

LOW NOISE CRYSTAL OSCILLATORS > HF ONYX IV

FEATURES:

- 10 MHz to 25 MHz
- Rugged/Low Cost/High Performance
- Low Phase Noise to -165 dBc/Hz
- Low G-Sensitivity to 1E-10/g per axis
- Thru Hole PCB Mount
- Internal Voltage Regulator

APPLICATIONS:

- Military Applications
- Airborne, Ground, Shipboard
- Test Equipment
- Synthesizers
- Base Stations
- Portable Transceivers



DESCRIPTION:

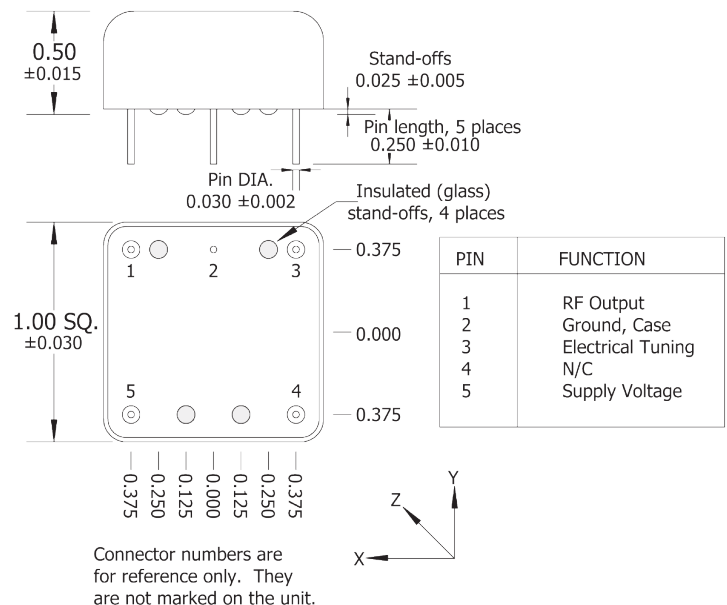
The HF ONYX IV is a small lightweight rugged OCXO featuring low phase noise, good temperature stability and low g-sensitivity (to <math><1E-10/g</math> per axis). Designed for Commercial and Military PCB mount applications, it provides excellent phase noise performance during vibration. The nickel-plated steel package is 1" x 1" x 0.5". 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

Output Frequency (fixed, specify within range)	10 MHz to 25 MHz
Output Level	+10 dBm \pm 3 dB into 50 ohms
Aging (10 MHz model, typical)	5 x 10 ⁻¹⁰ per day after 30 days operating, typical 5 x 10 ⁻⁹ second year, typical 3 x 10 ⁻⁹ per year thereafter, typical
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)	$\leq \pm 2 \times 10^{-7}$
Phase Noise	(Frequency Dependent: See Standard Specifications and Part Numbers table below for details)
Harmonics	≤ -30 dBc
Spurious	≤ -80 dBc
Tuning (MT and ET ranges can be reversed upon request)	
-Mechanical Tuning	N/A
-Electronic Tuning Tuning A: 0 to ± 10 VDC	$\geq \pm 1 \times 10^{-6}$, typical
Tuning B: ± 5 VDC Slope: Positive	$\geq \pm 1 \times 10^{-6}$, typical
Supply Voltage	+12 VDC ($\pm 5\%$)
Warm-up Power	≤ 4 Watts for 3 minutes at +25°C
Total Power	≤ 1.5 Watts at +25°C
Crystal Type	SC-cut
Acceleration Sensitivity	$\leq 5 \times 10^{-10}/g$, typical to $\leq 1 \times 10^{-10}/g$, available

Mechanical

Packaging	Solder sealed steel can
Dimensions	1" x 1" x 0.5"
Connectors/Mounting	Package A Solder pins on base Thru Hole PCB mount



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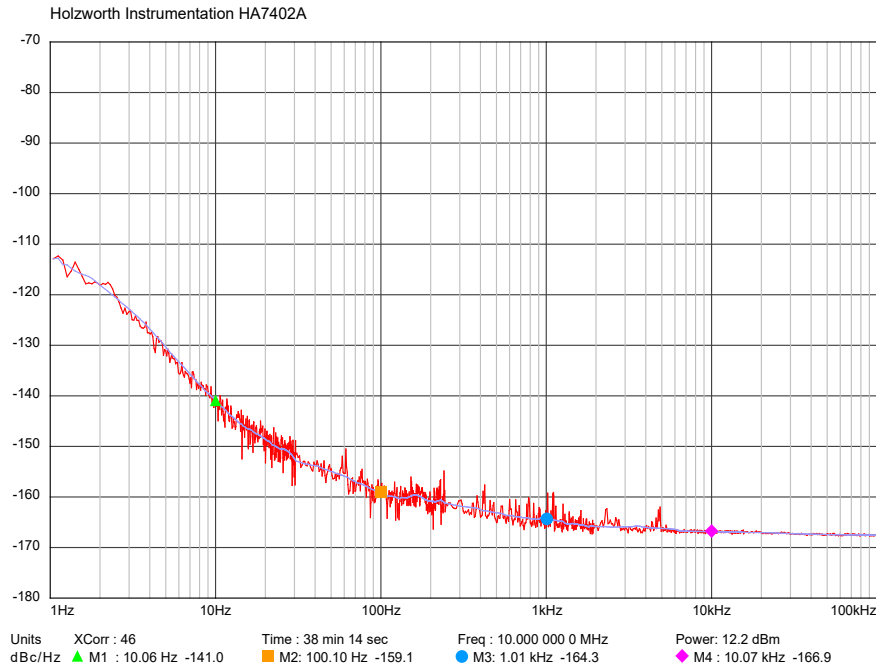


Figure 2: Typical Phase Noise Performance Plot for the 10 MHz ONYX IV, P/N: 501-26719-02

Electrical Specifications

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						
501-22578-01	10 MHz	-125	-150	-160	-165	-165	+10 ±2	±2E-8, 0 to +50°C	+12	5E-10, typ	Solder Pins on Base	1x1x0.5
501-22578-02	10 MHz	-125	-150	-160	-165	-165	+10 ±2	±5E-8, -20 to +70°C	+12	5E-10, typ	Solder Pins on Base	1x1x0.5
501-22578-03	10 MHz	-125	-150	-160	-165	-165	+10 ±3	±1E-7, -40 to +85°C	+12	5E-10, typ	Solder Pins on Base	1x1x0.5
501-22578-04	10 MHz	-135	-160	-163	-165	-165	+10 ±2	±2E-8, 0 to +50°C	+12	5E-10, typ	Solder Pins on Base	1x1x0.5
501-22578-05	10 MHz	-135	-160	-163	-165	-165	+10 ±2	±5E-8, -20 to +70°C	+12	5E-10, typ	Solder Pins on Base	1x1x0.5
501-22578-06	10 MHz	-135	-160	-163	-165	-165	+10 ±3	±1E-7, -40 to +85°C	+12	5E-10, typ	Solder Pins on Base	1x1x0.5
501-26709-01	10 MHz	-125	-150	-160	-165	-165	+10 ±2	±5E-8, -20 to +70°C	+12	3E-10, typ	Solder Pins on Base	1x1x0.5
501-26709-02	10 MHz	-125	-150	-160	-165	-165	+10 ±2	±5E-8, -20 to +70°C	+12	3E-10, gtd	Solder Pins on Base	1x1x0.5
501-26709-03	10 MHz	-125	-150	-160	-165	-165	+10 ±2	±5E-8, -20 to +70°C	+12	2E-10, gtd	Solder Pins on Base	1x1x0.5
501-26709-04	10 MHz	-125	-150	-160	-165	-165	+10 ±2	±5E-8, -20 to +70°C	+12	1E-10, gtd	Solder Pins on Base	1x1x0.5
501-26719-01	10 MHz	-135	-158	-163	-165	-165	+10 ±2	±5E-8, -20 to +70°C	+12	3E-10, typ	Solder Pins on Base	1x1x0.5
501-26719-02	10 MHz	-135	-158	-163	-165	-165	+10 ±2	±5E-8, -20 to +70°C	+12	3E-10, gtd	Solder Pins on Base	1x1x0.5
501-26719-03	10 MHz	-135	-158	-163	-165	-165	+10 ±2	±5E-8, -20 to +70°C	+12	2E-10, gtd	Solder Pins on Base	1x1x0.5
501-26719-04	10 MHz	-135	-158	-163	-165	-165	+10 ±2	±5E-8, -20 to +70°C	+12	1E-10, gtd	Solder Pins on Base	1x1x0.5

*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