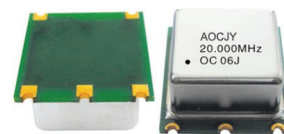


SMD OVEN CONTROLLED CRYSTAL OSCILLATOR

AOCJY Series



RoHS/RoHS II compliant



25.4 x 22.1 x 12.7 mm

Moisture Sensitivity Level (MSL) – This product is Hermetically Sealed and not Moisture Sensitive - MSL = 1

FEATURES:

- 25.4 x 22.1 x 12.7 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 $+75^{\circ}\text{C}$ operating temperature Range
- Tighter Stabilities to ± 5.0 ppb over 0°C to $+50^{\circ}\text{C}$ also available
- Exceptional long-term Aging of ± 500 ppb over 10-Year Product Life
- Excellent close-in phase noise (-135 dBc/Hz Typical @100 Hz offset from 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
RF Output					
Frequency	10.00		100.00	MHz	CMOS output
	10.00		100.00	MHz	Sinewave output
Standard Available Frequencies	10.00, 12.80, 13.00, 16.384, 20.00, 26.00, 38.40, 38.88, 40.00, 100.00 MHz				
Operable Temperature Range	0		50	$^{\circ}\text{C}$	<i>See Stability Options</i>
Frequency Stability Options					
0 $^{\circ}\text{C}$ to $+50^{\circ}\text{C}$			± 5.00	ppb	Default Spec.
-20°C to $+70^{\circ}\text{C}$			± 10.00	ppb	Option “E”
-40°C to $+75^{\circ}\text{C}$			± 30.00	ppb	Option “F”
Frequency Stability vs. Supply Voltage (Vdd $\pm 5\%$)			± 20.00	ppb	
Warm-Up @ 25 $^{\circ}\text{C}$			± 100.00	ppb	In ≤ 3 -minutes
Power Consumption @ turn on			3.60	Watts	
Power Consumption Steady State			1.40	Watt	
Supply Voltage (Vdd)	3.135	3.30	3.465	Volts	<i>See Options</i>
Reference Voltage (Vref) (available as an output to facilitate oscillator tuning)	2.60	2.80	3.00	Volts	<i>For Vdd=+3.3V version</i>
	4.30	4.50	4.70	Volts	<i>For Vdd=+5.0V version</i>
Aging					
Daily aging (after 30 days)			± 1.0	ppb	
Yearly			± 100	ppb	
10-Years			± 500	ppb	
Waveform	LVC MOS				
Level "1" (Logic High)	0.9*Vdd			Volts	
Level "0" (Logic Low)			0.1*Vdd	Volts	
Load		15		pf	
Rise & Fall Time			5.0	ns	
Duty Cycle	45		55	%	

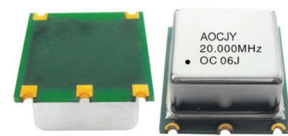


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RoHS/RoHS II compliant



25.4 x 22.1 x 12.7 mm

STANDARD SPECIFICATIONS contd.

Parameters	Minimum	Typical	Maximum	Units	Notes
Waveform	Sinewave				
Peak Power	2.00			dBm	
Output Load		50		Ω	
Spectral Content					
Spurious Response			-70	dBc	
Phase Noise @ 10MHz Carrier (Vdd=3.3V)					
@ 1 Hz offset			-90	dBc / Hz	
@ 10 Hz offset			-120	dBc / Hz	
@ 100 Hz offset			-135	dBc / Hz	
@ 1,000 Hz offset			-145	dBc / Hz	
@ 10,000 Hz offset			-150	dBc / Hz	
@ 100,000 Hz offset			-150	dBc / Hz	
@ 1,000,000 Hz offset			-150	dBc / Hz	
Electrical Frequency Adjustment					
Control Voltage Range (Vc)	0.0		Vdd	Volts	
Frequency Pull Range	± 0.7			ppm	
Frequency Pull Slope		Positive			
Control Voltage Port Impedance	10			k Ω	
Center Control Voltage	(Vdd/2) -0.5	Vdd/2	(Vdd/2) +0.5	Volts	

OPTIONS AND PART IDENTIFICATION (Left blank if standard)

AOCJY - - MHz - -

Supply Voltage Option

Blank: 3.30V $\pm 5\%$
A: 5.00V $\pm 5\%$

Frequency in MHz

Such as; 10.000 MHz
26.000 MHz
100.000 MHz

Temperature Options

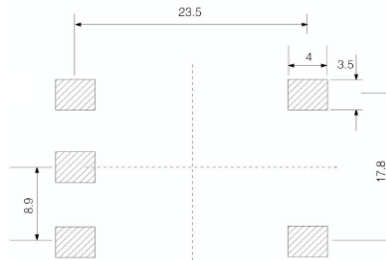
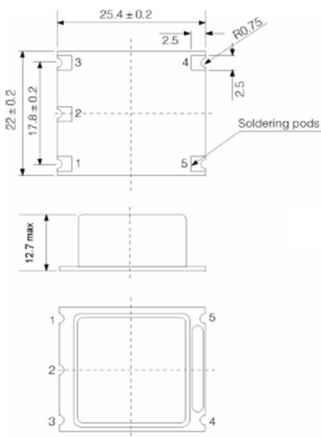
Blank: ± 5.0 ppb/0°C to +50°C
E: ± 10.0 ppb/-20°C to +70°C
F: ± 30.0 ppb/-40°C to +75°C

RF Output Options

Blank: CMOS
SW: Sinewave

OUTLINE DIMENSIONS

Recommended Soldering Pattern



Pin	Function
1	Control Voltage
2	V _{REF}
3	Supply Voltage
4	RF-output
5	Ground. Case

Dimensions: Inches (mm)

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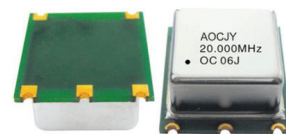
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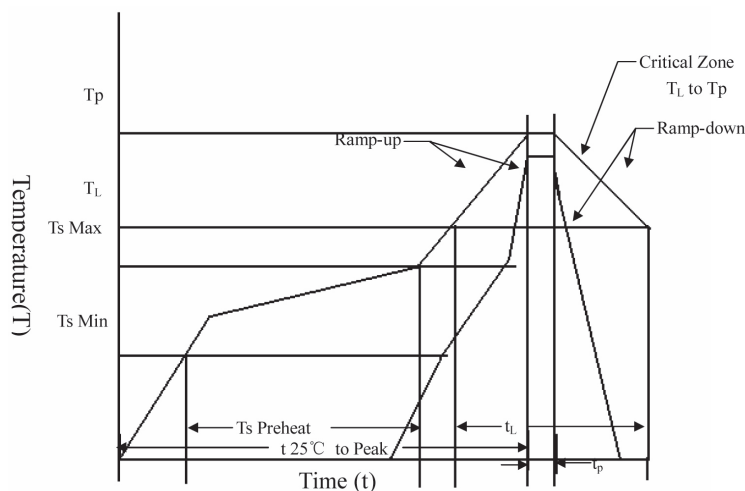


RoHS/RoHS II compliant



25.4 x 22.1 x 12.7 mm

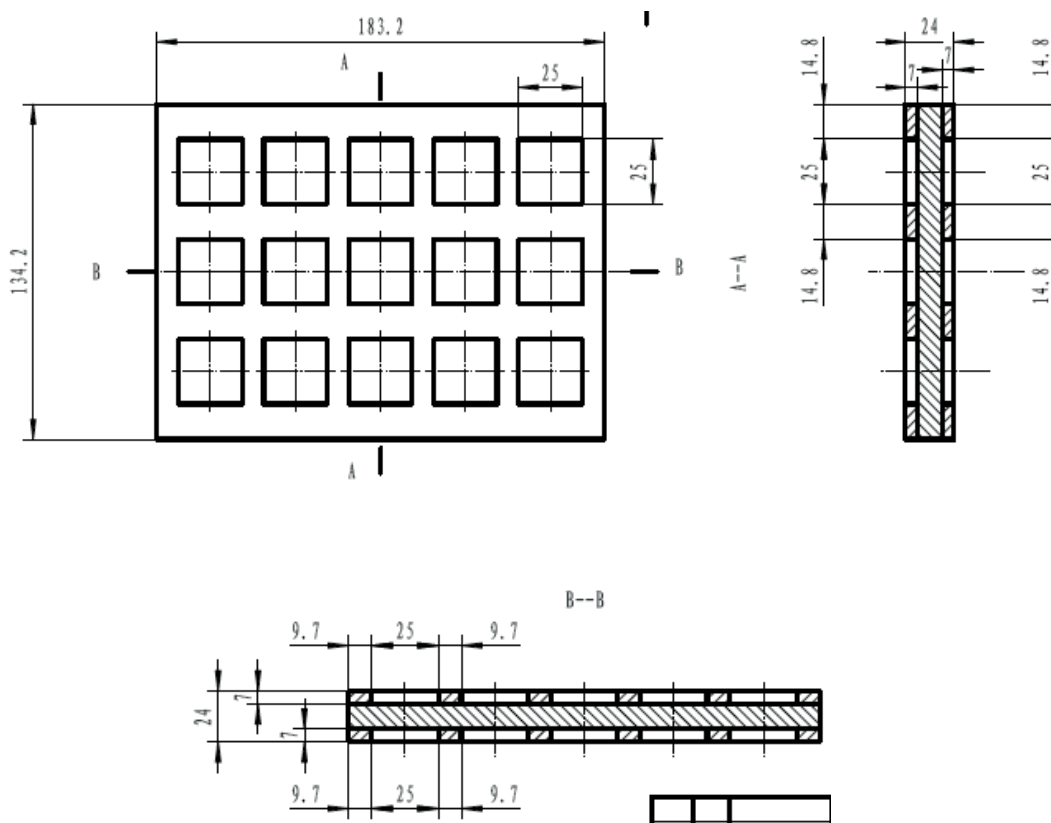
REFLOW PROFILE:



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

PACKAGING:

(15) units per tray



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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