

# 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 0.7mm

### 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 <sub>dd</sub> )<br>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<br>"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.<br>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](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)

# HCMOS SURFACE-MOUNT CRYSTAL CLOCK OSCILLATOR

ASA SERIES

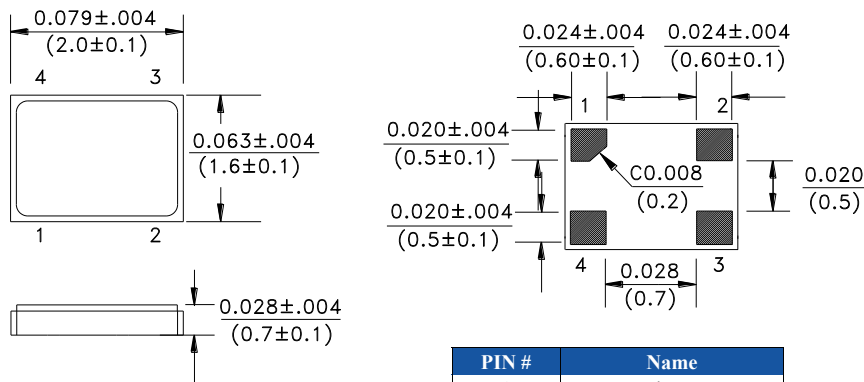


RoHS/RoHS II Compliant

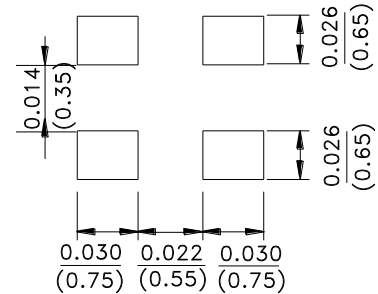


2.0 x 1.6 x 0.7mm

## OUTLINE DRAWING:



Recommended land pattern

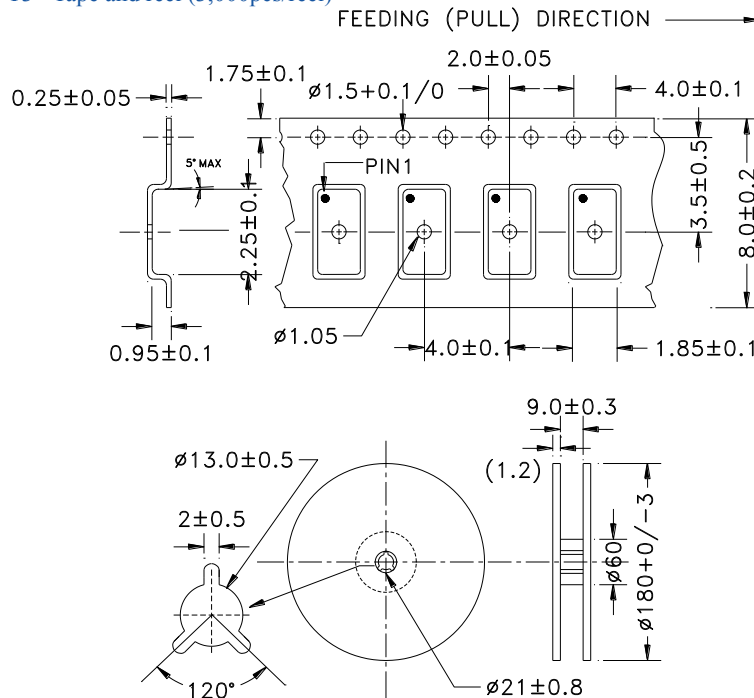


Dimensions: inches (mm)

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

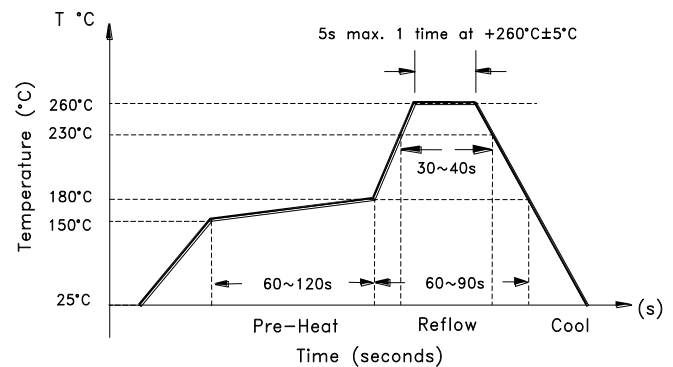
## TAPE & REEL:

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



Dimensions: mm

## REFLOW PROFILE:



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

**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.

ABRACON IS  
ISO9001:2008  
CERTIFIED



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)