

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



2.0 x 1.6 x 0.7 mm

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}) 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 _{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) 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 Abracon for tighter frequency stability options

ABRACON IS
ISO9001:2008
CERTIFIED



ABRACON
CORPORATION

Visit 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

 **RoHS/RoHS II Compliant**

Technical drawings of the 10-pin connector showing dimensions and tolerances.

Top View Dimensions:

- Overall Width: $0.079 \pm .004$ (2.0 ± 0.1)
- Segment 4: 4
- Segment 3: 3
- Overall Height: $0.063 \pm .004$ (1.6 ± 0.1)
- Segment 1: 1
- Segment 2: 2

Side View Dimensions:

- Height: $0.028 \pm .004$ (0.7 ± 0.1)

Pin Details Dimensions:

- Pin Width: $0.024 \pm .004$ (0.60 ± 0.1)
- Pin Pitch: $0.020 \pm .004$ (0.5 ± 0.1)
- Pin 1: 1
- Pin 2: 2
- Pin 3: 3
- Pin 4: 4
- Feature: $C0.008$ (0.2)
- Feature: 0.028 (0.7)
- Feature: 0.020 (0.5)

PIN #	Name
-------	------

PIN #	Name
1	Tri-state
2	GND
3	Output
4	Vdd

[illegible]

The graph illustrates a typical reflow profile with the following parameters:

- Temperature (°C):** 25°C, 150°C, 180°C, 230°C, 260°C.
- Time (seconds):**
 - Pre-Heat: 60~120s
 - Reflow: 30~40s
 - Cool: 60~90s
- Maximum Dwell Time:** 5s max. 1 time at $+260^{\circ}\text{C} \pm 5^{\circ}\text{C}$



ATTENTION: Abracon Corporation's products are COTS – Commercial-Off-The-Shelf products; suitable for Commercial, Industrial and, where designated, Automotive Applications. Abracon's products are not specifically designed for Military, Aviation, Aerospace, Life-dependant Medical applications or any application requiring high reliability where component failure could result in loss of life and/or property. For applications requiring high reliability and/or presenting an extreme operating environment, written consent and authorization from Abracon Corporation is required. Please contact Abracon Corporation for more information.