

OVEN CONTROLLED CRYSTAL OSCILLATOR

PLUG-IN MODEL: OXO100-1-395

FEATURES:

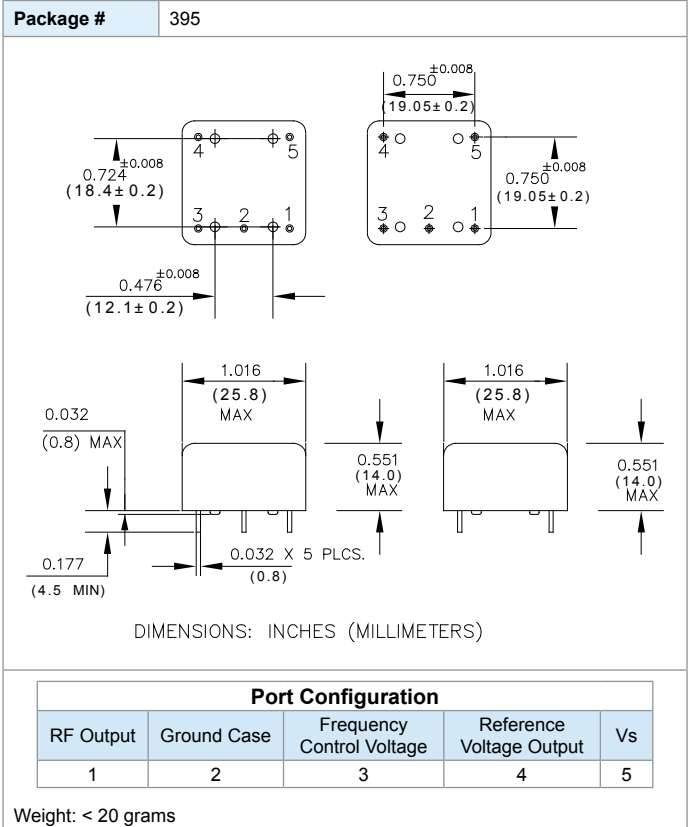
- ▶ Exceptionally Low Phase Noise
- ▶ Fast Warm-up Time
- ▶ Low Power Consumption
- ▶ Tight Frequency Stability
- ▶ Excellent Long-Term Stability
- ▶ Electrical Frequency Tuning Input
- ▶ Reference Voltage Output



SPECIFICATIONS (Rev. A 08/15/14)

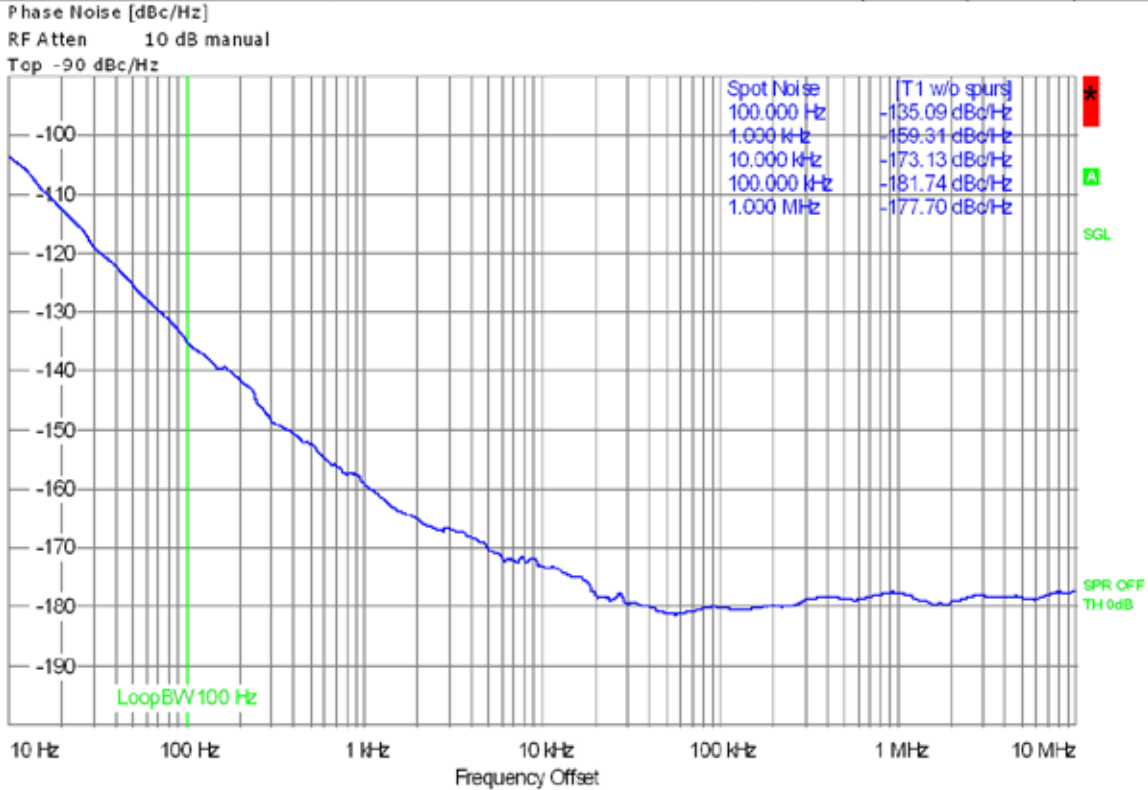
Nominal Frequency F_N	100.000 MHz		
Initial Frequency Tolerance			
$T_A = +25^\circ\text{C}$, after power on for 30 min.	$\leq \pm 3 \times 10^{-7}$		
Frequency Stability			
Within operating range ($-20^\circ\text{C} \dots +70^\circ\text{C}$)	$\leq \pm 5 \times 10^{-8}$		
vs. supply voltage changes $V_s \pm 5\%$	$\leq \pm 5 \times 10^{-9}$		
vs. load changes 50 Ohm $\pm 10\%$	$\leq \pm 5 \times 10^{-9}$		
Aging (after 30 days of continuous operation)			
Per day	$\leq \pm 5 \times 10^{-9}$		
1st Year	$\leq \pm 5 \times 10^{-7}$		
For 15 Years	$\leq \pm 2 \times 10^{-6}$		
Frequency Tuning Range	$\geq \pm 3$ ppm		
Tuning Voltage Range V_c	0 to 10 V		
Reference Voltage Output V_{REF}	+10 V $\pm 5\%$		
Supply Voltage V_s	+12.0 V $\pm 5\%$		
Supply Current I_s			
Steady State @ $+25^\circ\text{C}$	≤ 120 mA		
During Warm-up	≤ 300 mA		
Warm Up Time			
To $dF/F_0 < \pm 1 \times 10^{-7}$ referred to F_0 after 1 hour	≤ 5 min.		
Alan Deviation for $\tau = 1$ sec.	$\leq \pm 5 \times 10^{-11}$		
G-Sensitivity (all three axis)	$\leq 1 \times 10^{-9} / g$		
Output signal type	Sine wave		
Initial output level	≥ 10 dBm		
Output load impedance:	50 Ohm $\pm 10\%$		
Harmonics:	≤ -30 dBc		
Spurious (100 Hz to 5 MHz)	≤ -100 dBc		
Typical Phase Noise (dBc/Hz)	Option L	Option M	Option H
10 Hz	≤ -93	-97	-100
100 Hz	≤ -125	-130	-135
1 kHz	≤ -157	-159	-159
10 kHz	≤ -173	-173	-170
100 kHz	≤ -177	-175	-172
1 MHz	≤ -180	-178	-175
Temperature Ranges			
Operating	$-20^\circ\text{C} \dots +70^\circ\text{C}$		
Storage	$-40^\circ\text{C} \dots +85^\circ\text{C}$		

* Specify option "M" or "H" in the part number.



OVEN CONTROLLED CRYSTAL OSCILLATOR PLUG-IN MODEL: OXO100-1-395

R&S FSUP 26 Signal Source Analyzer				LOCKED
	Settings	Residual Noise [T1 w/o spurs]		Phase Detector +40 dB
Signal Frequency:	100.000001 MHz	Int PHN (10.0 .. 10.0 M)	-96.2 dBc	
Signal Level:	13.61 dBm	Residual PM	1.261 m°	
Cross Corr Mode	Harmonic 1	Residual FM	33.07 Hz	
Internal Ref Tuned	Internal Phase Det	RMS Jitter	0.0350 ps	



PERFORMANCE PLOTS