

OVEN CONTROLLED CRYSTAL OSCILLATOR

SURFACE MOUNT MODEL: OXO100-1-402

FEATURES:

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



SPECIFICATIONS

Nominal Frequency F_N	100.000 MHz
Initial Frequency Tolerance	
$T_A = +25\text{ }^\circ\text{C}$, after power on for 30 min.	$\leq \pm 3 \times 10^{-7}$
Frequency Stability	
Within operating range	$\leq \pm 5 \times 10^{-8}$
vs. supply voltage changes $V_s \pm 5\%$	$\leq \pm 1 \times 10^{-9}$
vs. load changes 50 Ohm $\pm 5\%$	$\leq \pm 5 \times 10^{-9}$
Aging (after 30 days of continuous operation)	
Per day	$\leq \pm 2 \times 10^{-9}$
Per Year	$\leq \pm 3 \times 10^{-7}$
15 Years	$\leq \pm 3 \times 10^{-6}$
Frequency Tuning Range	$\geq \pm 4\text{ ppm}$
Tuning Voltage Range V_c	0 to 10 V
Reference Voltage Output V_{REF}	$+10\text{ V} \pm 5\%$
Supply Voltage V_s	$+12.0\text{ V} \pm 5\%$
Supply Current I_s	
Steady State @ $+25\text{ }^\circ\text{C}$	$\leq 120\text{ mA}$
During Warm-up	$\leq 300\text{ mA}$
Warm Up Time	
To $dF/F_0 < \pm 1 \times 10^{-7}$ referred to F_0 after 1 hour	$\leq 5\text{ min.}$
Output signal type	Sine wave
Initial output level	$+5\text{ dBm}$
Output load impedance:	$50\text{ Ohm} \pm 10\%$
Typical Phase Noise	
10 Hz	-100 dBc/Hz
100 Hz	-130 dBc/Hz
1 kHz	-150 dBc/Hz
10 kHz	-165 dBc/Hz
100 kHz	-168 dBc/Hz
Temperature Ranges	
Operating	$-20\text{ }^\circ\text{C} \dots +70\text{ }^\circ\text{C}$
Storage	$-45\text{ }^\circ\text{C} \dots +90\text{ }^\circ\text{C}$

Package # 402

TOP VIEW

Dimensions (inches):

- Overall width: 0.866 ± 0.008 (22.0 $\pm$ 0.2)
- Overall height: 0.701 ± 0.008 (17.8 $\pm$ 0.2)
- Pin pitch (horizontal): 0.098 (2.5)
- Pin pitch (vertical): 0.098 (2.5)
- Pin diameter: $R0.029$ (R0.75)
- Pin length: 0.098 (2.5)
- Pin spacing (center to center): 1.000 ± 0.008 (25.5 $\pm$ 0.2)

BOTTOM VIEW

Dimensions (inches):

- Pin diameter: $R0.029$ (R0.75)
- Pin length: 0.098 (2.5)

RECOMMENDED PCB LAYOUT

Dimensions (inches):

- Pin pitch (horizontal): 0.925 (23.5)
- Pin pitch (vertical): 0.701 (17.8)
- Pin diameter: 0.138 (3.5)
- Pin spacing (center to center): 0.138 (3.5)

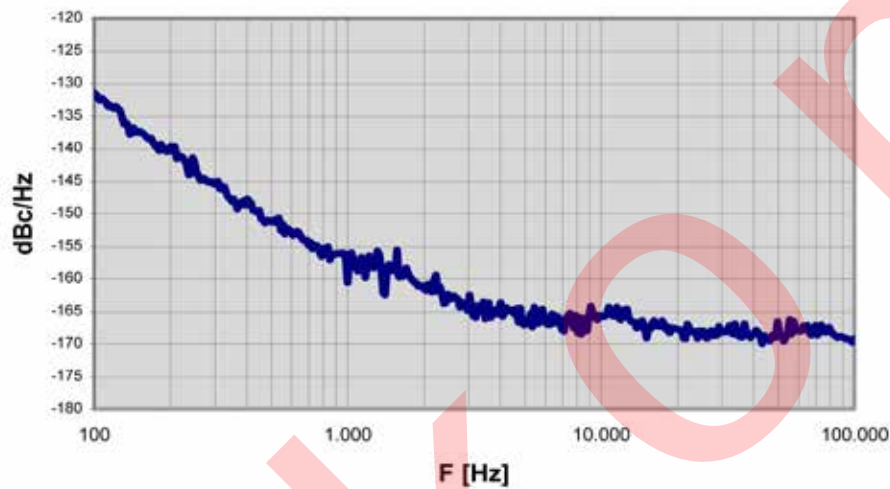
ALL DIM ARE IN INCH(MM)

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PERFORMANCE PLOTS

Phase Noise 100.000 MHz OCXO



Frequency vs. Temp. 100.000 MHz OCXO

