

# 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/RoHS II Compliant

ASA



2.0 x 1.6 x 0.7m m

### FEATURES:

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

### 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 <sub>dd</sub> ) into 15pF Load	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 <sub>OH</sub>	0.9*Vdd		V	CMOS
	V <sub>OL</sub>		0.1*Vdd		CMOS
	V <sub>OH</sub>	2.4			TTL
	V <sub>OL</sub>		0.4		TTL
Tri-state function	"1" (VIH≥0.7*Vdd) or Open : Oscillation "0" (VIH<0.3*Vdd) : Hi Z				
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 Abrac on for tighter frequency stability options

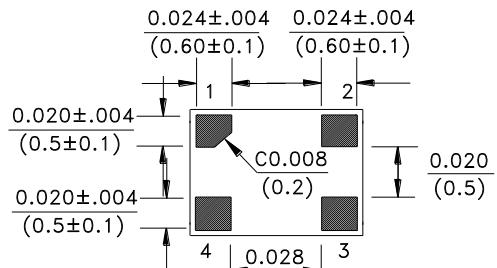
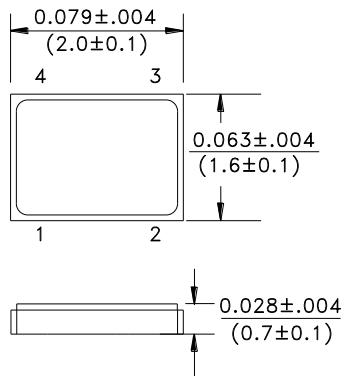
Visit [www.abracon.com](http://www.abracon.com) for Terms & Conditions of Sale Revised: 01.24.14

30332 Esperanza, Rancho Santa Margarita, California 92688

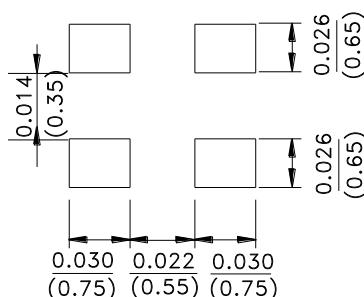
tel 949-546-8000 | fax 949-546-8001 | [www.abracon.com](http://www.abracon.com)



### OUTLINE DRAWING:

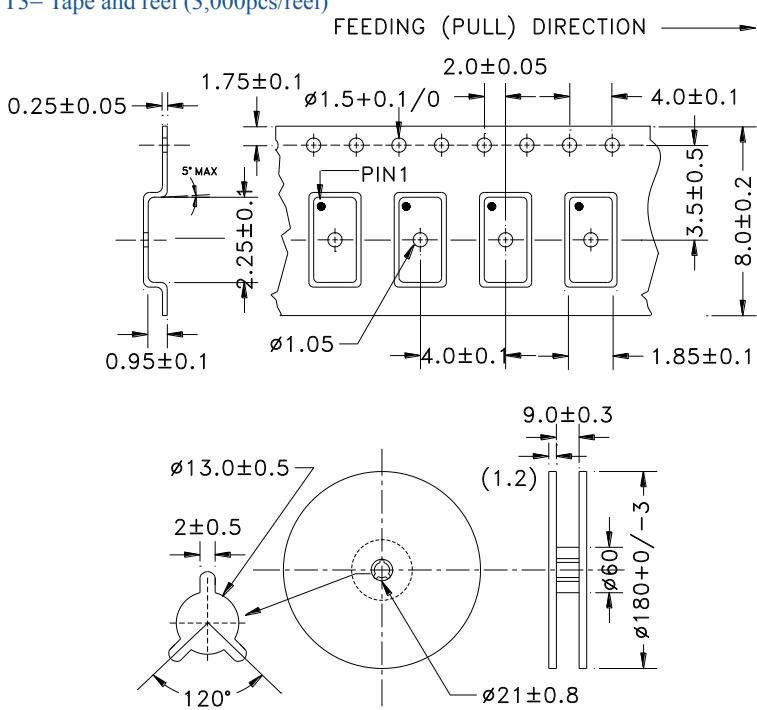


Recommended land pattern

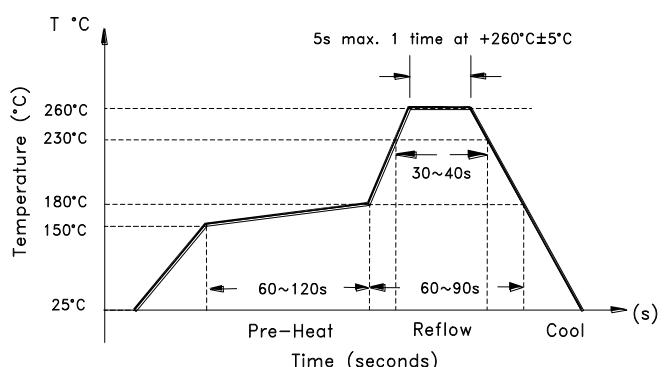


### TAPE & REEL:

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



### REFLOW PROFILE:



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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