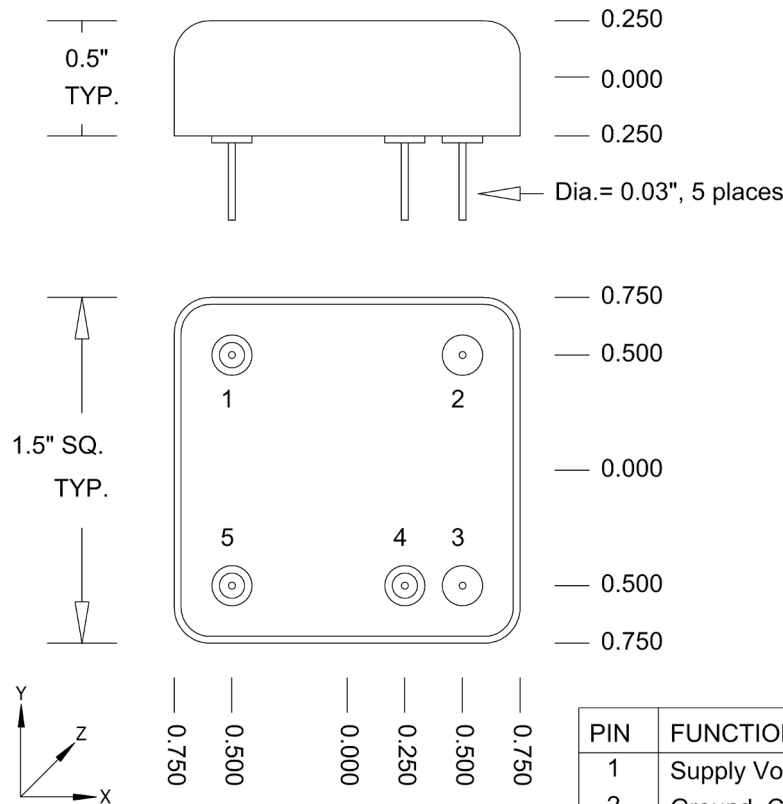

DESCRIPTION:

The HF LO Series oscillator is comprised of a VHF frequency OCXO and the necessary dividers to scale down the frequency to produce a fixed output between 1 MHz and 25 MHz. The result is a stable HF frequency oscillator with excellent phase noise performance under vibration. The small lightweight package (1.5"x1.5"x0.5") makes this unit well suited for airborne and mobile applications where good dynamic performance is required. A low noise voltage regulator is included to minimize power supply line related spurious signals. Please contact technical staff to discuss custom requirements.

Electrical Specifications	
Output Frequency (fixed; specify within range)	1 MHz to 25 MHz
Output Level	+13 dBm \pm 2 dB into 50 ohms
Aging	<i>(10 MHz model, typical)</i>
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)	<i>(10 MHz model, typical)</i>
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	<i>(Frequency Dependent: See Std. Specifications & Part Numbers table below for details)</i>
Harmonics	≤ -30 dBc
Spurious	≤ -80 dBc
Tuning	
- Mechanical Tuning	N/A
- Electrical Tuning	
Tuning A: 0 to +10 VDC	$\geq \pm 4 \times 10^{-6}$, typical
Tuning B: ± 5 VDC	$\geq \pm 4 \times 10^{-6}$, typical
Slope: Negative	<i>(Positive Slope available on some ET only models)</i>
Supply Voltage	+15 VDC or +12 VDC ($\pm 5\%$)
Warm-up	≤ 6 Watts for 5 minutes at +25°C
Total	≤ 3 Watts at +25°C
Crystal Type	SC-cut
Acceleration Sensitivity	5×10^{-10} /g, typical; to 2×10^{-10} /g, available
Mechanical	
Packaging	Solder sealed steel can
Dimensions	1.5" x 1.5" x 0.5"
Connectors / Mounting	Solder pins on base Thru Hole PCB mount



LOW NOISE CRYSTAL OSCILLATORS > HF LO



Connector numbers are for reference only, they are not marked on unit.

PIN	FUNCTION
1	Supply Voltage
2	Ground, Case
3	Ground, Case
4	RF Output
5	Electrical Tuning

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						
501-27510-01	10	-120	-145	-160	-165	-165	+13 ±2	±2E-7, 0° to +50°C	+15	5E-10, typ	Solder Pins on Base	1.5 x 1.5 x 0.5
501-27510-02	10	-120	-145	-160	-165	-165	+13 ±2	±5E-7, -20° to +70°C	+15	5E-10, typ	Solder Pins on Base	1.5 x 1.5 x 0.5
501-27510-21	10	-120	-145	-160	-165	-165	+13 ±2	±2E-7, 0° to +50°C	+12	5E-10, typ	Solder Pins on Base	1.5 x 1.5 x 0.5
501-27510-22	10	-120	-145	-160	-165	-165	+13 ±2	±5E-7, -20° to +70°C	+12	5E-10, typ	Solder Pins on Base	1.5 x 1.5 x 0.5
501-27510-41	10	-120	-145	-160	-165	-165	+13 ±2	±2E-7, 0° to +50°C	+15	3E-10, gtd	Solder Pins on Base	1.5 x 1.5 x 0.5
501-27510-42	10	-120	-145	-160	-165	-165	+13 ±2	±5E-7, -20° to +70°C	+15	3E-10, gtd	Solder Pins on Base	1.5 x 1.5 x 0.5
501-27510-61	10	-120	-145	-160	-165	-165	+13 ±2	±2E-7, 0° to +50°C	+12	3E-10, gtd	Solder Pins on Base	1.5 x 1.5 x 0.5
501-27510-62	10	-120	-145	-160	-165	-165	+13 ±2	±5E-7, -20° to +70°C	+12	3E-10, gtd	Solder Pins on Base	1.5 x 1.5 x 0.5
501-27510-81	10	-120	-145	-160	-165	-165	+13 ±2	±2E-7, 0° to +50°C	+15	2E-10, gtd	Solder Pins on Base	1.5 x 1.5 x 0.5
501-27510-82	10	-120	-145	-160	-165	-165	+13 ±2	±5E-7, -20° to +70°C	+15	2E-10, gtd	Solder Pins on Base	1.5 x 1.5 x 0.5
501-27510-91	10	-120	-145	-160	-165	-165	+13 ±2	±2E-7, 0° to +50°C	+12	2E-10, gtd	Solder Pins on Base	1.5 x 1.5 x 0.5
501-27510-92	10	-120	-145	-160	-165	-165	+13 ±2	±5E-7, -20° to +70°C	+12	2E-10, gtd	Solder Pins on Base	1.5 x 1.5 x 0.5

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

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