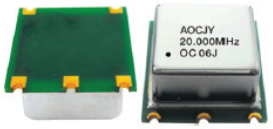
SMD OVEN CONTROLLED CRYSTAL OSCILLATOR

AOCJY Series



25.4 x 22.1 x 12.5 mm

Pb RoHS Compliant

FEATURES:

- 25.4 x 22.1 x 12.5 mm True SMT- RoHS Compliant Reflow-able Package
- SC-Cut, High "Q" resonator based design
- Either Sinewave or CMOS RF output
- Available with ±30 ppb over -40°C to +75°C operating temperature Range
- Tighter Stabilities to ±5.0 ppb over 0°C to +50°C also available
- Exceptional long-term Aging of ±500 ppb over 10-Year Product Life
- Excellent close-in phase noise (-130 dBc/Hz Typical @100 Hz offset from 10MHz carrier)

1.000MHz to 160.000MHz: CMOS output
1.000MHz to 100MHz: Sinewave output *

APPLICATIONS:

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

STANDARD SPECIFICATIONS:

PARAMETERS	
ABRACON P/N:	AOCJY Series
Frequency range:	1.000 MHz to 160.00 MHz: CMOS output 1.000 MHz to 100MHz Sinewave output * (please contact Abracon for > 80.00MHz resonant frequency)
Standard Available frequencies:	10.00, 12.80, 13.00, 16.384, 20.00, 26.00, 38.40, 38.88, 40.00, 100.00 MHz
Operating temperature:	0°C to +50°C (see options)
Frequency Stability vs. Temperature 0°C to +50°C: -20°C to +70°C: -40°C to +75°C:	 ± 5.00 ppb max. Standard ± 10.00 ppb max. Option "E" ± 30.00 ppb max. Option "F"
Frequency Stability vs. Supply Voltage Voltage (±5% Vdd): Warm-up (@25ºC):	 ± 20ppb Max. ≤ ± 100 ppb Max. (in <_3 minutes @+25°C)
Aging: Daily aging (after 30 days): Yearly aging: 10-Years aging:	 ± 1.0ppb ± 100ppb ± 500ppb
Supply voltage (Vdd):	3.3Vdc ± 5% (see options)
Reference voltage(Vref): {Available as an output to facilitate oscillator tuning}	+2.80V ± 0.20V (For Vdd=+3.3V version) +4.50V ± 0.20V (For Vdd=+5.0V version)
Power @ turn on:	3.60 Watts Max.
Steady state @25ºC:	1.40 Watt Max.
Output load:	15pF (for LVCMOS output) 50Ω (for Sinewave output)
Output Voltage (LVCMOS):	VOH = 0.9 * Vdd min. VOL = 0.1 * Vdd max.
Output Voltage (Sinewave):	2.0 dBm min.
Rise & Fall Times (LVCMOS):	5ns max.
Duty Cycle (LVCMOS):	45%/55% Typ.
Control voltage range:	0 to Vdd
Frequency pull range:	±0.70 ppm Min.
Frequency pull slope:	Positive
Center control voltage:	Vdd/2 ±0.5 Volts
Control voltage port impedance:	10k Ω min.
Spurious reponse:	-70dBc
Phase noise (10MHz carrier):	-90dBc Typ. (@ 1 Hz) -100dBc Typ. (@10 Hz) -130dBc Typ. (@100 Hz) -140dBc Typ. (@1,000 Hz) -150dBc Typ. (@10,000 Hz)

30332 Esperanza, Rancho Santa Margarita, California 92688
tel 949-546-8000 | fax 949-546-8001 | www.abracon.com

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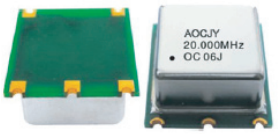


25.4 x 22.1 x 12.5 mm

Pb RoHS Compliant

OPTIONS AND PART IDENTIFICATION (Left blank if standard)

AOCJY - ☐ - ☐ MHz - ☐ - ☐

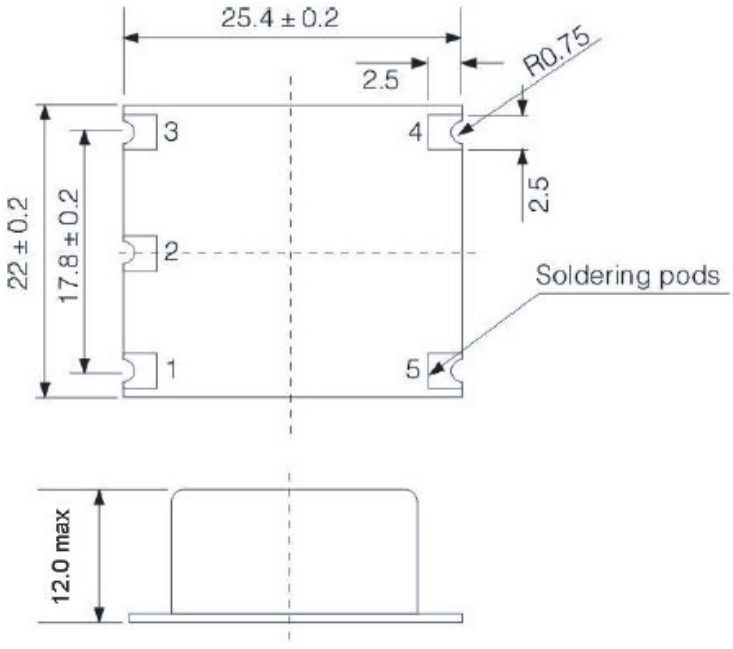
Vdd (V)
Blank: 3.3±5%
A: 5.0±5%

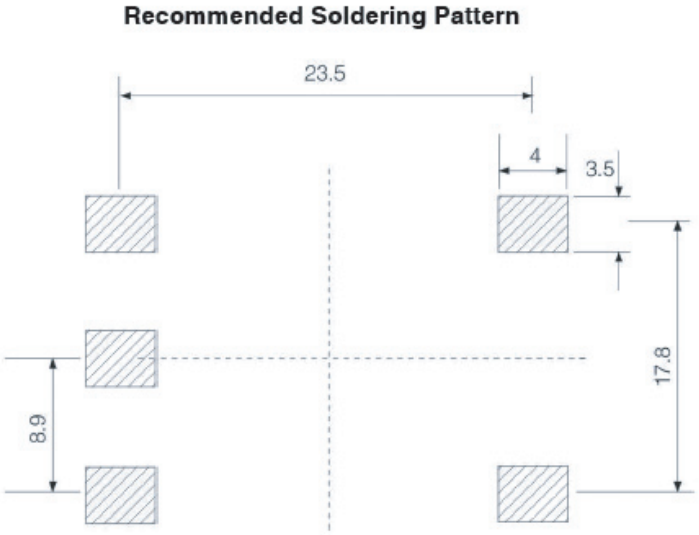
Frequency in MHz
e.g. 10.000MHz 20.000MHz 100.000MHz

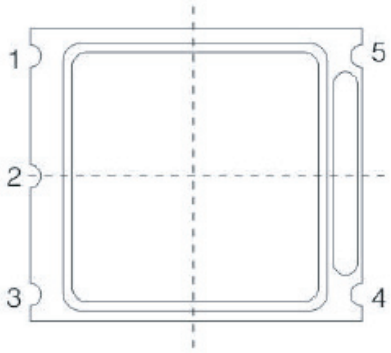
Operating Temp.
Blank: ± 5.0 ppb/0°C ~ +50°C
E: ± 10.0 ppb/-20°C ~ +70°C
F: ± 30.0 ppb/-40°C ~ +75°C

RF Output
Blank: CMOS
SW: Sinewave

OUTLINE DIMENSIONS







Pin	Function
1	Control Voltage
2	VREF
3	Supply Voltage
4	RF-output
5	Ground. Case

Dimensions: Inches (mm)

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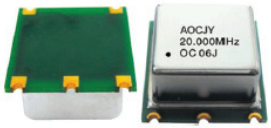

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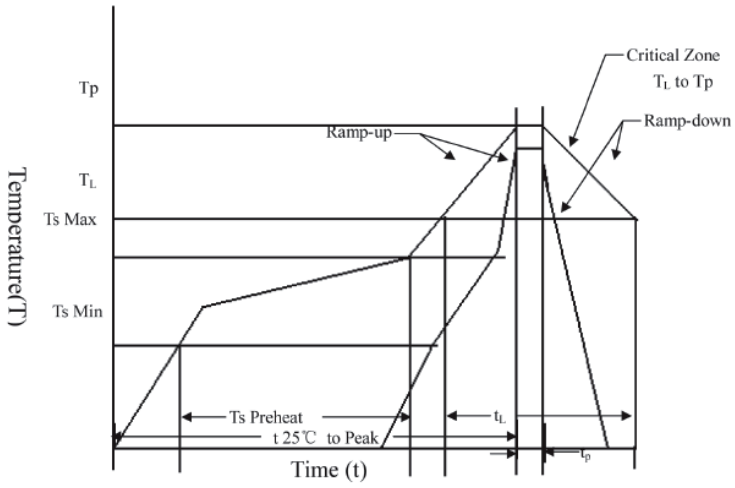
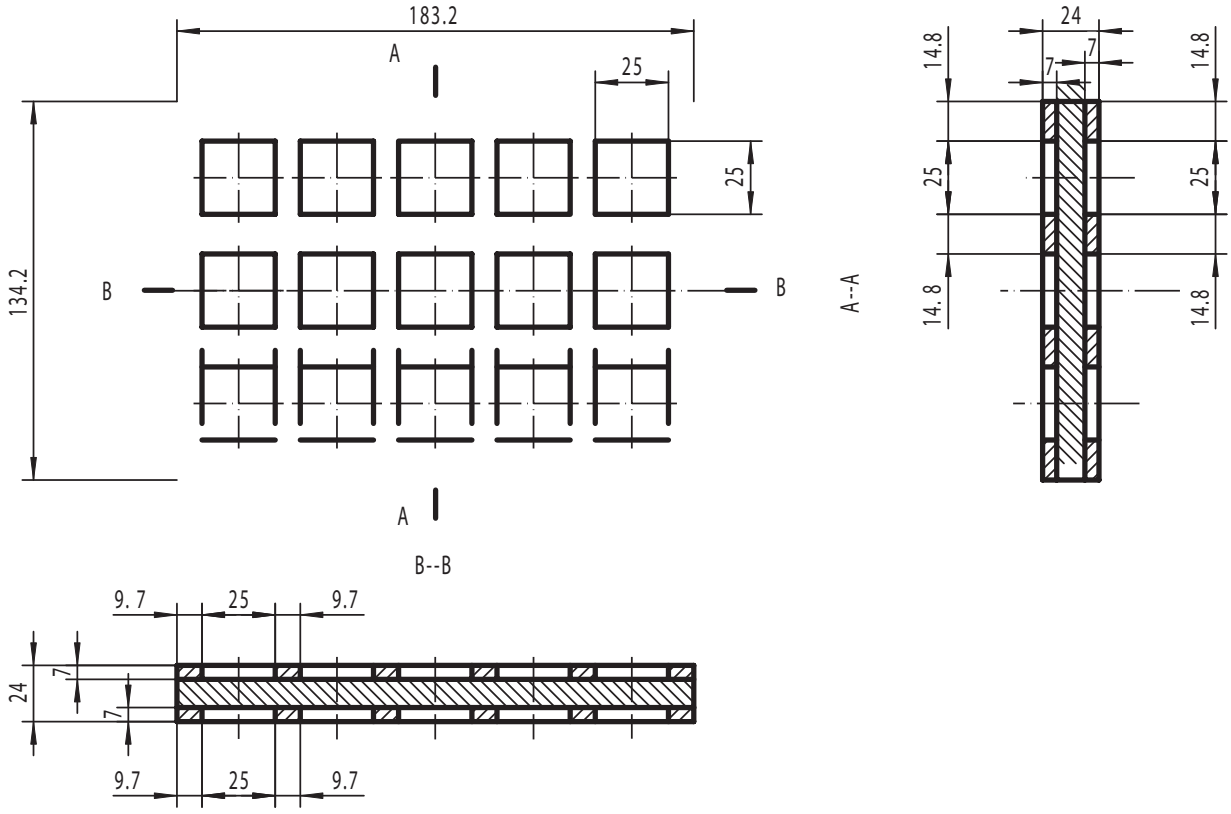
REFLOW PROFILE:



T_S max to T_L (Ramp-up Rate)	3°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.

PACKAGING: 15 pcs/tray



APPLICATION NOTES: (Click on a note below to view the file)

> **AOCJY OCXO Vref**

> **AOCJY Frequency vs. Vc (V)**

NOTE: Abracon manufactured products are intended for general commercial and industrial use. For applications requiring high reliability and/or presenting extreme operating environment, written consent & authorization from Abracon is required.

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