

# SMD OVEN CONTROLLED CRYSTAL OSCILLATOR

AOCXS Series



25.4 x 22.1 x 15.3mm

## FEATURES:

- 25.4 x 22.1 x 15.3 True SMT – RoHS Compliant Reflow-able Package
- SC-Cut high “Q” resonator based design
- Available with  $\pm 30$  ppb stability over  $-30^{\circ}\text{C}$  to  $+70^{\circ}\text{C}$  operating temperature
- Exceptional long-term Aging of  $\pm 350$  ppb over 10-year product life
- Excellent close-in phase noise ( $-135$  dBc/Hz @ 100Hz offset – 10 MHz carrier)

## APPLICATIONS:

- Cellular Infrastructure
- Radar systems
- Test & Measurement Equipment
- GPS tracking with precision hold-over accuracy
- WiMax / WLAN

## STANDARD SPECIFICATIONS:

PARAMETERS	
ABRACON P/N	AOCXS Series
Frequency range	5.000MHz to 40.000MHz
Standard Frequencies (Fc)	5.0; 10.0; 16.384; 19.44; 24.576, 32.768 MHz
Operating temperature	$0^{\circ}\text{C}$ to $+70^{\circ}\text{C}$ (see options)
Freq. Stability vs. Operable Temperature Voltage ( $\pm 5\%$ Vdd) Warm-up @ $25^{\circ}\text{C}$	$\pm 30$ ppb (see options)
	$\pm 10$ ppb
	$\pm 20$ ppb (in 4-minutes @ $+25^{\circ}\text{C}$ referenced to 1-hour)
Aging: at time of shipment daily aging (> 30 days) yearly aging 10 year aging	$\pm 1.0$ ppb
	$\pm 1.0$ ppb
	$\pm 100$ ppb
	$\pm 350$ ppb
Supply Voltage (Vdd)	$3.3\text{Vdc} \pm 5\%$ (see options)
Power at Turn-on	3-Watts
Steady State @ $25^{\circ}\text{C}$	1-Watt
Output Load	15pF (CMOS)
Output Voltage	$\text{VOH} = 2.4 \text{ V min.}; \text{VOL} = 0.4 \text{ V max.}$
Control Voltage Range (Vc)	0 to 2.8V
Frequency Pull Range	$\pm 0.4$ ppm to $\pm 1.0$ ppm
Frequency Pull Slope	Positive
Center Control Voltage	$1.40 \text{ V} \pm 0.4\text{V}$ to set the frequency to $\text{Fc} \pm 0.00$ ppb
Control Voltage Port Impedance	100k $\Omega$ min.
Spurious Response	-70 dBc
Typical Close-In Phase Noise (10 MHz Carrier)	$-115\text{dBc/Hz}$ @ 10Hz offset, $-135\text{dBc/Hz}$ @ 100Hz offset, $-140\text{dBc/Hz}$ @ 1kHz offset

## OPTIONS AND PART IDENTIFICATION:

(Left blank if standard)

AOCXS  - Frequency -  -

Supply Voltage Option	
Blank	3.3 V
A	12.0 V
B	5.0 V

Temperature Options	
D	$0^{\circ}\text{C}$ to $+50^{\circ}\text{C}$
Blank	$0^{\circ}\text{C}$ to $+70^{\circ}\text{C}$
F	$-30^{\circ}\text{C}$ to $+70^{\circ}\text{C}$

Freq. Stability	
R	$\pm 20$ ppb max.
Blank	$\pm 30$ ppb max.
H	$\pm 50$ ppb max.

ABRACON IS  
ISO 9001 / QS 9000  
CERTIFIED



**ABRACON**  
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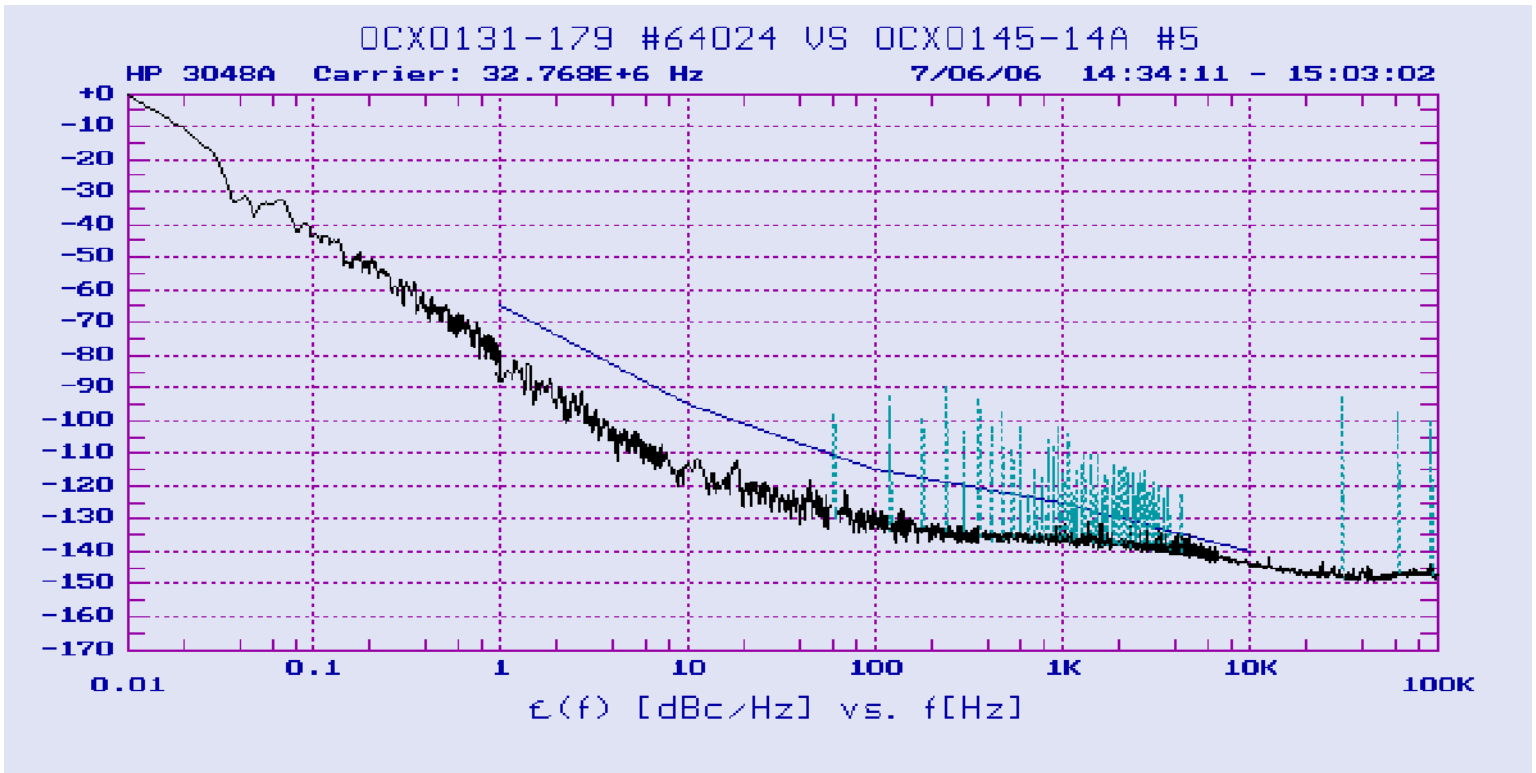
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AOCXS Series

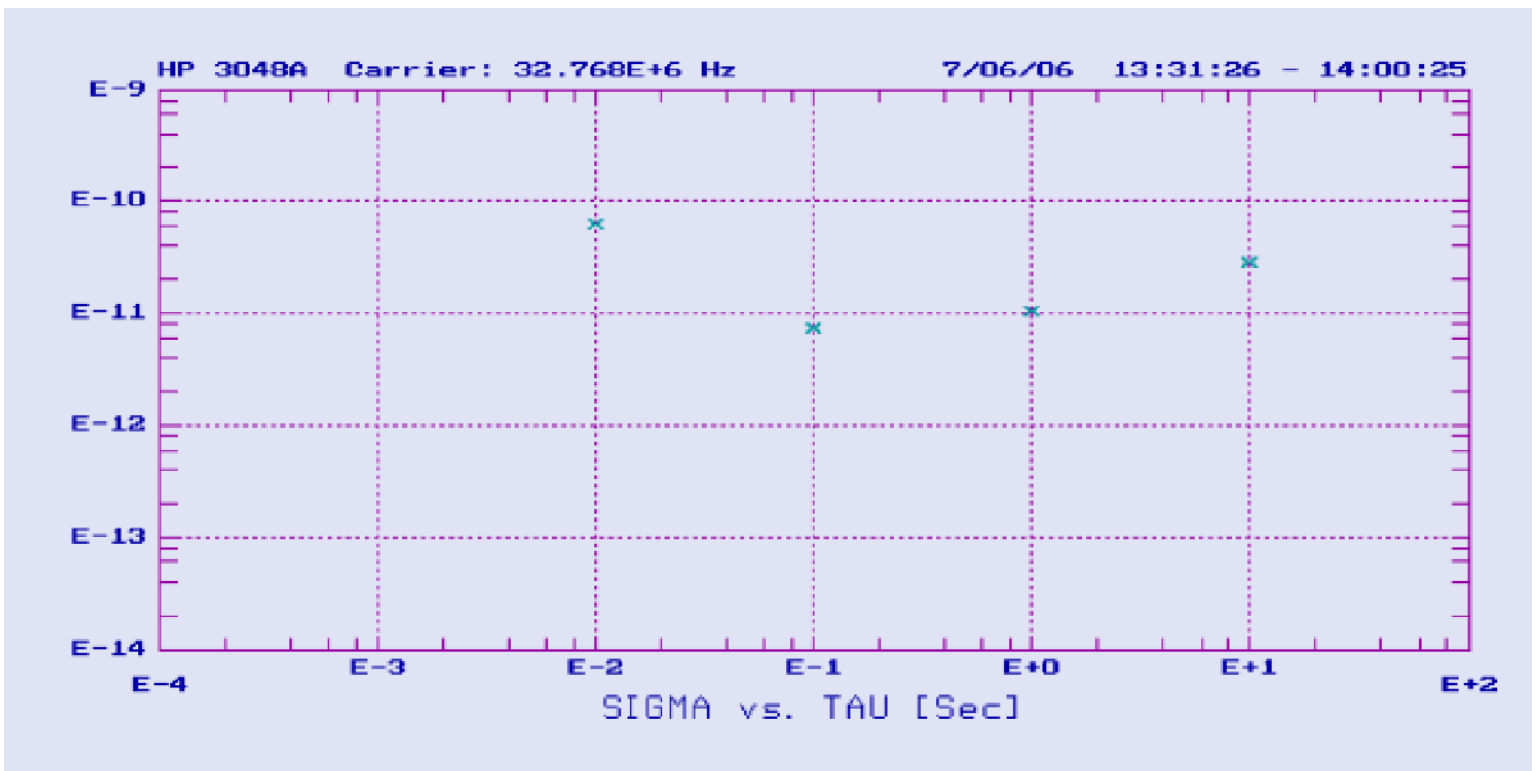


25.4 x 22.1 x 15.3mm

## Typical Phase Noise Performance @ 32.768MHz Carrier (Measured at +25±°C):



## Typical Allan Variance @ 32.768MHz Carrier <math>1 \* E-10</math>



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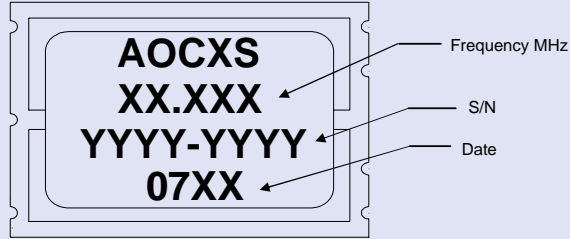


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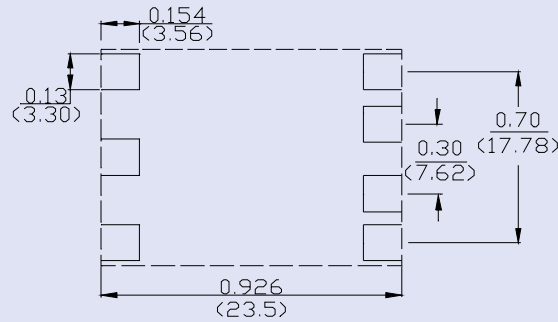
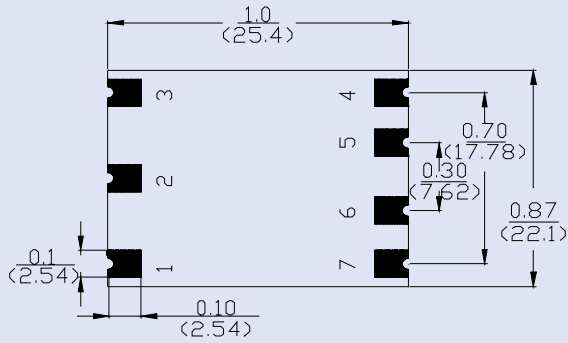
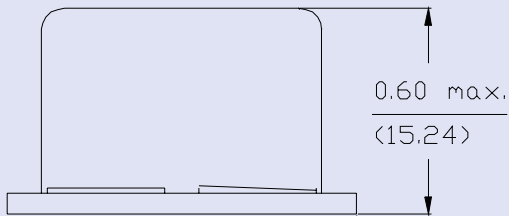


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## OUTLINE DRAWING:



PIN	FUNCTION
1	Control Voltage (Vc)
2	Reference Voltage Out (Vref)
3	Supply Voltage (Vdd)
4	RF Output
5	Not Connected
6	0 Volts & Case
7	0 Volts & Case



Dimensions: mm

Recommended Solder Pad Layout

## Packing

Units are packaged in appropriate size trays, similar to as shown below:

