OVEN CONTROLLED CRYSTAL OSCILLATOR

AOCJY1 Series







- 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					Î
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	İ		ppm	
Frequency Pull Slope		Positive		**	
Control Voltage Port Impedance	10	İ		kΩ	
Center Control Voltage	(Vdd/2) -0.5	Vdd/2	(Vdd/2) +0.5	Volts	
Control Port Linearity	Ì	±10		%	
Storage Temperature	-40		+100	° C	



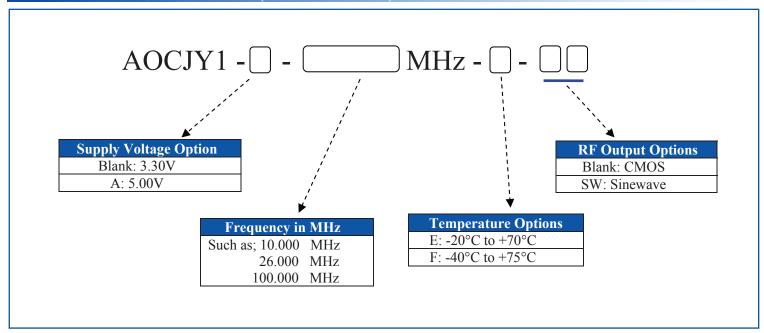
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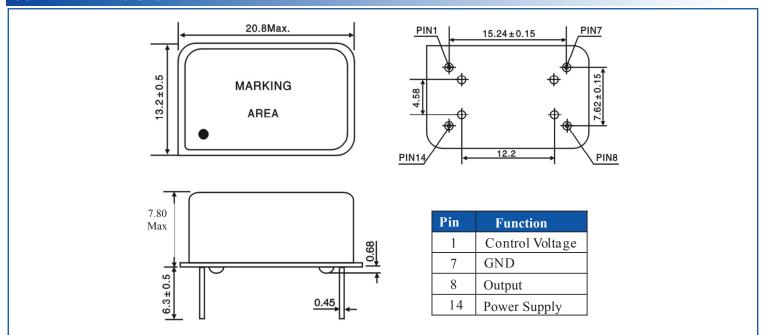




OPTIONS AND PART IDENTIFICATION (Left blank if standard)



OUTLINE DIMENSIONS





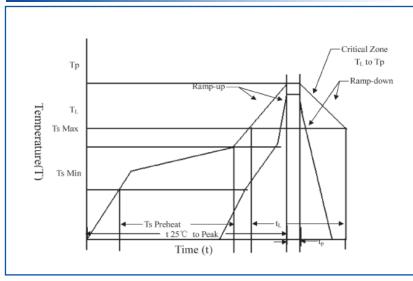
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REFLOW PROFILE:



 T_S max to T_L (Ramp-up Rate)

Preheat

Temperature Min. (T_S Min.) Temperature Typical (T_S Typ.) Temperature Max. (T_S Max.) 200°C

Time (t_S)

Ramp-up rate $(T_L \text{ to } T_p)$ Time Maintained Above:

--Temperature (T_I)/Time (T_I) Peak Temperature (Tp)

Target Peak Temperature (Tp Target) Time within 5°C of actual peak (tp)

Ramp-down Rate

Tune 25°C to Peak Temperature (t)

3°C/second max

150°C

175°C

 $60 \sim 180 \; seconds$

3°C/second max

 $217^{\circ}\text{C}/60 \sim 150 \text{ seconds}$ 250°C max for 10 seconds

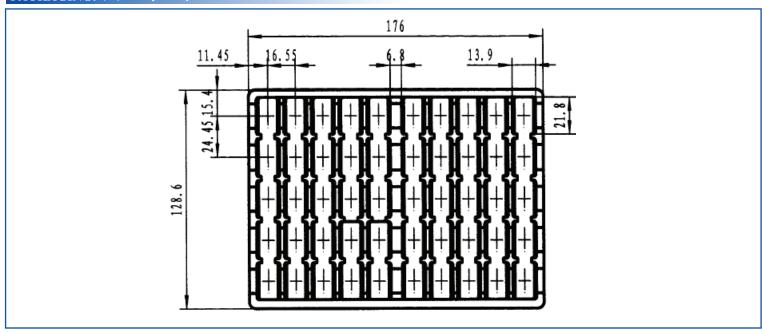
250°C ±0/-5°C

 $20 \sim 40$ seconds

6°C/second max

8 minutes max.

PACKAGING: (50) units per tray



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