

HCMOS SURFACE-MOUNT CRYSTAL CLOCK OSCILLATOR

ASA SERIES

Moisture Sensitivity Level (MSL) – This product is
Hermetically Sealed and not Moisture Sensitive -
MSL = N/A: Not Applicable



RoHS
Compliant



2.0 x 1.6 x 0.7mm

FEATURES:

- Ultra miniature package, 2.0 x 1.6 x 0.7mm
- Tri-state function
- Suitable for high density SMT
- Suitable for RoHS compliant reflow process
- Seam sealed package assures high reliability

APPLICATIONS:

- CCD clock for VTR camera
- Computers and peripherals
- Portable electronics
- Mobile communication, PDA

STANDARD SPECIFICATIONS:

Parameters		Minimum	Typical	Maximum	Units	Notes
Frequency Range		1.0	----	80	MHz	
Operating Temperature		-10	----	+60	°C	See options
Storage Temperature		-40	----	+85	°C	
Overall Frequency Stability*		-50	----	+50	ppm	See options
Supply Voltage (Vdd)		2.97	3.3	3.66	V	Standard
		2.25	2.5	2.75		Option 1 (CMOS)
		1.62	1.8	1.98		Option 2 (CMOS)
Supply Current (I _{dd})	Vdd = 3.3 V	----	2.0	5.0	mA	1MHz ≤ F ≤ 20 MHz
		----	4.0	10.0		20 MHz < F ≤ 50 MHz
		----	7.0	15.0		50 MHz < F ≤ 80 MHz
	Vdd = 2.5 V	----	2.0	5.0		1MHz ≤ F ≤ 20 MHz
		----	3.0	10.0		20 MHz < F ≤ 50 MHz
		----	5.0	10.0		50 MHz < F ≤ 80 MHz
	Vdd = 1.8 V	----	1.5	5.0		1MHz ≤ F ≤ 20 MHz
		----	2.5	5.0		20 MHz < F ≤ 50 MHz
		----	4.0	10.0		50 MHz < F ≤ 80 MHz
	Output Load	----	----	15	pF	
		----	----	2	TTL	
Output Voltage	V _{OH}	0.9*Vdd	----	----	V	CMOS
	V _{OL}	----	----	0.1*Vdd		CMOS
	V _{OH}	2.4	----	----		TTL
	V _{OL}	----	----	0.4		TTL
Tri-state function		"1" (VIH≥0.7*Vdd) : Oscillation "0" (VIH<0.3*Vdd) : Hi Z				Pin 1 must be pulled "high" for oscillation
Aging		-3.0	----	+3.0	ppm	@+25°C First year
Symmetry @1/2Vdd		40	50	60	%	Standard
		45	50	55		Option S
Start-up Time				10.0	ms	
Rise/Fall Time (Tr/Tf)				10.0	ns	

*Overall frequency stability includes initial frequency tolerance @+25°C and stability over the operating temperature.

OPTIONS AND PART IDENTIFICATION:

(Left blank if standard)

ASA - MHz - - - -

Supply Voltage
Blank: 3.3V±10%
1: 2.5 V±10%
2: 1.8 V±10%

Packaging
Blank: Bulk
T: Tape & Reel (1kpcs)
T3: Tape & Reel (3kpcs)

Frequency in MHz
Please specify the frequency in MHz. e.g. 14.31818MHz

Operating Temp.
Blank: -10°C ~ +60°C
E: -20°C ~ +70°C
L: -40°C ~ +85°C

Overall Freq. Stability
Blank: ±50ppm
R**: ±25ppm
K***: ±30 ppm

Symmetry
Blank: 40/60% @1/2Vdd
S: 45/55% @1/2Vdd

**Available for -10 to +60°C only

***Available for -10 to +60°C, option E only

Contact Abracon for tighter frequency stability options

ABRACON IS
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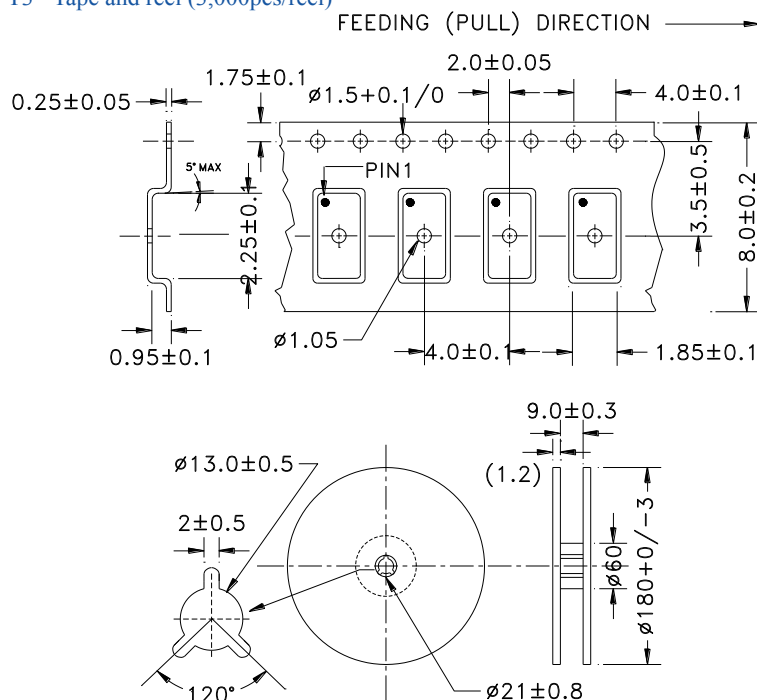


2.0 x 1.6 x 0.7mm

Figure 1: Mechanical drawing of the PCB. The drawing shows three views: a top view, a side view, and a detail view of the mounting holes. The top view is a rectangle with dimensions 2.0 ± 0.1 inches by 1.6 ± 0.1 inches. The side view shows a thickness of 0.079 ± 0.004 inches. The detail view shows four mounting holes with a diameter of 0.020 ± 0.004 inches (0.60 ± 0.1 inches) and a depth of 0.028 ± 0.004 inches (0.7 ± 0.1 inches). The holes are spaced 0.024 ± 0.004 inches (0.60 ± 0.1 inches) apart. The distance from the center of the holes to the edge is 0.020 ± 0.004 inches (0.5 ± 0.1 inches). The distance between the holes is 0.028 inches (0.7 inches). The distance from the center of the holes to the edge is 0.008 inches (0.2 inches).

PIN #	Name
1	Tri-state (Stand-by)
2	GND
3	Output
4	Vdd

T= Tape and reel (1,000pcs/reel)
T3= Tape and reel (3,000pcs/reel)



Dimensions: mm

Figure 1 is a typical reflow profile graph. The Y-axis represents Temperature in degrees Celsius (°C), with marked values at 25°C, 150°C, 180°C, 230°C, and 260°C. The X-axis represents Time in seconds (s). The profile is divided into three main phases: Pre-Heat, Reflow, and Cool. The Pre-Heat phase starts at 25°C and ramps up to 150°C, with a time interval of 60~120s. The Reflow phase starts at 150°C and ramps up to 260°C, with a time interval of 30~40s. The Cool phase starts at 260°C and ramps down to 25°C, with a time interval of 60~90s. A maximum dwell time of 5s at 260°C±5°C is indicated.



Need a test socket for the ASA Series? To view compatible **PRECISION TEST & BURN-IN SOCKETS for these parts, [click here](#).**

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