

# ULTRA MINIATURE PLASTIC PACKAGE PURE SILICON™ CLOCK OSCILLATOR

ASEM



Life Size

3.2 x 2.5 x 0.85mm

ASEM



RoHS  
Compliant

## FEATURES:

- Ultra Miniature Pure Silicon™ Clock Oscillator
- MEMS Technology by Discera
- Low Power Consumption <10mA
- Exceptional Stability Over Temp. at 0 - 70°C
- Extended Temperature Options Also Available
- Available in 30kG Shock Resistance Configuration
- Low Cost-Compact QFN Plastic Packaging
- Compact Package design

## APPLICATIONS:

- CCD Clock for VTR Camera
- Equipment Connected to PCs
- Low Profile Equipment
- Lower Cost Crystal Oscillator Replacement
- Computers and Peripherals
- Portable Electronics (MP3 Players, Games)
- Consumer Electronics such as TV's, DVR's, etc.
- Vibrant, Shock-Prone & Humid Environments for Industrial Equipment
- Demanding Military & Automotive Electronics

MEMS  
Technology!

## STANDARD SPECIFICATIONS:

### PARAMETERS

ABRACON P/N:	ASEM Series
Frequency range:	1.000 MHz - 150 MHz
Operating temperature:	0°C to +70°C (see options)
Storage temperature:	-55°C to +155°C
Overall Frequency Stability:	± 100 ppm max. (see options)
Supply Voltage (Vdd):	3.0 V ± 0.3 V
Supply Current (No Load)	6.0mA max (T=-40 to +85°C, Vdd=3.0 ± 0.3V, CL=15pF, RL=10kΩ) (T=-40 to +85°C, Vdd=2.5 ± 0.2V, CL=15pF, RL=10kΩ) (T=-40 to +85°C, Vdd=1.8 ± 0.2V, CL=15pF, RL=10kΩ)
Supply Current: (Full Load)	9.0mA max (T=-40 to +85°C, Vdd=3.0 ± 0.3V, CL=15pF, RL=10kΩ) (T=-40 to +85°C, Vdd=3.0 ± 0.3V, CL=15pF, RL=10kΩ) (T=-40 to +85°C, Vdd=2.5 ± 0.2V, CL=15pF, RL=10kΩ) (T=-40 to +85°C, Vdd=1.8 ± 0.2V, CL=15pF, RL=10kΩ)
Symmetry	45/55 % max.@ 1/2Vdd
Rise and fall time (Tr/Tf)	5ns max. (+25°C, 15pF output load, 10/90% Vdd.)
Output load	15 pF max., 10kohms min.
Output voltage	VOH = 0.9* Vdd min. VOL = 0.1* Vdd max.
Input voltage	VIH = 0.9* Vdd min. VIL = 0.1* Vdd max.
Start-up time	10ms max.
Enable time	10ms max.
Disable time	100ns max.
Tr-istate function (Stand-by)	"1" or open: Oscillation "0" : No oscillation/Hi Z
Stand-by Current	1uA max. (T= +25°C, Vdd=3.0 ± 0.3V, 2.5 ± 0.2V, 1.8 ± 0.2V)
Aging at +25°C/year	± 5ppm max.

## OPTIONS AND PART IDENTIFICATION:

ASEM□ - Frequency - □ - □ - □

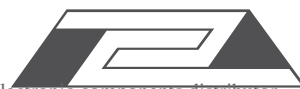
\* Please contact Abracon for Temperature Option Availability.

\*\* Availability depends on frequency

Please contact Abracon for order assistance for high shock application.

Supply Voltage	Frequency	Operating Temp.		Freq. Stability	Packaging	
ASEM1	3.0 ± 0.3V	Blank	0°C to +70°C	Blank	± 100 ppm	Blank Tube (77pcs/tube)
ASEM2	3.3 ± 0.3V	M	-20°C to +85°C	R**	± 25 ppm	
ASEM3	2.5 ± 0.2V	L*	-40°C to +85°C	K	± 30 ppm	T Tape and Reel (1000pcs/reel)
ASEM4	1.8 ± 0.2V			C	± 50 ppm	

ABRACON IS  
ISO 9001 / QS 9000  
CERTIFIED



ABRACON  
CORPORATION

Visit [www.abracon.com](http://www.abracon.com) for Terms & Conditions of Sale **Revised: 05.06.08**  
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ASEM



Life Size

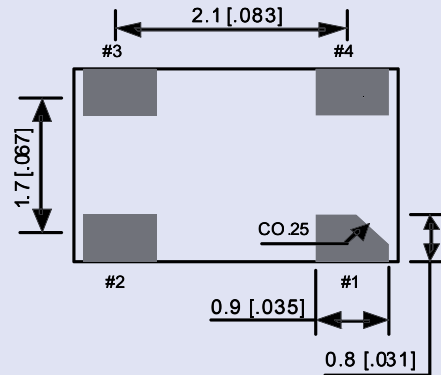
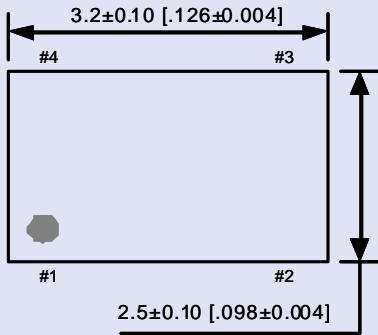
3.2 x 2.5 x 0.85mm

ASEM

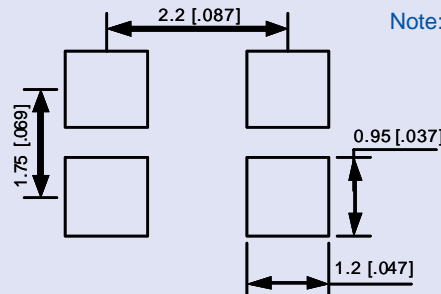
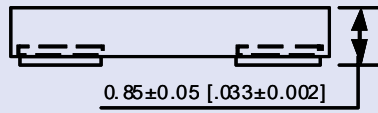


RoHS  
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## OUTLINE DRAWING:



### Recommended Land Pattern

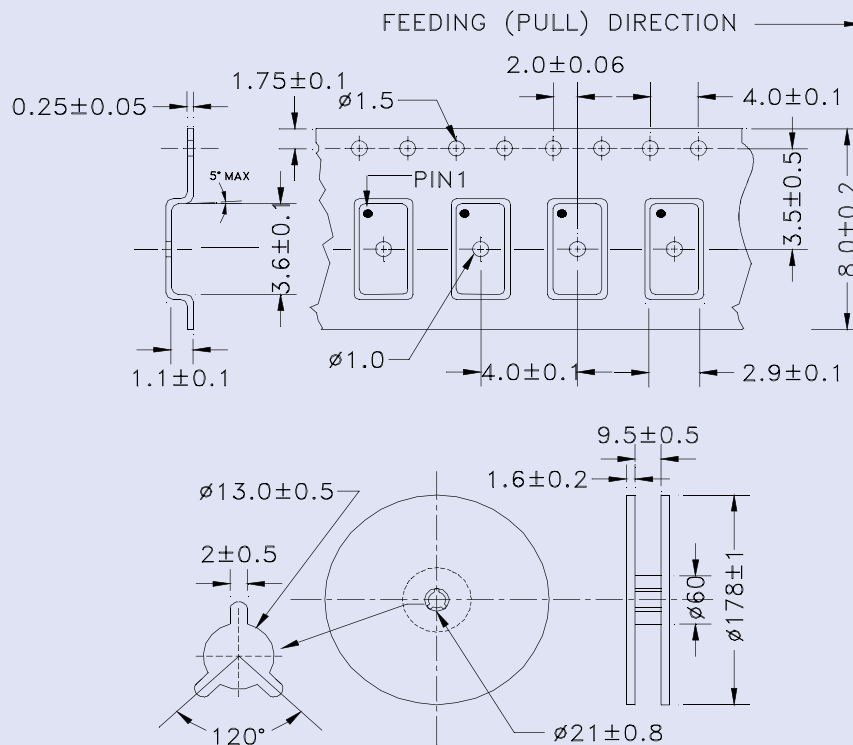


Note: Recommend using an approximately 0.01uF bypass capacitor between PIN 2 and 4.

No.	Pin terminal
1	Tri-state
2	Gnd
3	Output
4	V <sub>DD</sub>

Dimensions: Inches (mm)

## TAPE & REEL: Tape and reel 1,000pcs/reel



Dimensions: mm

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