

# 3.3V<sub>dc</sub> CMOS SMD CRYSTAL CLOCK OSCILLATOR

## ASE SERIES



RoHS  
Compliant



3.2 x 2.5 x 1.0mm

### FEATURES:

- Low height 1.0mm max
- Tri-state function
- Low current consumption 20mA max for 200MHz
- Low RMS jitter 5ps max
- Suitable for RoHS reflow
- Available for tight stability option

### APPLICATIONS:

- CCD clock for VTR camera
- Equipment connected to PC or PC cards
- PDA, wireless communication.
- Laptop, SSD (Solid State Drive)

### STANDARD SPECIFICATIONS:

PARAMETERS	
ABRACON P/N	ASE Series
Frequency Range	0.625 ~ 200 MHz
Operating Temperature	-10°C to + 70°C (See Options)
Storage Temperature	- 55° C to + 125° C
Overall Frequency Stability	± 100 ppm max. (see options)
Supply Voltage (Vdd)	3.3 V ± 5%
Input Current	See Table 1
Symmetry	45/55% @ 50%Vdd
Rise and Fall Time (Tr/Tf)	See Table 1
Output Load	15 pF max
Start-up time:	See Table 1
Output Voltage	VOH = 0.9* Vdd min., VOL = 0.1* Vdd max.
Tristate Function	"1" (VIH ≥ 0.7* Vdd) or open: Oscillation, "0" (VIL < 0.3 Vdd) : Hi Z
Peak to Peak Jitter	28ps (Typical) (Reference only. Contact ABRACON for the Jitter)
RMS Jitter	See Table 1
Stand-By Current	10 µA max.
Aging (first year):	±3 ppm max.

TABLE 1

Frequency (MHz)	I <sub>dd</sub> mA (Typ)	I <sub>dd</sub> mA (Max)	Tr/Tf ns (Typ)	Tr/Tf ns (max)	Start-up time ms (Typ)	Start-up time ms (Max)	RMS Jitter ps (Typ)	RMS Jitter ps (Max)
0.5 ~ 20	2.5	7	2.5	4.0	1	2.0	3.2	5
20.01 ~ 40.0	4.4	13	2.4	4.0	1	2.0	3.2	5
40.01 ~ 60.0	6.5	19	2.4	4.0	1	2.0	3.2	5
60.01 ~ 75.0	12.7	24	2.3	4.0	1	2.0	3.2	5
75.01 ~ 133.0	7.4	20	1.5	4.0	1.2	2.0	2.2	5
133.01 ~ 200.0	11.7	20	1.9	4.0	1.5	2.0	2.2	5

### OPTIONS & PART IDENTIFICATION:

(Left blank if standard)

ASE -  MHz -  -  -

Frequency in MHz
e.g. 0.625MHz
24.576MHz
14.31818MHz
26.000MHz
200.000MHz

Operating Temp.
I: 0°C ~ +50°C
D: -10°C ~ +60°C
E: -20°C ~ +70°C
F: -30°C ~ +70°C
N: -30°C ~ +85°C
L: -40°C ~ +85°C

Contact ABRACON for wider temperature range.

Freq. Stability
J*: ± 20 ppm
R: ± 25 ppm
K: ± 30 ppm
H: ± 35 ppm
B: ± 40 ppm
C: ± 50 ppm

\*: Temp options I, D, E, and -10°C to +70°C only

Packaging
Blank: Bulk
T: Tape & Reel (1kpcs)
T2: Tape & Reel (250pcs)

ABRACON IS  
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ASE SERIES

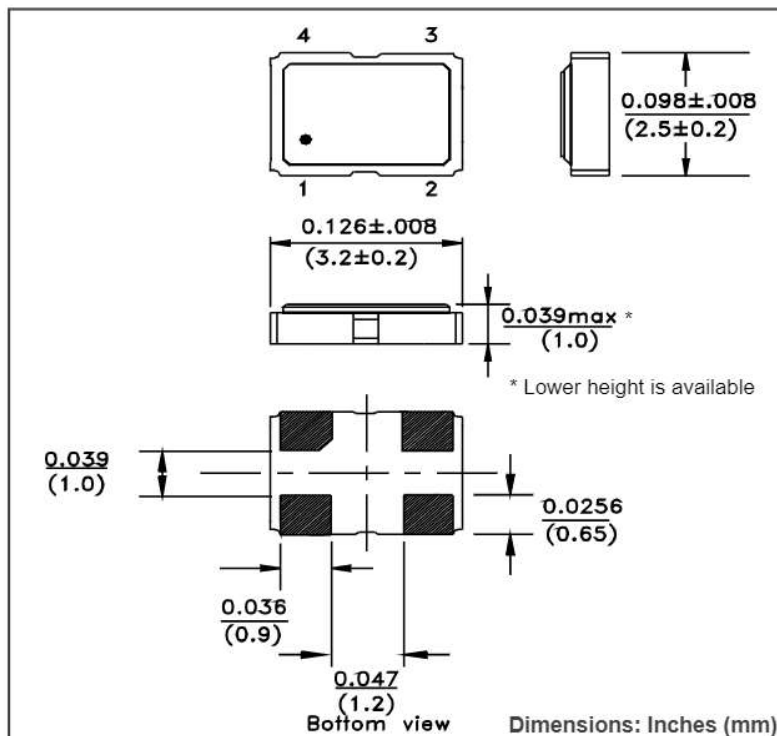


RoHS  
Compliant

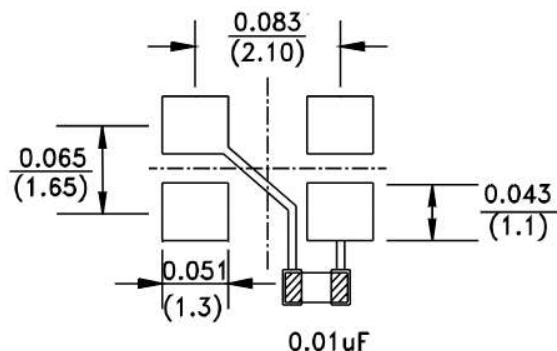


3.2 x 2.5 x 1.0mm

## OUTLINE DRAWING:



## Recommended land pattern



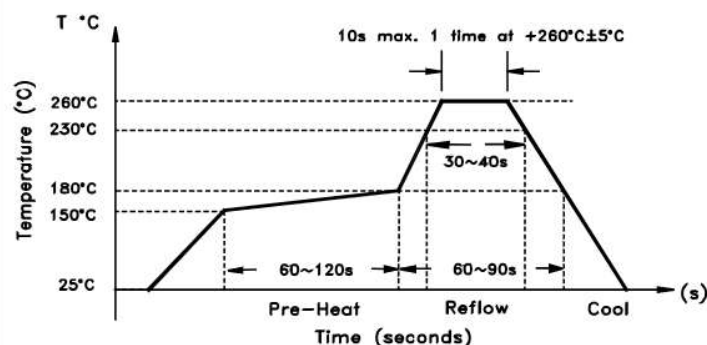
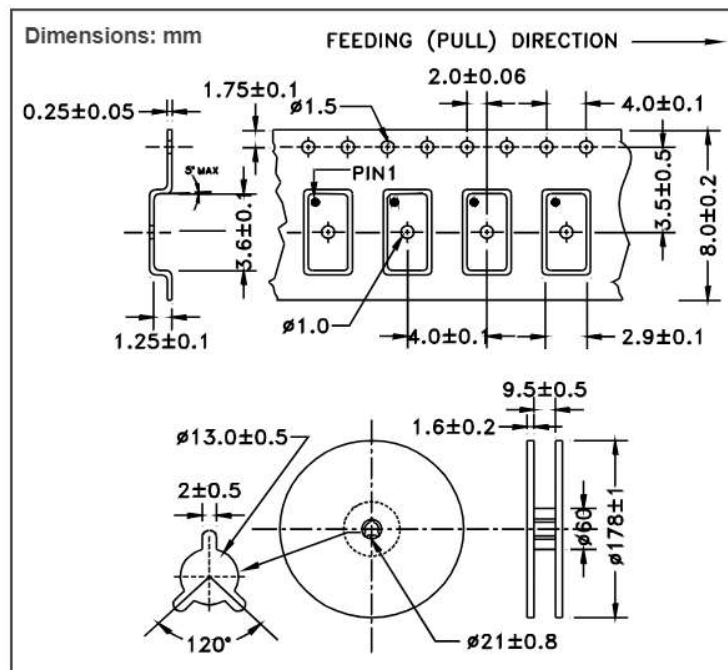
It is recommended to use an approximately 0.01uF bypass capacitor between PIN 2 and PIN 4.

PIN	FUNCTION
1	Tri-state
2	GND/Case
3	Output
4	Vdd

**Note:** The outline package configuration varies with frequency range. Electrical properties, pin configuration, and land pattern are the same.

## TAPE & REEL: T= tape and reel (1,000pcs/reel)

## REFLOW PROFILE



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

**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.

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