

# OVEN CONTROLLED CRYSTAL OSCILLATOR

## SURFACE MOUNT MODEL: OXO10-1-348

### 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 SMD package



### SPECIFICATIONS

Nominal Frequency $F_N$	10.000 MHz
<b>Frequency Stability</b>	
Within operating range	$\leq \pm 5 \times 10^{-9}$
vs. supply voltage changes $V_S \pm 5\%$	$\leq \pm 5 \times 10^{-10}$
vs. load changes 50 Ohm $\pm 5\%$	$\leq \pm 5 \times 10^{-10}$
<b>Aging (after 30 days of continuous operation)</b>	
Per day	$\leq \pm 5 \times 10^{-10}$
Per month	$\leq \pm 5 \times 10^{-9}$
15 Years	$\leq \pm 5 \times 10^{-7}$
Frequency Tuning Range	$\pm 0.5$ ppm to $\pm 1.5$ ppm
Tuning Voltage Range $V_C$	0 to 5 V
Reference Voltage Output $V_{REF}$	+5 V $\pm 1.5\%$
Supply Voltage $V_S$	+12.0 V $\pm 5\%$
<b>Supply Current <math>I_S</math></b>	
Steady State @ +25 °C	$\leq 200$ mA
During Warm-up	$\leq 350$ mA
<b>Warm Up Time</b>	
To $dF/F_0 < \pm 5 \times 10^{-8}$ referred to $F_0$ after 1 hour	$\leq 10$ min
Output signal type	Sine wave
Initial output level	+ 7.5 dBm $\pm 2.5$ dB
Output load impedance:	50 Ohm
Harmonics:	$\leq -20$ dBc
Spurious ( 100 Hz to 1 MHz from carrier )	$\leq -90$ dBc
<b>Typical Phase Noise</b>	
1 Hz	-100 dBc/Hz
10 Hz	-130 dBc/Hz
100 Hz	-150 dBc/Hz
1 kHz	-160 dBc/Hz
10 kHz	-165 dBc/Hz
100 kHz	-170 dBc/Hz
<b>Temperature Ranges</b>	
Operating	-20 °C ... +70 °C
Storage	-40 °C ... +80 °C

Package #	348
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RECOMMENDED PCB LAYOUT

Dimensions: Inches [Millimeters]

Port Configuration						
RF Output	Oven Alarm Out	GND., Case	$V_{REF}$ Out	$V_{ADJ.}$ In	Osc Enable In	$V_S$
1	2	3	4	5	6	7

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PERFORMANCE PLOTS

