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ASSOCIATES

OCXO
SORCERER

"QUIETLY THE BEST"

LOW NOISE CRYSTAL OSCILLATORS > SORCERER

FEATURES:

- HF Frequencies from 5 MHz to 25 MHz
- VHF Frequencies from 50 MHz to 130 MHz
- Ultra Low Phase Noise
- Excellent Temperature Stability
- Good Short Term Stability
- Low Aging Rate

APPLICATIONS:

- Reference Frequency Source
- System Integration
- Instruments



DESCRIPTION:

The Sorcerer is a low noise frequency source which is comprised of two fixed frequency Ultra Low Noise oscillators, one HF and one VHF, and all necessary components required to phase lock these two oscillators together with a PLL loop bandwidth of ~300 Hz. The building blocks combine to form a system and are housed in an aluminum compact case assembly. The result is a very stable frequency source that provides multiple ultra-low noise outputs. The typical configuration has both 5 MHz and 100 MHz outputs. Phase locking to an external reference is optional. 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.

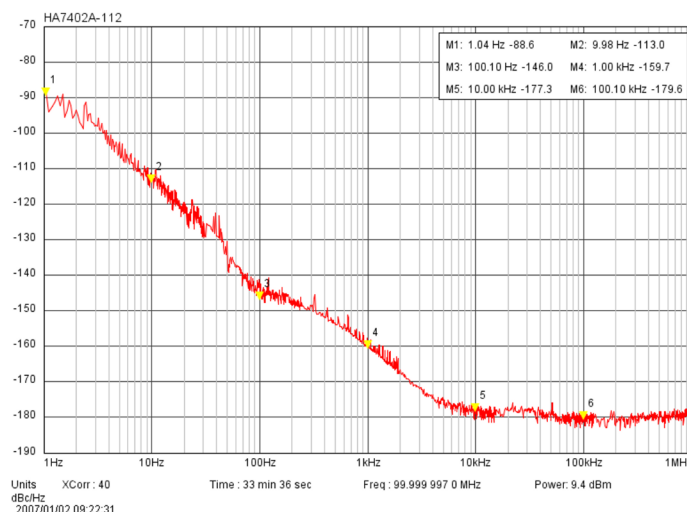
Electrical Specifications

HF Output Frequency (fixed; specify within range)	5 MHz to 25 MHz
VHF Output Frequency (fixed; specify within range)	50 MHz and 130 MHz
Output Level	+10 dBm \pm 2 dB into 50 ohms, each output
Aging	[5 MHz/100 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)	[5 MHz/100 MHz model, typical]
Range E: 0 to +50°C (Ref: +25°C)	$\leq \pm 2 \times 10^{-8}$
Range F: -20 to +70°C (Ref: +25°C)	$\leq \pm 5 \times 10^{-8}$
Range G: -55 to +85°C (Ref: +25°C)	$\leq \pm 2 \times 10^{-7}$
Phase Noise	(Frequency Dependent: See Std. Specifications and Part Numbers table below for details)
Harmonics	≤ -25 dBc
Sub-Harmonics	≤ -60 dBc
PLL Products (Phase Lock models only)	≤ -60 dBc
Spurious	≤ -80 dBc
Tuning	[MT and ET ranges can be reversed upon request]
- Mechanical Tuning	$\geq \pm 1.5 \times 10^{-6}$, typical
- Electrical Tuning	$\geq \pm 2 \times 10^{-7}$, typical
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 ($\pm 5\%$)
Warm-up	≤ 20 Watts for 5 minutes at +25°C
Total	≤ 15 Watts at +25°C
Crystal Type	SC-cut

Mechanical

Packaging	Aluminum housing with extended mounting cover and gasketed access screw
Dimensions	5" x 6" x 2.62"
Connectors / Mounting	SMA(f)s and solder pins on side Thru holes, Diam. 0.156, 4 places

100 MHz Output
P/N: 501-27841



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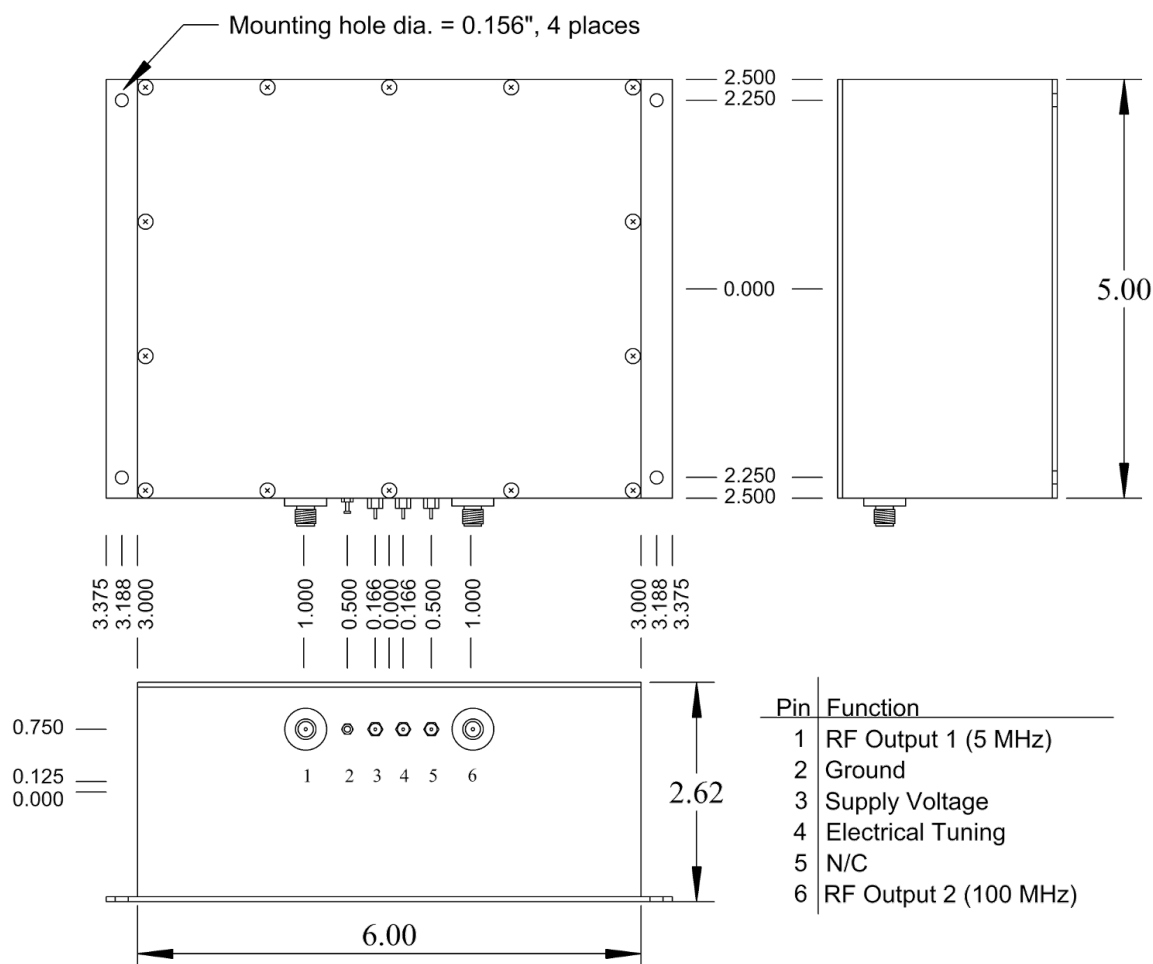


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Standard Specifications and Part Numbers **

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)	Package / Connectors	Package Size (inches)
		10 Hz	100 Hz	1 kHz	10 kHz	100 kHz					
501-17341	100/5	-115	-135	-150	-170	-170	+12 ±2	±2E-8, 0 to +50°C	+15	SMA(f) & Pins on Side	5 x 6 x 2.62"
501-17998	100/5	-120	-135	-155	-174	-174	+10 ±2	±2E-8, 0 to +50°C	+15	SMA(f) & Pins on Side	5 x 6 x 2.62"
501-27841	100/10	-113	-136	-158	-176	-176	+13 ±2	±2E-8, 0 to +50°C	+15	SMA(f) & Pins on Side	5 x 6 x 2.62"

* 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.



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