

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

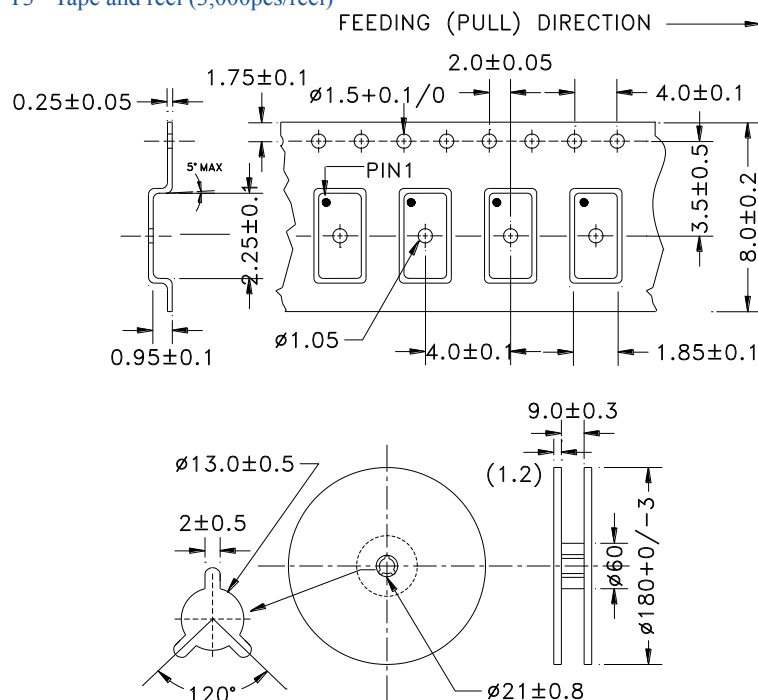
Figure 1 shows the mechanical drawings of the PCB. The top drawing is a front view showing a rectangular board with a central cutout. The dimensions are as follows:

- Top width: $0.079 \pm .004$ (2.0 ± 0.1)
- Bottom width: $0.063 \pm .004$ (1.6 ± 0.1)
- Left height: $0.020 \pm .004$ (0.5 ± 0.1)
- Right height: $0.020 \pm .004$ (0.5)
- Central cutout width: 0.028 (0.7)
- Central cutout height: $0.020 \pm .004$ (0.5)

The bottom drawing is a side view showing the thickness of the board, which is $0.028 \pm .004$ (0.7 ± 0.1).

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 graph showing a typical reflow profile. The Y-axis represents Temperature (°C) and the X-axis represents Time (seconds). The profile starts at 25°C, rises to 150°C (Pre-Heat), then to 260°C (Reflow), and finally cools down. Key parameters indicated on the graph are:

- Pre-Heat: 60~120s
- Reflow: 30~40s
- Cool: 60~90s
- Maximum dwell time at 260°C±5°C: 5s max. 1 time



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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