



Low Noise Crystal Oscillators > HF ONYX IV

Features:

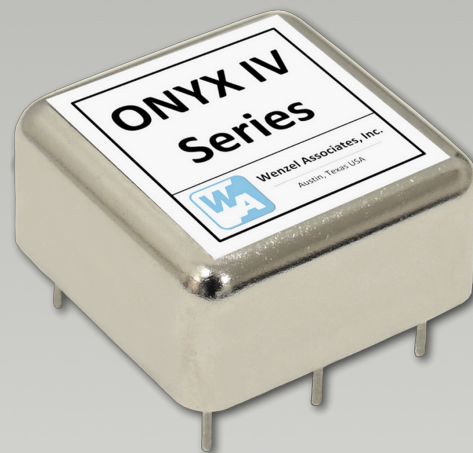
- Output Frequency: 10 MHz to 25 MHz
- Rugged/Low Cost/High Performance
- Low Phase Noise to -165 dBc/Hz
- Low G-Sensitivity to 1E-10/g per axis
- Thru Hole PCB Mount
- Internal Voltage Regulator

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 <1E-10/g 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 contact technical staff to discuss custom requirements.

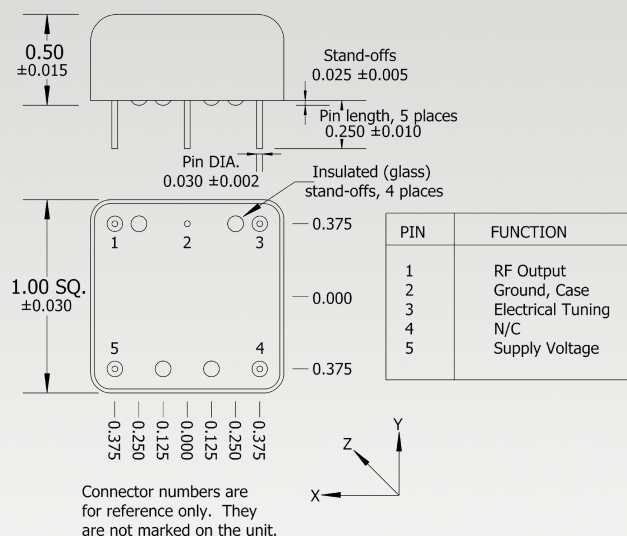


Electrical Specifications

Output Frequency (fixed; specify within range)	10 MHz to 25 MHz
Output Level	+10 dBm ± 3 dB into 50 ohms
Aging	(10 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)	(10 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 Standard Specifications and Part Numbers table below for details)
Harmonics	≤ -30 dBc
Spurious	≤ -80 dBc
Tuning	
- Mechanical Tuning	N/A
- Electrical Tuning	
Tuning A: 0 to +10 VDC	$\geq \pm 1 \times 10^{-6}$, typical
Tuning B: ± 5 VDC	$\geq \pm 1 \times 10^{-6}$, typical
Slope: Negative	(Positive Slope available on some ET only models)
Supply Voltage	+12 VDC $\pm 5\%$
Warm-up	≤ 4 Watts for 5 minutes at +25°C
Total	≤ 1.5 Watts at +25°C
Crystal Type	SC-cut
Acceleration Sensitivity	5×10^{-10} /g, typical; to 1×10^{-10} /g, available

Mechanical

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





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10 MHz ONYX IV

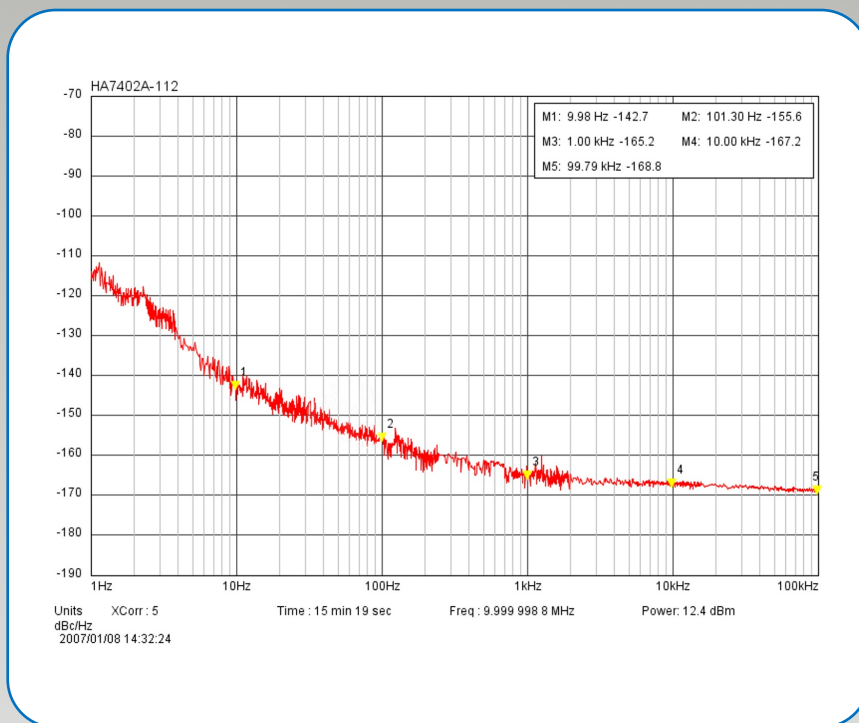


Figure 1: Typical Phase Noise Performance Plot for the 10 MHz ONYX IV, P/N: 501-26719-02

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						
501-22578-01	10	-125	-150	-160	-165	-165	+10 ±2	±2E-8, 0 to +50°C	+12	5E-10, typ	Solder Pins on Base	1 x 1 x 0.5
501-22578-02	10	-125	-150	-160	-165	-165	+10 ±2	±5E-8, -20 to +70°C	+12	5E-10, typ	Solder Pins on Base	1 x 1 x 0.5
501-22578-03	10	-125	-150	-160	-165	-165	+10 ±3	±1E-7, -40 to +85°C	+12	5E-10, typ	Solder Pins on Base	1 x 1 x 0.5
501-22578-04	10	-135	-160	-163	-165	-165	+10 ±2	±2E-8, 0 to +50°C	+12	5E-10, typ	Solder Pins on Base	1 x 1 x 0.5
501-22578-05	10	-135	-160	-163	-165	-165	+10 ±2	±5E-8, -20 to +70°C	+12	5E-10, typ	Solder Pins on Base	1 x 1 x 0.5
501-22578-06	10	-135	-160	-163	-165	-165	+10 ±3	±1E-7, -40 to +85°C	+12	5E-10, typ	Solder Pins on Base	1 x 1 x 0.5
501-26709-01	10	-125	-150	-160	-165	-165	+10 ±2	±5E-8, -20 to +70°C	+12	3E-10, typ	Solder Pins on Base	1 x 1 x 0.5
501-26709-02	10	-125	-150	-160	-165	-165	+10 ±2	±5E-8, -20 to +70°C	+12	3E-10, gtd	Solder Pins on Base	1 x 1 x 0.5
501-26709-03	10	-125	-150	-160	-165	-165	+10 ±2	±5E-8, -20 to +70°C	+12	2E-10, gtd	Solder Pins on Base	1 x 1 x 0.5
501-26709-04	10	-125	-150	-160	-165	-165	+10 ±2	±5E-8, -20 to +70°C	+12	1E-10, gtd	Solder Pins on Base	1 x 1 x 0.5
501-26719-01	10	-135	-158	-163	-165	-165	+10 ±2	±5E-8, -20 to +70°C	+12	3E-10, typ	Solder Pins on Base	1 x 1 x 0.5
501-26719-02	10	-135	-158	-163	-165	-165	+10 ±2	±5E-8, -20 to +70°C	+12	3E-10, gtd	Solder Pins on Base	1 x 1 x 0.5
501-26719-03	10	-135	-158	-163	-165	-165	+10 ±2	±5E-8, -20 to +70°C	+12	2E-10, gtd	Solder Pins on Base	1 x 1 x 0.5
501-26719-04	10	-135	-158	-163	-165	-165	+10 ±2	±5E-8, -20 to +70°C	+12	1E-10, gtd	Solder Pins on Base	1 x 1 x 0.5

* 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.

