

OVEN CONTROLLED CRYSTAL OSCILLATOR

SURFACE MOUNT MODEL: OXO10-1-402

FEATURES:

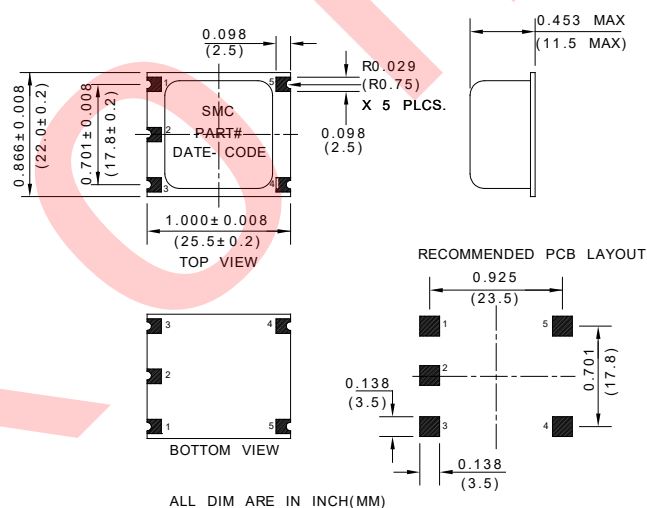
- ▶ Exceptionally Low Phase Noise
- ▶ Fast Warm-up Time
- ▶ Low Power Consumption
- ▶ Tight Frequency Stability
- ▶ Excellent Long-Term Stability
- ▶ El. Frequency Tuning Input
- ▶ Reference Voltage Output
- ▶ Small Size Surface Mount



SPECIFICATIONS (Rev. B 03/23/19)

Nominal Frequency F_N	10.000 MHz
Initial Frequency Tolerance	
$T_A = +25^\circ\text{C}$, after power on for 30 min.	$\leq \pm 0.1 \times 10^{-6}$
Frequency Stability	
Within operating range	$\leq \pm 20 \times 10^{-9}$
vs. supply voltage changes $V_S \pm 5\%$	$\leq \pm 1 \times 10^{-9}$
vs. load changes 50 Ohm $\pm 5\%$	$\leq \pm 1 \times 10^{-9}$
Aging (after 30 days of continuous operation)	
Per day	$\leq \pm 0.5 \times 10^{-9}$
Per Year	$\leq \pm 50 \times 10^{-9}$
10 Years	$\leq \pm 0.3 \times 10^{-6}$
Frequency Tuning Range	
	$\geq \pm 0.4 \text{ ppm}$
Tuning Voltage Range V_C	
	0.5 to 9.5 V
Reference Voltage Output V_{REF} (into > 10k ohms load impedance)	
	+9.5 V
Supply Voltage V_S	
	+12.0 V $\pm 5\%$
Supply Current I_S	
Steady State @ +25 °C	$\leq 180 \text{ mA}$
During Warm-up (Typ. / Max.)	320 / 450 mA
Warm Up Time	
To $dF/F_0 < \pm 100 \times 10^{-8}$ referred to F_0 after 1 hour	$\leq 3 \text{ min.}$
Output signal type	
	Sine wave
Initial output level	
	>+8 dBm
Harmonics	
	< -30 dBc
Spurious (10 Hz to 1 MHz from carrier)	
	< -80 dBc
Allan Variance (short term stability @ $\tau = 1 \text{ sec.}$)	
	2×10^{-12}
Output load impedance:	
	50 Ohms
Typical Phase Noise	
1 Hz	-100 dBc/Hz
10 Hz	-130 dBc/Hz
100 Hz	-155 dBc/Hz
1 kHz	-165 dBc/Hz
10 kHz	-175 dBc/Hz
100 kHz	-175 dBc/Hz
Temperature Ranges	
Operating	-40 °C ... +85 °C
Storage	-50 °C ... +95 °C

Package # 402



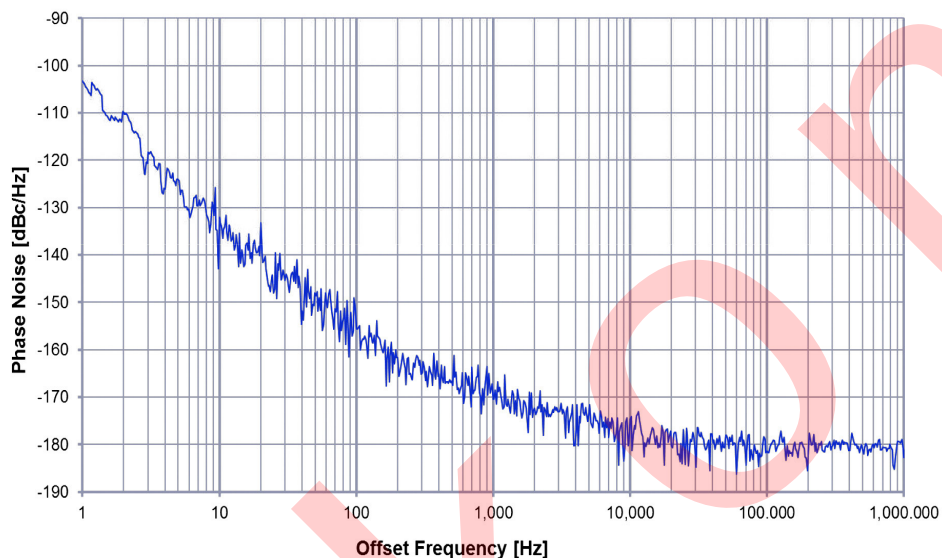
Port Configuration

Control Voltage In V_C	Reference Voltage V_{REF}	Supply Voltage V_S	RF Output	GND., Case
1	2	3	4	5

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Phase Noise SMD OCXO 10.000 MHz



Frequency vs. Temp. 100.000 MHz OCXO

