

LOW NOISE CRYSTAL OSCILLATORS > VHF ULN

FEATURES:

- Frequency: 25 MHz to 130 MHz, fixed
- Ultra Low Phase Noise
- SMA(f) and Solder Pins on Side
- Internal Voltage Regulator

APPLICATIONS:

- PN Measurement Reference
- Synthesizers
- Radar Systems
- Test Equipment

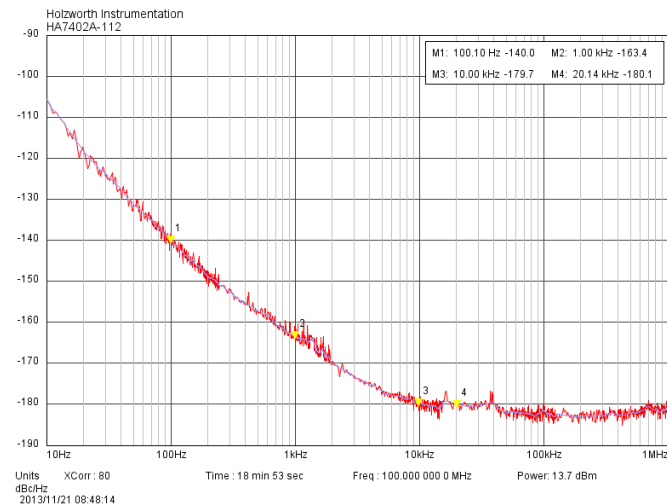


DESCRIPTION:

The VHF Ultra Low Noise oscillator has been the industry standard for the best phase noise performance for many years. The phase noise performance has been verified by NIST with noise floors to -180 dBc/Hz. The VHF ULN offers good temperature stability and ultra-low noise performance which makes this oscillator ideal for instrumentation and reference oscillator applications. 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.

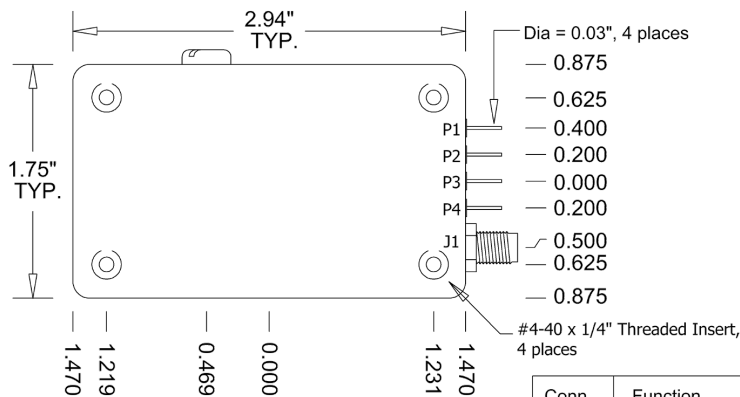
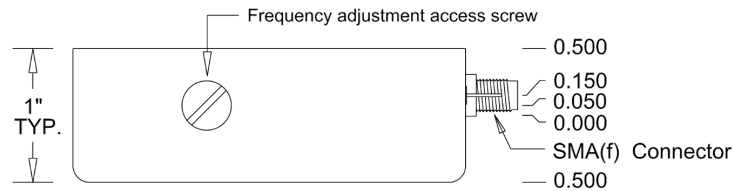
Electrical Specifications	
Output Frequency (fixed; specify within range)	25 MHz to 130 MHz
Output Level	+13 dBm ±2 dB into 50 ohms
Aging Per day after 30 days operating, typical Second year, typical Per year thereafter, typical	(100 MHz model, typical)
	5×10^{-9}
	5×10^{-7}
	3×10^{-7}
Temperature Stability (consult factory for other ranges) Range E: 0 to +50°C (Ref: +25°C) Range F: -20 to +70°C (Ref: +25°C) Range G: -55 to +85°C (Ref: +25°C)	(100 MHz model, typical)
	$\leq \pm 2 \times 10^{-7}$
	$\leq \pm 5 \times 10^{-7}$
	N/A
Phase Noise	(Frequency Dependent: See Std. Specifications and Part Numbers table below for details)
Harmonics	≤ -30 dBc
Spurious	≤ -80 dBc
Tuning - Mechanical Tuning - Electrical Tuning Tuning A: 0 to +10 VDC Tuning B: ±5 VDC Slope: Negative	(MT and ET ranges can be reversed upon request)
	$\geq \pm 4 \times 10^{-6}$, typical
	$\geq \pm 2 \times 10^{-7}$, typical
	$\geq \pm 2 \times 10^{-7}$, typical
Supply Voltage	+15 VDC or +12 VDC (±5%)
Warm-up	≤ 5 Watts for 5 minutes at +25°C
Total	≤ 2.5 Watts at +25°C
Crystal Type	SC-cut
Mechanical	
Packaging	Solder sealed steel can
Dimensions	1.75" x 2.94" x 1"
Connectors / Mounting	- Package A SMA(f) and solder pins on side Threaded Inserts, #4-40, 4 places

100 MHz ULN
P/N: 501-27524-11





LOW NOISE CRYSTAL OSCILLATORS > VHF ULN



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

Conn	Function
J1	RF Output
P1	N/C
P2	Electrical Tuning
P3	Supply Voltage
P4	Case Ground

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					
501-27522-01	50	-104	-134	-164	-174	-175	+13 ±2	±2E-7, 0° to +50°C	+15	SMA(f) & Pins on Side	1.75 x 2.94 x 1
501-27522-02	50	-104	-134	-164	-174	-175	+13 ±2	±5E-7, -20° to +70°C	+15	SMA(f) & Pins on Side	1.75 x 2.94 x 1
501-27522-12	50	-110	-140	-169	-177	-178	+13 ±2	±2E-7, 0° to +50°C	+15	SMA(f) & Pins on Side	1.75 x 2.94 x 1
501-27522-21	50	-104	-134	-164	-174	-175	+13 ±2	±5E-7, -20° to +70°C	+12	SMA(f) & Pins on Side	1.75 x 2.94 x 1
501-27522-31	50	-110	-140	-169	-177	-178	+13 ±2	±2E-7, 0° to +50°C	+12	SMA(f) & Pins on Side	1.75 x 2.94 x 1
501-27522-32	50	-110	-140	-169	-177	-178	+13 ±2	±5E-7, -20° to +70°C	+12	SMA(f) & Pins on Side	1.75 x 2.94 x 1
501-27523-02	80	-100	-130	-161	-175	-176	+13 ±2	±2E-7, 0° to +50°C	+15	SMA(f) & Pins on Side	1.75 x 2.94 x 1
501-27523-11	80	-106	-136	-166	-178	-180	+13 ±2	±5E-7, -20° to +70°C	+15	SMA(f) & Pins on Side	1.75 x 2.94 x 1
501-27523-21	80	-100	-130	-161	-175	-176	+13 ±2	±2E-7, 0° to +50°C	+12	SMA(f) & Pins on Side	1.75 x 2.94 x 1
501-27523-22	80	-100	-130	-161	-175	-176	+13 ±2	±5E-7, -20° to +70°C	+12	SMA(f) & Pins on Side	1.75 x 2.94 x 1
501-27523-32	80	-106	-136	-166	-178	-180	+13 ±2	±2E-7, 0° to +50°C	+12	SMA(f) & Pins on Side	1.75 x 2.94 x 1
501-27524-01	100	-100	-130	-158	-175	-176	+13 ±2	±5E-7, -20° to +70°C	+15	SMA(f) & Pins on Side	1.75 x 2.94 x 1
501-27524-11	100	-105	-135	-160	-178	-180	+13 ±2	±2E-7, 0° to +50°C	+15	SMA(f) & Pins on Side	1.75 x 2.94 x 1
501-27524-12	100	-105	-135	-160	-178	-180	+13 ±2	±5E-7, -20° to +70°C	+15	SMA(f) & Pins on Side	1.75 x 2.94 x 1
501-27524-22	100	-100	-130	-158	-175	-176	+13 ±2	±2E-7, 0° to +50°C	+12	SMA(f) & Pins on Side	1.75 x 2.94 x 1
501-27524-31	100	-105	-135	-160	-178	-180	+13 ±2	±5E-7, -20° to +70°C	+12	SMA(f) & Pins on Side	1.75 x 2.94 x 1

* 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.