

OVEN CONTROLLED CRYSTAL OSCILLATOR

AOCJY5 Series



RoHS
Compliant



36.1x 27.2 x 13mm

FEATURES:

- 36.1x 27.2 x 13mm Leaded- RoHS Compliant Reflow-able Package
- SC-Cut, High "Q" resonator based design
- Sinewave output into 50Ω
- Available with ± 50 ppb accuracy over -55°C to $+85^{\circ}\text{C}$ temperature range
- Exceptional long-term Aging of ± 500 ppb max. over 10-Year Product Life
- Excellent close-in phase noise (-145 dBc/Hz Typical @1kHz offset; 10MHz carrier)

APPLICATIONS:

- COTS Military & Industrial Radios & Timing Circuits
- Cellular Infrastructure
- Radar Systems
- Test & Measurement Equipment
- GPS Tracking with precision hold-over accuracy
- WiMax / WLAN

STANDARD SPECIFICATIONS:

Parameters	Minimum	Typical	Maximum	Units	Notes
RF Output					
Frequency		10.00		MHz	
Standard Available Frequencies		10.00 MHz			
Waveform		Sinewave			
Peak Power		7.00		dBm	
Output Load		50		Ω	
Short Term Stability		1×10^{-10}		/second	Alan Variance
Operating Temperature Range	-55		+85	$^{\circ}\text{C}$	
Frequency Stability					
-55 $^{\circ}\text{C}$ to +85 $^{\circ}\text{C}$			± 50.00	ppb	
As received frequency @ 25 $^{\circ}\text{C} \pm 3^{\circ}\text{C}$			± 100.00	ppb	@ Vc=2.50Volts
Frequency Stability vs. Supply Voltage (Vdd $\pm 5\%$)			± 1.00	ppb	
Frequency Stability vs. Load Variation ($\pm 10\%$)			± 1.00	ppb	
Warm-Up @ 25 $^{\circ}\text{C}$			± 100.00	ppb	In ≤ 3 -minutes
Power Consumption @ turn on			6.00	Watts	Over operating temperature range
Power Consumption Steady State			2.00	Watts	@ 25 $^{\circ}\text{C} \pm 3^{\circ}\text{C}$
Power Consumption Steady State			5.00	Watts	Over operating temperature range (-55 $^{\circ}\text{C}$ to +85 $^{\circ}\text{C}$)
Supply Voltage (Vdd)	11.40	12.00	12.60	Volts	
Storage Temperature Range	-55		+100	$^{\circ}\text{C}$	
Aging					
Daily			± 1.0	ppb	
First Year			± 100	ppb	
10-Years			± 500	ppb	
Spectral Content					
Spurious Response			-70	dBc	
Harmonics			-30	dBc	

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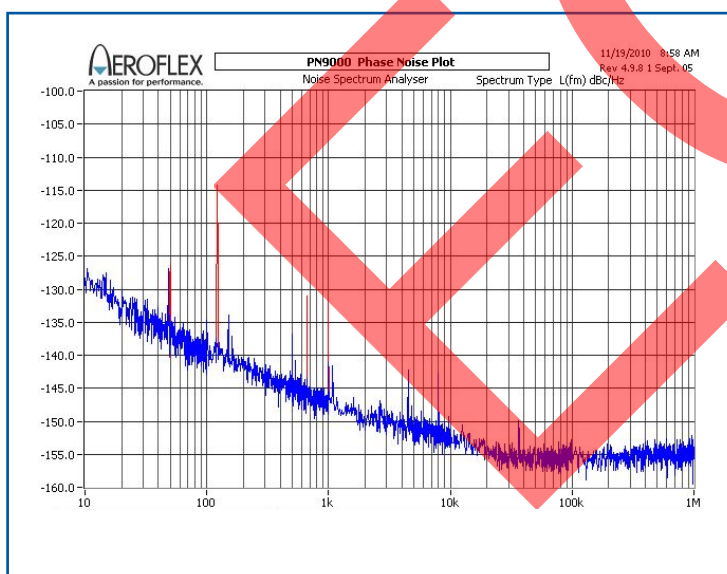


36.1x 27.2 x 13mm

STANDARD SPECIFICATIONS - continued.

Parameters	Minimum	Typical	Maximum	Units	Notes
Phase Noise (10MHz Carrier) @ 12V					
@ 1 Hz offset			-90	dBc	
@ 10 Hz offset			-120	dBc	
@ 100 Hz offset			-140	dBc	
@ 1,000 Hz offset			-145	dBc	
@ 10,000 Hz offset			-150	dBc	
@ 100,000 Hz offset			-152	dBc	
Electrical Frequency Adjustment					
Control Voltage Range (Vc)	0.0		5.00	Volts	
Frequency Pull Range	±0.500			ppm	
Frequency Pull Slope		Positive			
Control Voltage Port Impedance	100			kΩ	
Center Control Voltage	2.40	2.50	2.60	Volts	
Control Port Linearity			±10	%	
Reference Voltage (Vdd=12.0V)	4.90	5.00	5.10	Volts	Output @ Pin#2
Storage Temperature	-40		+100	°C	

TYPICAL PHASE NOISE PERFORMANCE @ 10MHz CARRIER



OPTIONS AND PART IDENTIFICATION

(Left blank if standard)

AOCJY5 - MHz

Frequency in MHz

Such as; 10.000 MHz

By default, AOCJY5 OCXO is constructed with the following key specifications:

- i) Supply Voltage = 12.00 Volts
- ii) Operating Temperature Range = -55°C to +85°C
- iii) RF Output = Pure Sinewave into 50Ω

ABRACON IS
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CERTIFIED

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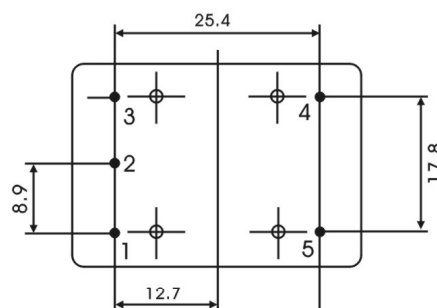
AOCJY5
10.00MHz
10G

36.1x 27.2 x 13mm

Pb

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A diagram of a rectangular marking area. The rectangle has a width of 36.1 and a height of 27.2. Inside the rectangle, the words "MARKING" and "AREA" are written vertically. A small black dot is located in the upper left corner of the rectangle.



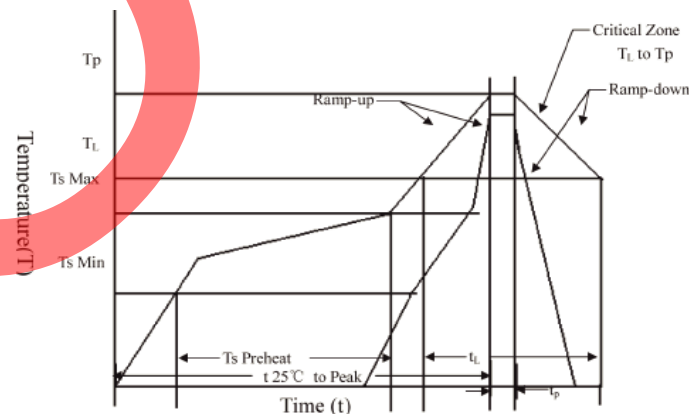
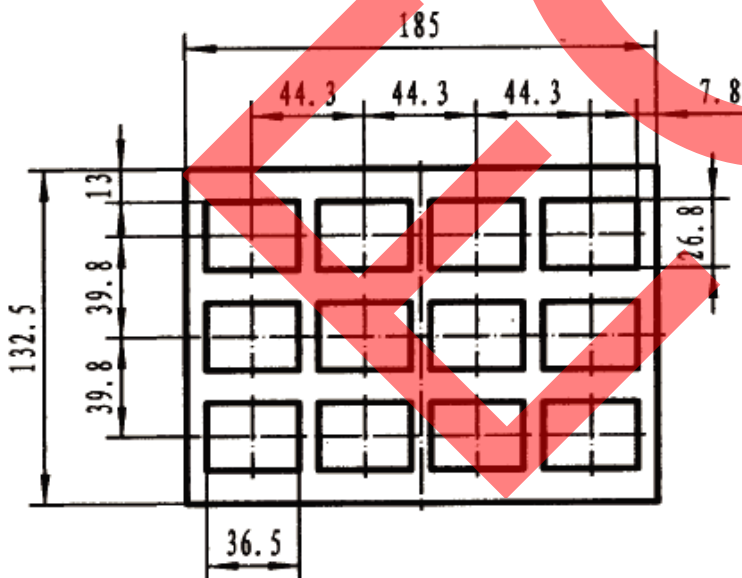
Bottom View

PIN	FUNCTION:
1	Control Voltage
2	Reference Voltage
3	Power supply
4	R F OUT
5	GND

Unit:mm

Diagram showing a rectangular block on a base. The total height of the block is labeled H . The height of the base is labeled 5.0 . The width of the base is labeled 0.8 . The height of the block above the base is labeled 0.76 . The text $H = 13 \text{ Max.}$ is present below the diagram.

REFLOW PROFILE:



T _s max to T _L (Ramp-up Rate)	5°C/second max.
Preheat	
Temperature Min. (T _s Min.)	150°C
Temperature Typical (T _s Typ.)	175°C
Temperature Max. (T _s Max.)	200°C
Time (t _s)	60 ~ 180 seconds
Ramp-up rate (T _L to T _p)	3°C/second max.
Time Maintained Above: --Temperature (T _L)/Time (T _L)	217°C/60 ~ 150 seconds
Peak Temperature (T _p)	250°C max. for 10 seconds
Target Peak Temperature (T _p Target)	250°C +0/-5°C
Time within 5°C of actual peak (t _p)	20 ~ 40 seconds
Ramp-down Rate	6°C/second max.
Tune 25°C to Peak Temperature (t)	8 minutes max.

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