OVEN CONTROLLED CRYSTAL OSCILLATOR

AOCJY1 Series

RoHS Compliant

20.8 x 13.2 x 8.2 mm

FEATURES:

- 20.8 x 13.2 x 8.2 mm Leaded- RoHS Compliant Reflow-able Package
- AT-Cut, High "Q" resonator based design
- Either Sinewave or CMOS RF output
- Available with ±500 ppb over -40°C to +75°C operating temperature Range
- Tighter Stabilities to ±50.0 ppb over 0°C to +50°C also available
- Exceptional long-term Aging of ±3 ppm max. over 10-Year Product Life
- Excellent close-in phase noise (-145 dBc/Hz Typical @1k 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
RF Output					
Frequency	10.00		100.00	MHz	Overall Frequency range
Standard Available Frequencies	10.00, 12.80, 13.00, 26.00, 38.88, 40.00, 100.00 MHz				
Waveform	**CMOS**				
Level "1" (Logic High)	0.9*Vdd			Volts	
Level "0" (Logic Low)			0.1*Vdd	Volts	
Load		15		pf	
Rise & Fall Time			6.0	ns	
Duty Cycle	45		55	%	
Waveform	**Sinewave**				
Peak Power	2.00			dBm	
Output Load		50		Ω	
Short Term Stability		**$1x10^{-9}$**		**/second**	**Alan Variance**
Operable Temperature Range	-40		75	° C	***See Stability Options***
Frequency Stability Options					
0° C to +50°C			±50.00	ppb	Default Spec.
-20° C to +70°C			±200.00	ppb	Option "E"
-40° C to +75°C			±500.00	ppb	Option "F"
Frequency Stability vs. Supply Voltage (Vdd ± 5%)			±50.00	ppb	
Warm-Up @ 25 °C			±500.00	ppb	In ≤ 3-minutes
Power Consumption @ turn on			2.00	Watts	
Power Consumption Steady State			1.00	Watt	
Supply Voltage (Vdd)	3.13	3.30	3.46	Volts	***See Options***
Aging					
Yearly			±500	ppb	
10-Years			±3.00	ppm	
Supply Voltage Variation			±50	ppb	VDD ± 5% change
Spectral Content					
Spurious Response			-35	dBc	
Phase Noise (10MHz Carrier) @ 5V					
@ 10 Hz offset			-90	dBc / Hz	
@ 100 Hz offset			-120	dBc / Hz	
@ 1,000 Hz offset			-145	dBc / Hz	
@ 10,000 Hz offset			-150	dBc / Hz	
Electrical Frequency Adjustment					
Control Voltage Range (Vc)	0.0		Vdd	Volts	
Frequency Pull Range	±5.00			ppm	
Frequency Pull Slope		Positive			
Control Voltage Port Impedance	10			kΩ	
Center Control Voltage	(Vdd/2) -0.5	Vdd/2	(Vdd/2) +0.5	Volts	
Control Port Linearity		±10		%	
Storage Temperature	**-40**		**+100**	**° C**	

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OPTIONS AND PART IDENTIFICATION (Left blank if standard)

AOCJY1 - ☐ - ☐ MHz - ☐ - ☐☐

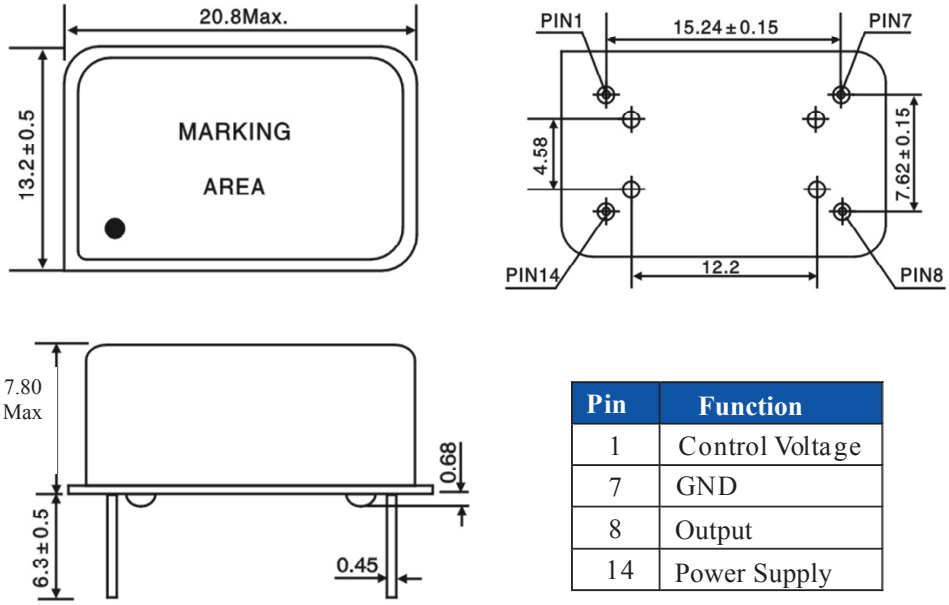
Supply Voltage Option
Blank: 3.30V
A: 5.00V

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

Temperature Options
E: -20°C to +70°C
F: -40°C to +75°C

RF Output Options
Blank: CMOS
SW: Sinewave

OUTLINE DIMENSIONS



Pin	Function
1	Control Voltage
7	GND
8	Output
14	Power Supply

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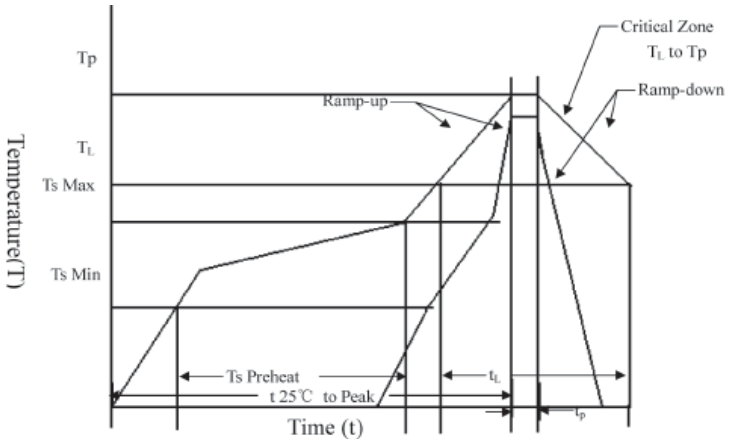
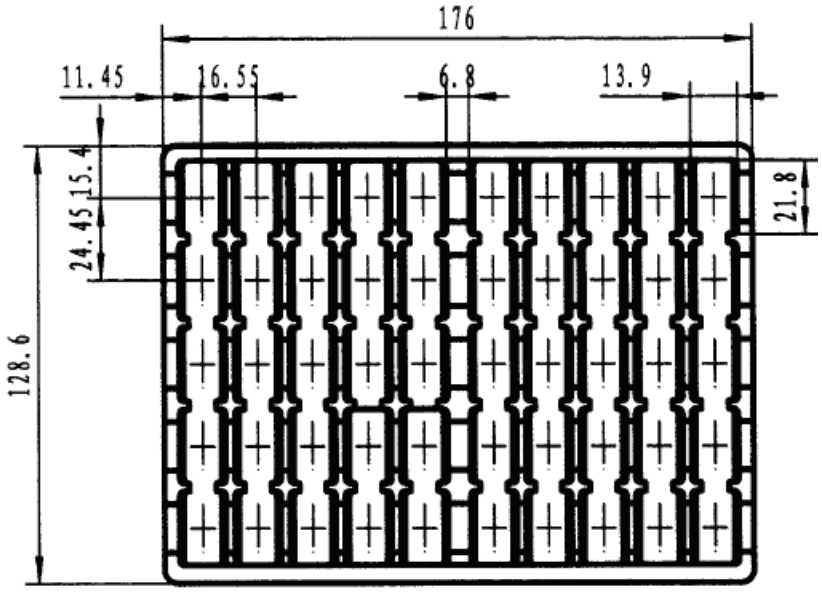
REFLOW PROFILE:



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: (50) units per tray



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