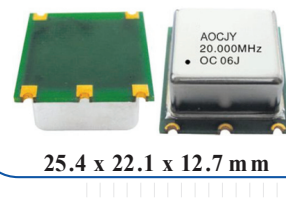


SMD OVEN CONTROLLED CRYSTAL OSCILLATOR

AOCJY Series



RoHS
Compliant



25.4 x 22.1 x 12.7 mm

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	1.00		160.00	MHz	CMOS output
	1.00		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°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 ($V_{\text{dd}} \pm 5\%$)			± 20.00	ppb	
Warm-Up @ 25°C			± 100.00	ppb	$\text{In} \leq 3\text{-minutes}$
Power Consumption @ turn on			3.60	Watts	
Power Consumption Steady State			1.40	Watt	
Supply Voltage (V_{dd})	3.135	3.30	3.465	Volts	<i>See Options</i>
Reference Voltage (V_{ref}) (available as an output to facilitate oscillator tuning)	2.60	2.80	3.00	Volts	<i>For $V_{\text{dd}}=+3.3\text{V}$ version</i>
	4.30	4.50	4.70	Volts	<i>For $V_{\text{dd}}=+5.0\text{V}$ version</i>
Aging					
Daily aging (after 30 days)			± 1.0	ppb	
Yearly			± 100	ppb	
10-Years			± 500	ppb	
Waveform	LVCMOS				
Level "1" (Logic High)	$0.9 \cdot V_{\text{dd}}$			Volts	
Level "0" (Logic Low)			$0.1 \cdot V_{\text{dd}}$	Volts	
Load		15		pf	
Rise & Fall Time			5.0	ns	
Duty Cycle	45		55	%	

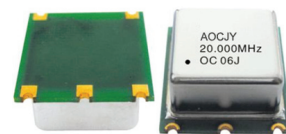


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25.4 x 22.1 x 12.7 mm

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)					
1Hz			-90	dBc / Hz	
10Hz			-120	dBc / Hz	
100Hz			-135	dBc / Hz	
1,000Hz			-145	dBc / Hz	
10,000 Hz			-150	dBc / Hz	
100,000Hz			-150	dBc / Hz	
1,000,000Hz			-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 $\pm 5\%$

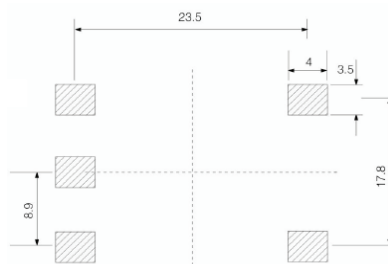
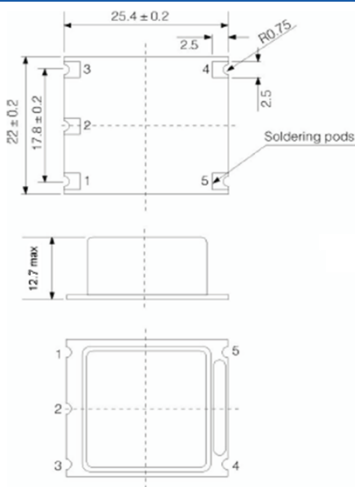
RF Output Options
Blank: CMOS
SW: Sinewave

Frequency in MHz
Such as; 10.000 MHz
26.000 MHz
100.000 MHz

Temperature Options
Blank: ± 5.0 ppb/ 0°C to $+50^{\circ}\text{C}$
E: ± 10.0 ppb/ -20°C to $+70^{\circ}\text{C}$
F: ± 30.0 ppb/ -40°C to $+75^{\circ}\text{C}$

OUTLINE DIMENSIONS

Recommended Soldering Pattern



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

Dimensions: Inches (mm)

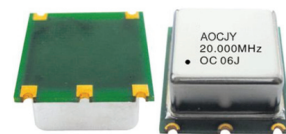


SMD OVEN CONTROLLED CRYSTAL OSCILLATOR

AOCJY Series

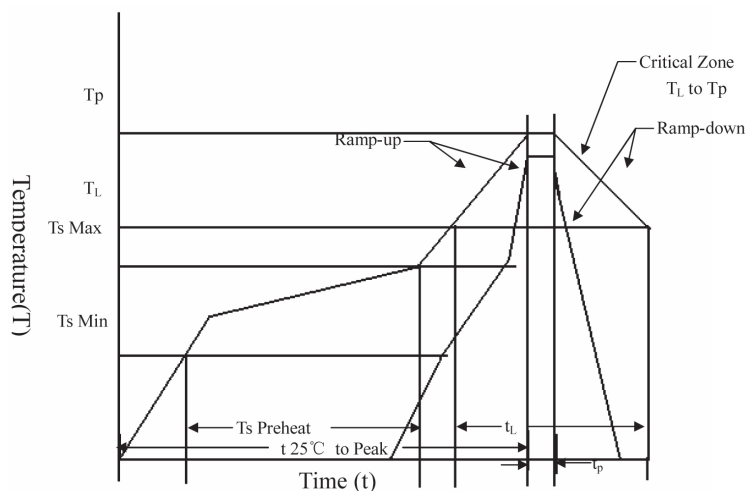


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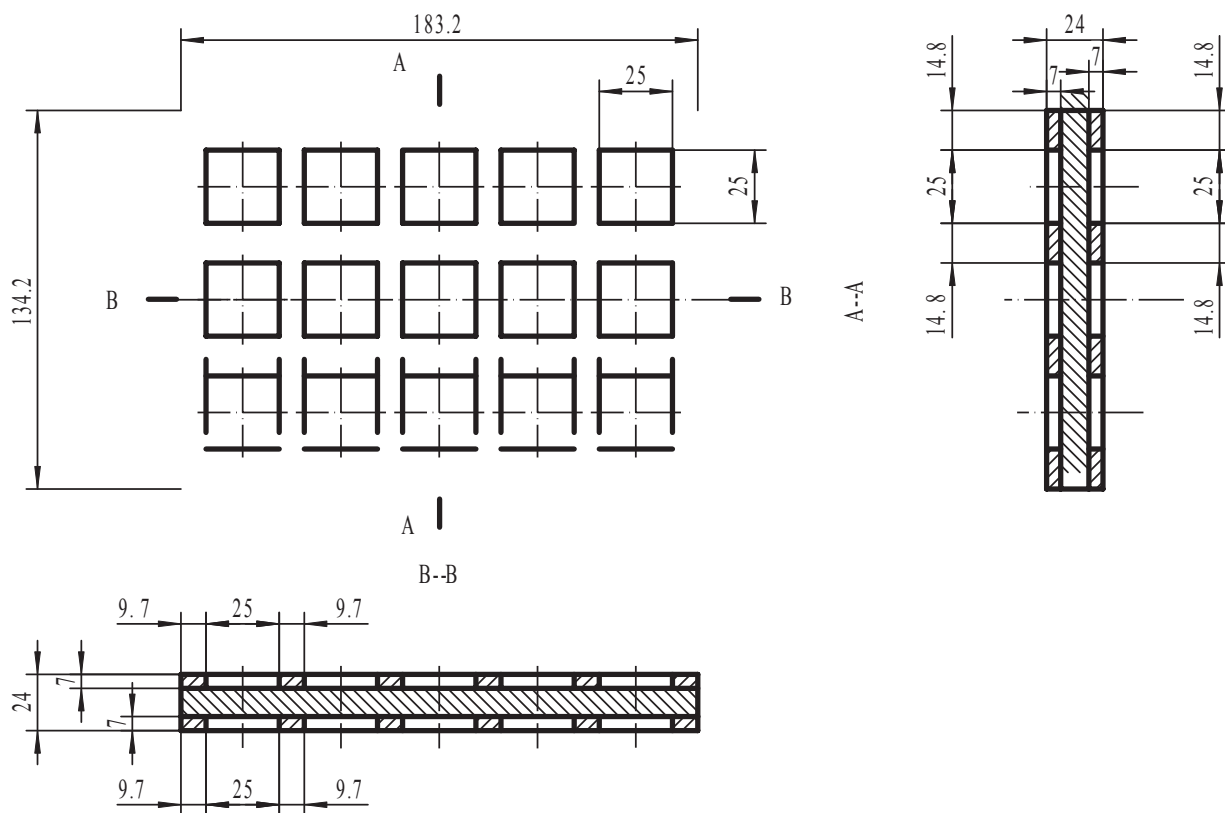
25.4 x 22.1 x 12.7 mm

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



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30332 Esperanza, Rancho Santa Margarita, California 92688
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Офис по работе с юридическими лицами:

105318, г.Москва, ул.Щербаковская д.3, офис 1107, 1118, ДЦ «Щербаковский»

Телефон: +7 495 668-12-70 (многоканальный)

Факс: +7 495 668-12-70 (доб.304)

E-mail: info@moschip.ru

Skype отдела продаж:

moschip.ru

moschip.ru_4

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moschip.ru_9