



SURFACE MOUNT OVEN CONTROLLED CRYSTAL OSCILLATOR

Abrakon Corporation has introduced its AOCXS series of OCXO's, optimally configured for Surface Mount applications. These devices incorporate state-of-the-art manufacturing techniques to enable true reflow operation in industry leading (25.4 x 22.1 x 15.24 mm) Surface Mount Packages.

Designed & Manufactured using RoHS compliant components and methodologies, these OCXO's withstand Standard Reflow profiles, as depicted in **Figure (1)** below.

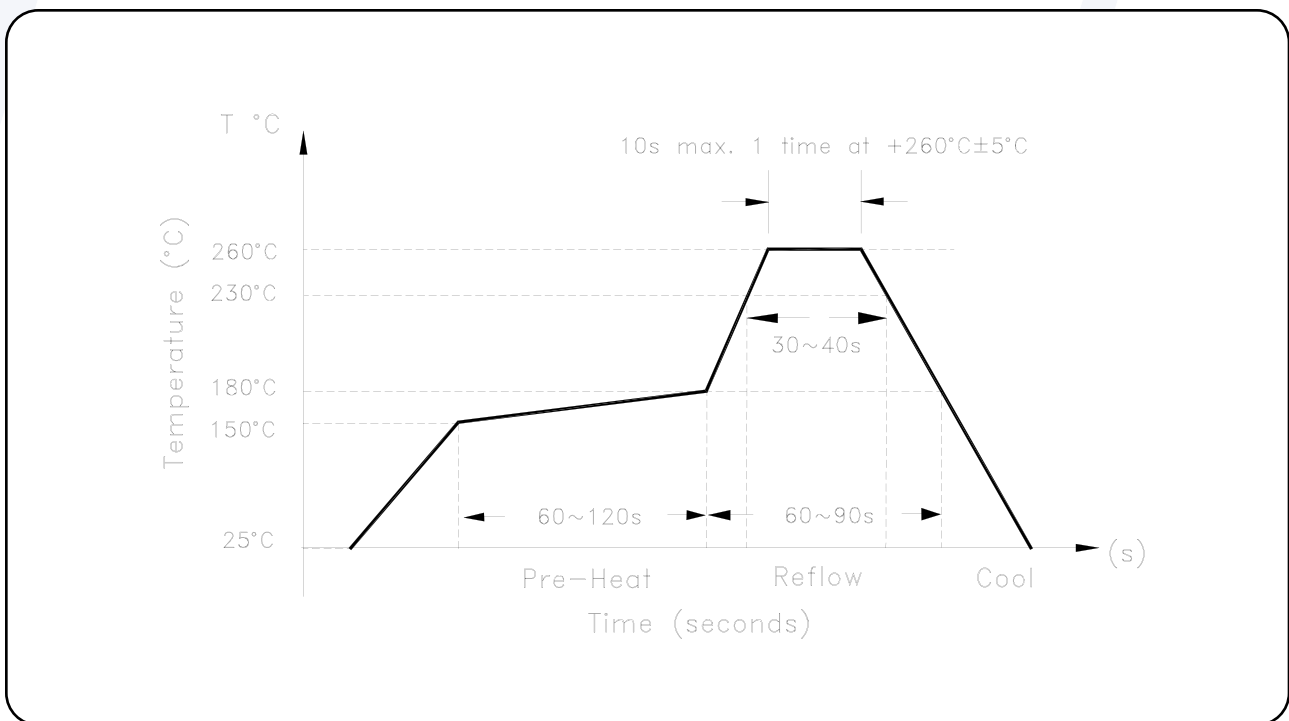


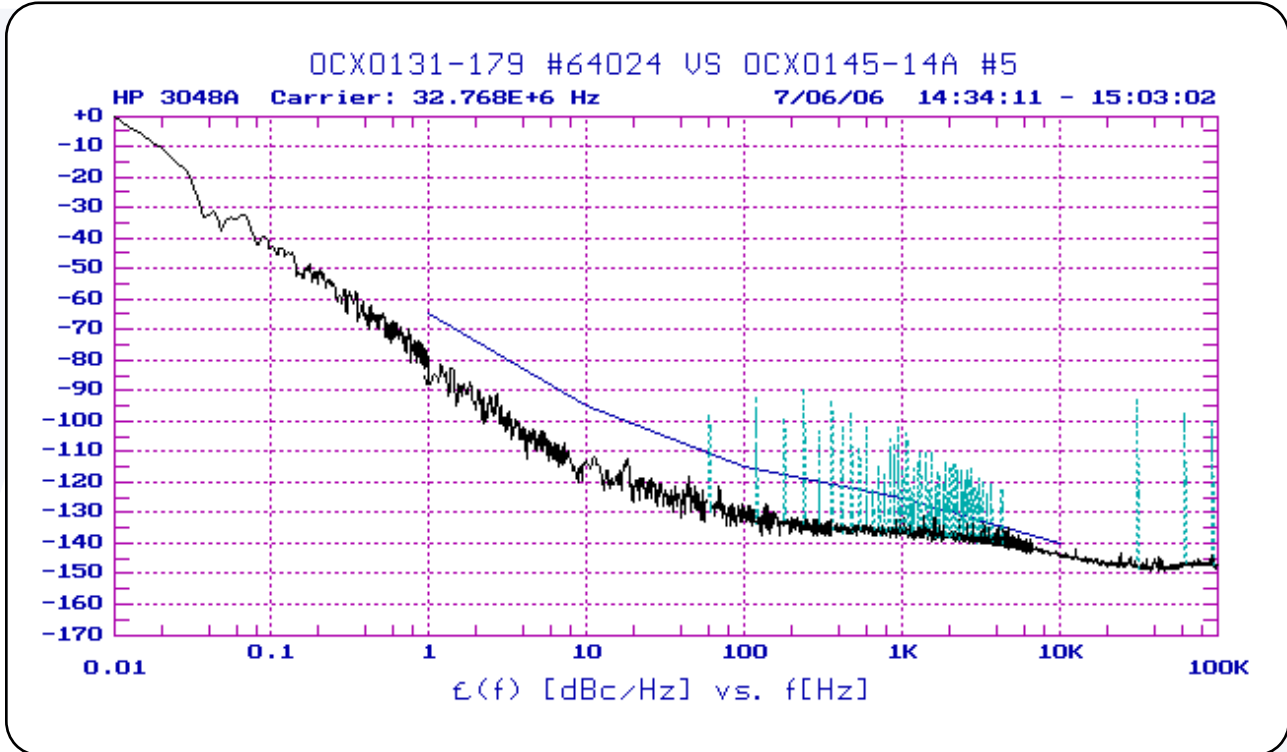
Figure (1)

Available with frequency stabilities of ± 20 ppb over 0°C to +70°C and ± 30 ppb & ± 50 ppb over -30°C to +70°C operating temperature range, these devices offer exceptional Close-In Phase Noise and Short-Term Stability as shown in **Figure (2)** and **Figure (3)** respectively.

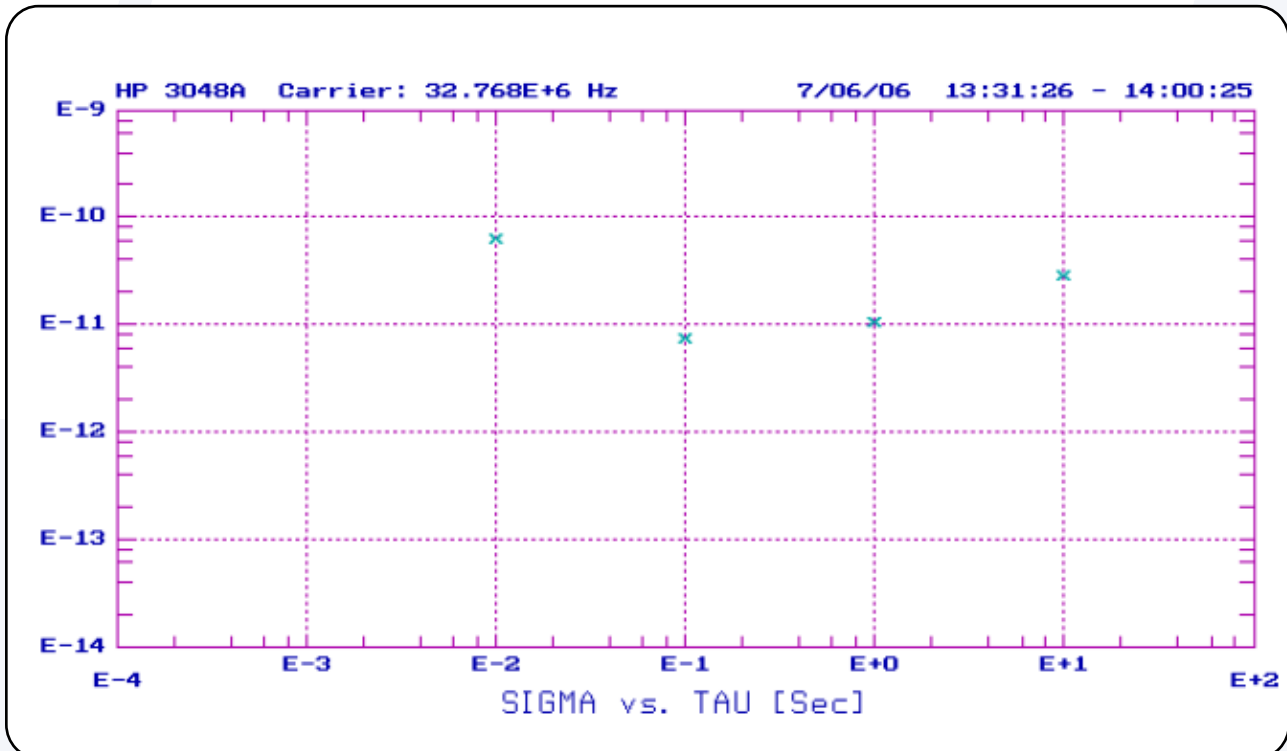


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Typical Phase Noise Performance @ 32.768MHz Carrier (measured at 25⁰±3⁰C)..... **Figure (2)**



Typical Allan Variance @ 32.76 MHz carrier < 1xE-10 **Figure (3)**





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The AOCXS series of OCXO's are designed to provide consistent performance over a variety of critical parameters. For instance, the Turn-On Power of these devices is characterized in **Figure (4)**.

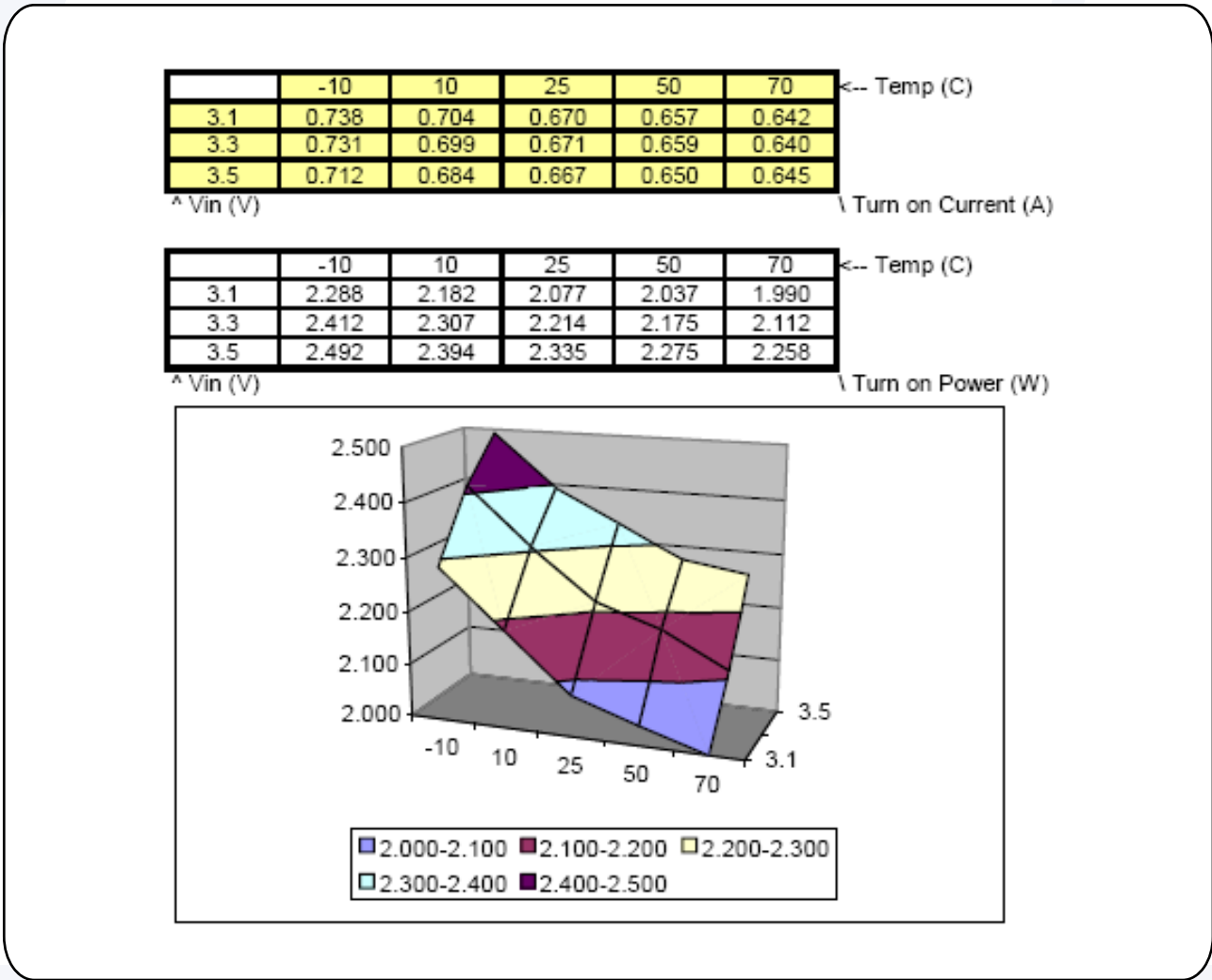


Figure (4)

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Similarly, the frequency settling post start-up is depicted in **Figure (5)**. This plot represents the frequency characteristic of the OCXO in time domain, referenced to the frequency measured one hour post start-up.

As is evident from **Figure (5)**, these devices are well within the final operating frequency, in less than 2-minutes from time zero.

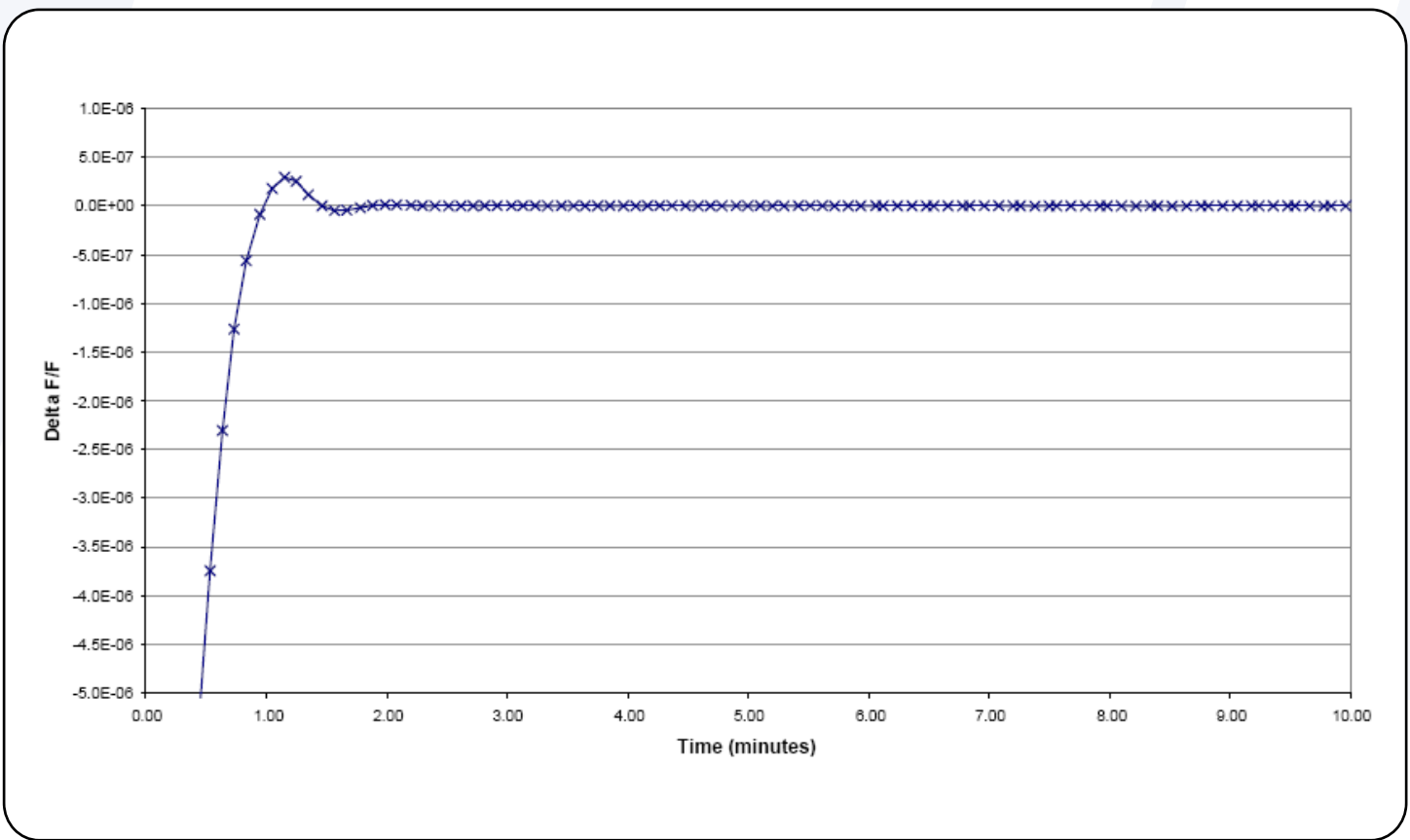


Figure (5)



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Biased Aging on the AOCXS family of OCXO's also yields promising results. As depicted in **Figure (6)**, these devices exhibit excellent Aging Characteristics for a small form factor surface mount OCXO.

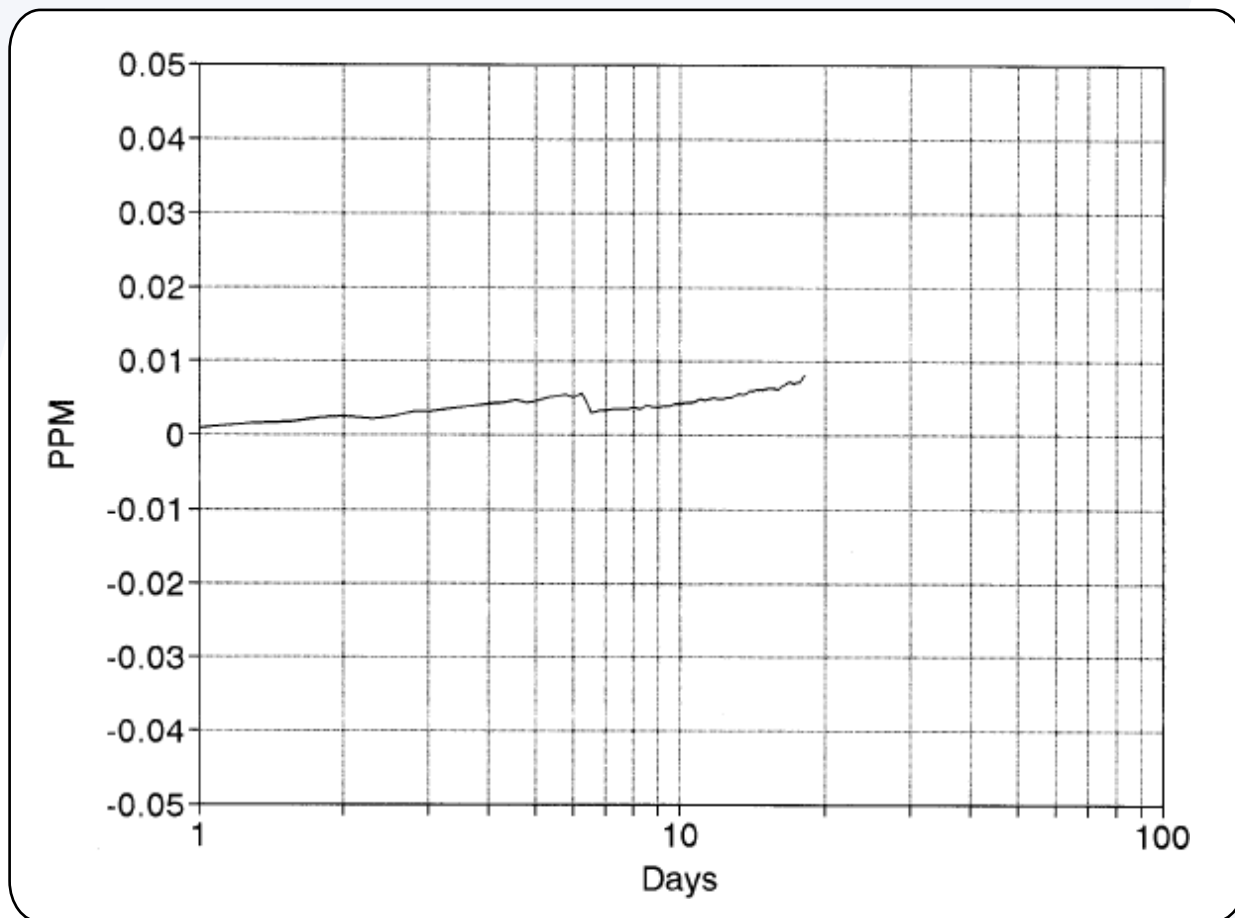


Figure (6)

Baseline information for this plot: Offset at first reading = 0.025 ppm
 Aging data collected over 18-days
 Daily Average Aging = 0.00037 ppm/day
 Projected Max @ Day-45 = 0.015 ppm/Year

The AOCXS family of OCXO's are available between 5MHz and 40MHz, with standard frequencies @ 5.000 MHz, 10.000 MHz, 16.384MHz, 19.440 MHz, 24.576 MHz and 32.768 MHz.

Please contact Abracon with your specific needs.