

## LOW NOISE CRYSTAL OSCILLATORS > STREAMLINE

### FEATURES:

- Output Frequency: 1 MHz to 25 MHz
- Excellent Aging Rate
- Low Phase Noise
- Good Temperature Stability
- PCB and SMA Packages Available
- Internal Voltage Regulator

### APPLICATIONS:

- Reference Oscillator
- GPS Receivers
- Test Equipment
- Synthesizers

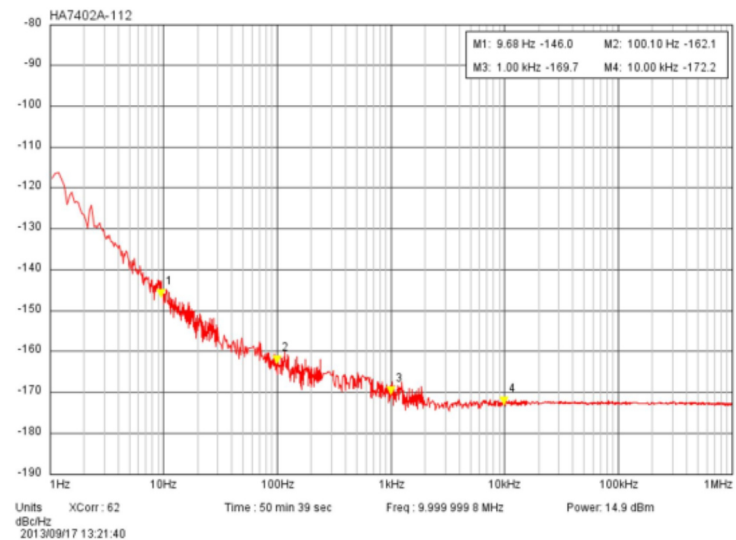


### DESCRIPTION:

The Streamline oscillators are general purpose OCXOs with a fixed output frequency between 1 MHz and 25 MHz, which offer excellent overall performance at a modest cost. They provide aging rates as low as 1E-10 per day and phase noise floor performance to -165 dBc/Hz. Packaging options include PCB mount with solder pins on the base or SMA(f) connector and solder pins on the side. 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 ±2 dB into 50 ohms	
Aging	(10 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)	(10 MHz model, typical)	
	Range E: 0 to +50°C (Ref: +25°C)	$\leq \pm 2 \times 10^{-9}$
	Range F: -20 to +70°C (Ref: +25°C)	$\leq \pm 5 \times 10^{-9}$
	Range G: -55 to +85°C (Ref: +25°C)	$\leq \pm 1.5 \times 10^{-8}$
Phase Noise	(Frequency Dependent: See Standard Specifications and Part Numbers table below for details)	
Harmonics	$\leq -30$ 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	Tuning A: 0 to +10 VDC	$\geq \pm 2 \times 10^{-7}$ , typical
	Tuning B: ±5 VDC	$\geq \pm 2 \times 10^{-7}$ , typical
	Slope: Negative	(Positive Slope available on some ET only models)
Supply Voltage	+15 VDC or +12 VDC (±5%)	
Warm-up	$\leq 5$ Watts for 5 minutes at +25°C	
Total	$\leq 2.2$ Watts at +25°C	
Crystal Type	SC-cut	
Mechanical		
Packaging	Solder sealed steel can	
Dimensions	2" x 2" x 1"	
Connectors / Mounting	- Package A	SMA(f) and solder pins on side Threaded Inserts, #4-40, 2 places
	- Package B	Solder pins on base Thru Hole PCB mount

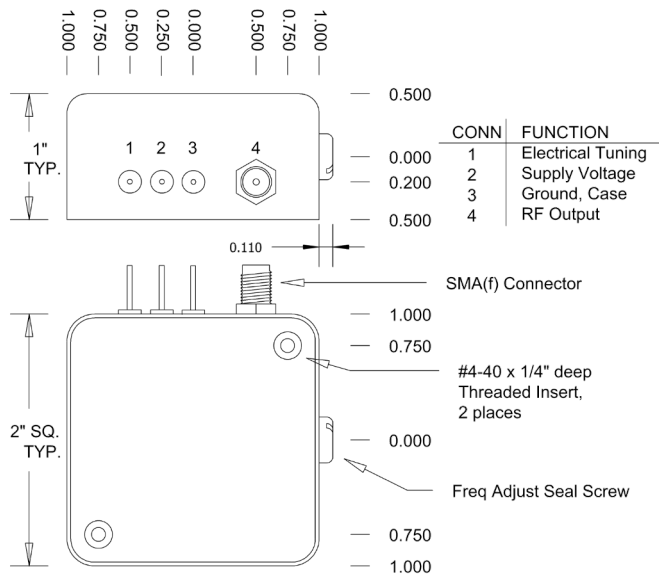
Premium 10 MHz Streamline  
P/N: 501-27501-11





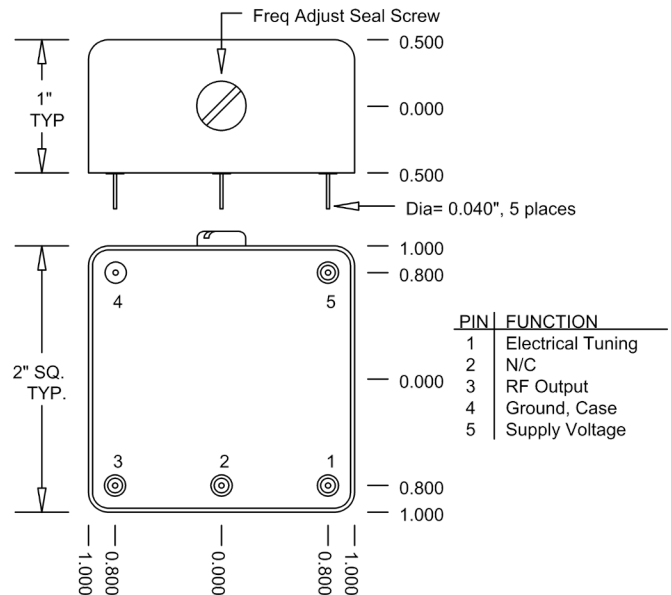
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**PACKAGE A**



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

**PACKAGE B**



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

**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)	Package / Connectors	Package Size (inches)
		10 Hz	100 Hz	1 kHz	10 kHz	100 kHz					
501-27500-01	5	-135	-155	-165	-165	-165	+13 ±2	±2E-9, 0° to +50°C	+15	SMA(f) & Pins on Side	2 x 2 x 1
501-27500-04	5	-135	-155	-165	-165	-165	+13 ±2	±2E-9, 0° to +50°C	+15	Solder Pins on Base	2 x 2 x 1
501-27500-11	5	-145	-160	-165	-165	-165	+13 ±2	±2E-9, 0° to +50°C	+15	SMA(f) & Pins on Side	2 x 2 x 1
501-27500-14	5	-145	-160	-165	-165	-165	+13 ±2	±2E-9, 0° to +50°C	+15	Solder Pins on Base	2 x 2 x 1
501-27500-21	5	-135	-155	-165	-165	-165	+13 ±2	±2E-9, 0° to +50°C	+12	SMA(f) & Pins on Side	2 x 2 x 1
501-27500-24	5	-135	-155	-165	-165	-165	+13 ±2	±2E-9, 0° to +50°C	+12	Solder Pins on Base	2 x 2 x 1
501-27500-31	5	-145	-160	-165	-165	-165	+13 ±2	±2E-9, 0° to +50°C	+12	SMA(f) & Pins on Side	2 x 2 x 1
501-27500-34	5	-145	-160	-165	-165	-165	+13 ±2	±2E-9, 0° to +50°C	+12	Solder Pins on Base	2 x 2 x 1
501-27501-01	10	-130	-155	-165	-165	-165	+13 ±2	±2E-9, 0° to +50°C	+15	SMA(f) & Pins on Side	2 x 2 x 1
501-27501-04	10	-130	-155	-165	-165	-165	+13 ±2	±2E-9, 0° to +50°C	+15	Solder Pins on Base	2 x 2 x 1
501-27501-11	10	-140	-160	-165	-165	-165	+13 ±2	±2E-9, 0° to +50°C	+15	SMA(f) & Pins on Side	2 x 2 x 1
501-27501-14	10	-140	-160	-165	-165	-165	+13 ±2	±2E-9, 0° to +50°C	+15	Solder Pins on Base	2 x 2 x 1
501-27501-21	10	-130	-155	-165	-165	-165	+13 ±2	±2E-9, 0° to +50°C	+12	SMA(f) & Pins on Side	2 x 2 x 1
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501-27501-34	10	-140	-160	-165	-165	-165	+13 ±2	±2E-9, 0° to +50°C	+12	Solder Pins on Base	2 x 2 x 1

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

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