

# LOW VOLTAGE HCMOS SURFACE-MOUNT CRYSTAL CLOCK OSCILLATOR



ASD

2.5 X 2.0 X 0.8mm

ASD SERIES



RoHS Compliant

## FEATURES:

- Lead-Free
- Compact and low in height
- Low current consumption
- Tri state function
- Suitable for high density SMT
- IR reflow capable
- Tight stability option
- Seam sealed package

## APPLICATIONS:

- CCD clock for VTR Camera
- Equipment connected to PC or PC cards
- Thin equipment

## STANDARD SPECIFICATIONS:

### PARAMETERS

ABRACON P/N	ASD Series
Frequency Range	0.750 MHz to 50.00 MHz
Operating Temperature	- 20° C to + 70° C (STD temp. Option code E) (See options)
Storage Temperature	- 55° C to + 100° C
Overall Frequency Stability	± 100 ppm max. (see options)
Supply Voltage (Vdd)	3.3 ± 5% (See Table 1)
Input Current	See Table 2
Symmetry @ 1/2Vdd:	40/60 % max. STD (See option)
Rise and Fall Time (Tr/Tf)	10ns max.
Output Load	15 pF
Output Voltage	VOH = 0.9* Vdd min. VOL = 0.1* Vdd max.
Start-up Time	10ms max.
Tristate Function (stand-by)	"1" (VIH >= 0.7* Vdd) or open: Oscillation "0" (VIL < 0.3* Vdd) : No oscillation/Hi Z
Peak to Peak Jitter	31ps (Typical. Frequency dependant)
RMS Jitter	4.3ps (Typical. Frequency dependant)
Aging at 25°C/year	± 5ppm max.
Disabled Current	10µA max.

Table 1

P/N	Vdd (V)
ASD	3.3±5%
ASD1	3.0±5%
ASD2	2.5±5%
ASD3	1.8±5%

Table 2 Input current

F MHz	Idd (mA) max.			
	Vdd:3.3V±5%	Vdd:3.0V±5%	Vdd:2.5V±5%	Vdd:1.8V±5%
~19.9	6	5.5	4.5	3
~39.9	7	6.6	8	4
~59.9	13	12	10	6

## OPTIONS AND PART IDENTIFICATION:

[Left blank if standard]

ASD□ - Frequency - □ - □ - □ ? □

P/N and Vdd (V)	
Blank	3.3±5%
1	3.0±5%
2	2.5±5%
3	1.8±5%

Operating Temp.	
E (STD)	-20°C to +70°C
F	-30°C to +70°C
N	-30°C to +85°C
L	-40°C to +85°C

Packaging	
T	Tape and Reel

Freq. Stability	
J*	± 20 ppm
R**	± 25 ppm
K	± 30 ppm
H	± 35 ppm
C	± 50 ppm

Duty Cycle	
Blank	40/60% @ 1/2Vdd
S	45/55% @ 1/2Vdd

\* Standard only

\*\* E, F, and N only



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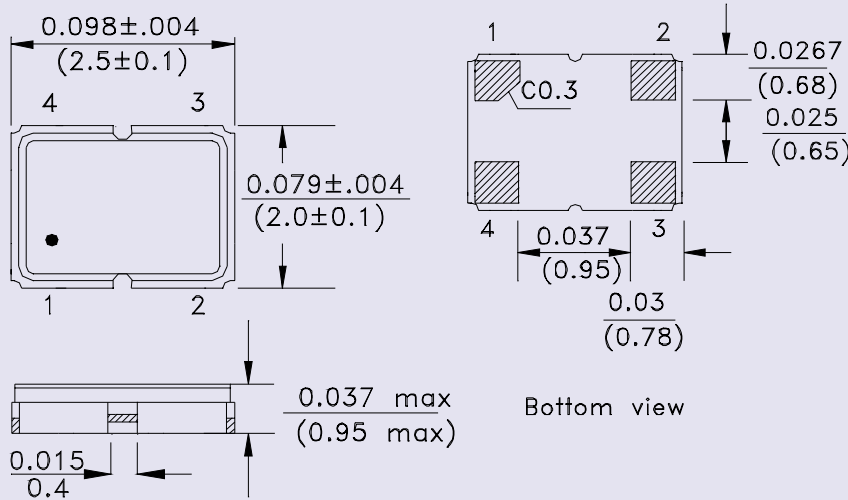
2.5 X 2.0 X 0.8mm

ASD SERIES

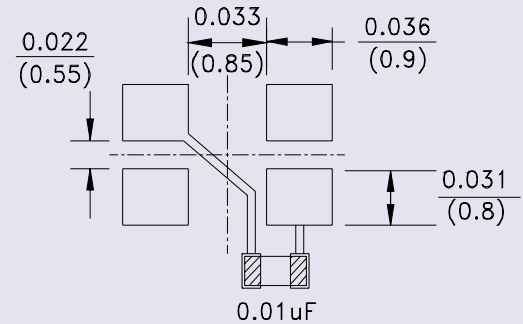


RoHS  
Compliant

## OUTLINE DRAWING:



Recommended land pattern



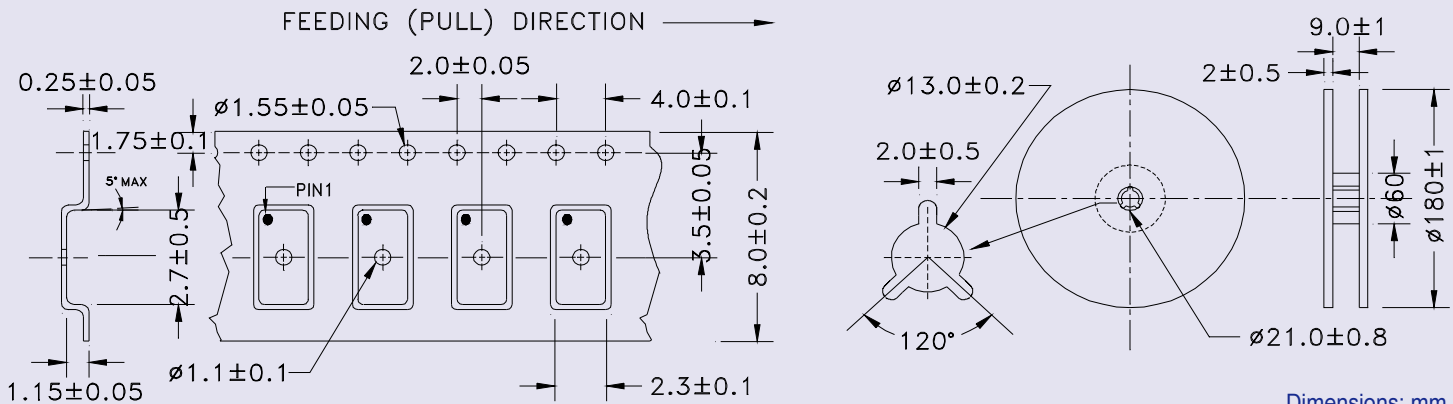
PIN	FUNCTION
1	Tri-State (STBY)
2	GND/Case
3	Output
4	Vdd

Note: Recommend using an approx. 0.01uF bypass capacitor between PIN 2 and 4.

Note2: Package design changed after K7P lot.

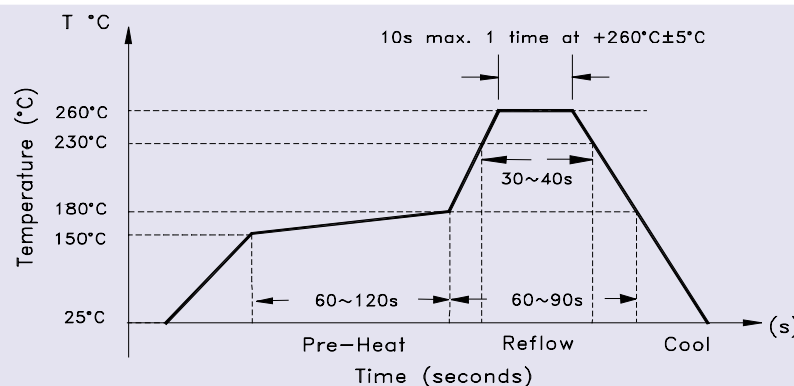
Dimensions: inch (mm)

## TAPE & REEL:



Dimensions: mm

## REFLOW PROFILE:



**NOTE:** Abracon manufactured products are intended for general commercial and industrial use. For applications requiring high reliability and/or presenting extreme operating environment, written consent & authorization from Abracon is required.

ABRACON IS  
ISO 9001 / QS 9000  
CERTIFIED



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