

# OVEN CONTROLLED CRYSTAL OSCILLATOR

AOCJY4 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
- Either Sinewave or CMOS RF output
- Available with  $\pm 10$  ppb over  $-40^{\circ}\text{C}$  to  $+75^{\circ}\text{C}$  operating temperature Range
- Tighter Stabilities to  $\pm 2.0$  ppb over  $0^{\circ}\text{C}$  to  $+50^{\circ}\text{C}$  also available
- Exceptional long-term Aging of  $\pm 500$  ppb max. over 10-Year Product Life
- Excellent close-in phase noise ( $-140$  dBc/Hz Typical @100 Hz offset; 10MHz carrier)

## APPLICATIONS:

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

## STANDARD SPECIFICATIONS:

| Parameters   | Minimum                                      | Typical             | Maximum      | Units              | Notes                        |
|--|--|---------------------|--------------|--------------------|------------------------------|
| <b>RF Output</b>   |  |                     |              |                    |                              |
| Frequency  | 10.00  |                     | 40.00        | MHz                | Overall Frequency range      |
| Standard Available Frequencies                           | 10.00, 12.80, 13.00, 26.00, 38.88, 40.00 MHz |                     |              |                    |                              |
| <b>Waveform</b>  | <b>CMOS</b>                                  |                     |              |                    |                              |
| Level "1" (Logic High)                                   | 4.50   |                     |              | Volts              |                              |
| Level "0" (Logic Low)                                    |  |                     | 0.50         | Volts              |                              |
| Load   |  | 15                  |              | pf                 |                              |
| Rise & Fall Time   |  |                     | 6.0          | ns                 |                              |
| Duty Cycle   | 45   |                     | 55           | %                  |                              |
| <b>Waveform</b>  | <b>Sinewave</b>                              |                     |              |                    |                              |
| Peak Power   | 2.00   |                     |              | dBm                |                              |
| Output Load  |  | 50                  |              | $\Omega$           |                              |
| <b>Short Term Stability</b>                              |  | $1 \times 10^{-10}$ |              | /second            | <b>Alan Variance</b>         |
| <b>Operable Temperature Range</b>                        | -40  |                     | 75           | $^{\circ}\text{C}$ | <i>See Stability Options</i> |
| <b>Frequency Stability Options</b>                       |  |                     |              |                    |                              |
| 0 $^{\circ}\text{C}$ to +50 $^{\circ}\text{C}$ (Note #1) |  |                     | $\pm 2.00$   | ppb                | Default Spec.                |
| -20 $^{\circ}\text{C}$ to +70 $^{\circ}\text{C}$         |  |                     | $\pm 10.00$  | ppb                | Option "E"                   |
| -40 $^{\circ}\text{C}$ to +75 $^{\circ}\text{C}$         |  |                     | $\pm 10.00$  | ppb                | Option "F"                   |
| Frequency Stability vs. Supply Voltage (Vdd $\pm 5\%$ )  |  |                     | $\pm 1.00$   | ppb                |                              |
| Frequency Stability vs. Load Variation ( $\pm 10\%$ )    |  |                     | $\pm 1.00$   | ppb                |                              |
| Warm-Up @ 25 $^{\circ}\text{C}$                          |  |                     | $\pm 100.00$ | ppb                | In $\leq 3$ -minutes         |
| Power Consumption @ turn on                              |  |                     | 4.00         | Watts              |                              |
| Power Consumption Steady State                           |  |                     | 1.50         | Watts              |                              |
| Supply Voltage (Vdd)                                     | 4.75   | 5.00                | 5.25         | Volts              | <i>See Options</i>           |

**Note #1:**  $\pm 2.00$  ppb stability is only available for  $F_0 \leq 13\text{MHz}$ . For frequencies above 13MHz, the best available frequency stability is  $\pm 10.00$  ppb over  $-20^{\circ}\text{C}$  to  $+70^{\circ}\text{C}$

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## STANDARD SPECIFICATIONS - continued.

| Parameters                             | Minimum | Typical  | Maximum | Units | Notes          |
|--|---------|----------|---------|-------|----------------|
| <b>Aging</b>                           |         |          |         |       |                |
| Daily                                  |         |          | ±1.0    | ppb   |                |
| First Year                             |         |          | ±100    | ppb   |                |
| 10-Years                               |         |          | ±500    | ppb   |                |
| <b>Spectral Content</b>                |         |          |         |       |                |
| Spurious Response                      |         |          | -35     | dBc   |                |
| Phase Noise (10MHz Carrier) @ 5V       |         |          |         |       |                |
| @ 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   |                |
| <b>Electrical Frequency Adjustment</b> |         |          |         |       |                |
| Control Voltage Range (Vc)             | 0.0     |          | 5.00    | Volts |                |
| Frequency Pull Range                   | ±0.700  |          |         | ppm   |                |
| Frequency Pull Slope                   |         | Positive |         |       |                |
| Control Voltage Port Impedance         | 10      |          |         | kΩ    |                |
| Center Control Voltage                 | 2.00    | 2.50     | 3.00    | Volts |                |
| Control Port Linearity                 |         | ±10      |         | %     |                |
| Reference Voltage (Vdd=5.0V)           | 4.40    | 4.50     | 4.60    | Volts | Output @ Pin#2 |
| Reference Voltage (Vdd=12.0V)          | 4.90    | 5.00     | 5.10    | Volts | Output @ Pin#2 |
| Storage Temperature                    | -40     |          | +100    | °C    |                |

## OPTIONS AND PART IDENTIFICATION (Left blank if standard)



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## OUTLINE DIMENSIONS



## PACKAGING: 12 pcs/tray



## REFLOW PROFILE:



**ATTENTION:** Abracon Corporation's products are COTS – Commercial-Off-The-Shelf products; suitable for Commercial, Industrial and, where designated, Automotive Applications. Abracon's products are not specifically designed for Military, Aviation, Aerospace, Life-dependant Medical applications or any application requiring high reliability where component failure could result in loss of life and/or property. For applications requiring high reliability and/or presenting an extreme operating environment, written consent and authorization from Abracon Corporation is required. Please contact Abracon Corporation for more information.

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- Поставка более 17-ти миллионов наименований электронных компонентов;
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- Экспресс доставка в любую точку России;
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- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

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- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



#### Как с нами связаться

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