

ULTRA MINIATURE PLASTIC PACKAGE PURE SILICON™ CLOCK OSCILLATOR

ASEM



Life Size

3.2 x 2.5 x 0.85 mm

ASEM

RoHS/RoHS II Compliant

FEATURES:

- Ultra Miniature Pure Silicon™ Clock Oscillator
- MEMS Technology by Discera
- Low Power Consumption <10mA
- Exceptional Stability Over Temp. at -40 to +85°C.
- Available over Extended Operating Temperature
- 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

STANDARD SPECIFICATIONS:

| Parameters | | Minimum | Typical | Maximum | Units | Notes |
|---------------------------------|---------------------|--|---------|---------------------|-------|-----------------------------|
| Frequency Range: | | 1.0 | ----- | 150 | MHz | |
| Operating Temperature: | | 0 | ----- | +70 | °C | See options |
| Storage Temperature: | | -55 | ----- | +150 | °C | |
| Overall Frequency Stability*: | | -100 | ----- | +100 | ppm | See options |
| Supply Voltage (Vdd): | | +1.8 ~ +3.3 | | | V | See options |
| Supply Current (no load): | 1.0 to 39.9999MHz | ----- | 3 | 10 | mA | No load RL=∞ T=25°C |
| | 40.0 to 79.9999MHz | ----- | 4 | 10 | | |
| | 80.0 to 124.9999MHz | ----- | 5 | 10 | | |
| | 125.0 to 150MHz | ----- | 6 | 10 | | |
| Output Voltage: | V _{OH} | 0.8*V _{dd} | ----- | ----- | V | 15pF |
| | V _{OL} | ----- | ----- | 0.2*V _{dd} | | |
| Rise Time: | Tr | ----- | 1.3 | 2.0 | ns | 15pF; T=25°C 20%/80%*VDD |
| Fall Time: | Tf | ----- | 1.3 | 2.0 | | |
| Output Load: | | 15pF max / 10kΩ min. | | | pF | See options |
| Symmetry: | | 45 | ----- | 55 | % | @1/2Vdd |
| Startup Time: | | ----- | 1.5 | 3.0 | ms | |
| Disable Time: | | ----- | 20 | 100 | ns | |
| Disable Stand-by Current: | | ----- | ----- | 1 | uA | |
| Tri-state Function (Stand-by) : | | "1" (VIH≥0.75*Vdd) or Open: Oscillation "0" (VIH<0.25*Vdd) : Hi Z | | | V | |
| Cycle to cycle jitter: | | ----- | 95 | ----- | ps | F=100MHz |
| Aging: | | -5.0 | ----- | +5.0 | ppm | First year |

Absolute Maximum Ratings

| Item | Minimum | Maximum | Unit | Condition |
|-----------------|---------|---------|------|-----------|
| Supply Voltage | -0.3 | +4.0 | V | |
| Input Voltage | -0.3 | Vdd+0.3 | V | |
| Junction Temp. | ----- | +150 | °C | |
| Soldering Temp. | ----- | +260 | °C | 40sec max |
| ESD | HBM | 2,000 | V | |
| | MM | 200 | | |
| | CDM | 500 | | |

REVISED: 12.6.2017

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➤ PART NUMBER FOR PROGRAMMED ORDERS (Quantity > 1,000pcs)

ASEM [] - [] MHz - [] [] - []

| Supply Voltage |
|----------------|
| 1: 3.3 ± 0.3V |
| 2: 3.0 ± 0.3V |
| 3: 2.5 ± 0.2V |
| 4: 1.8 ± 0.15V |
| 5: 2.8 ± 0.2V |

| Frequency in MHz |
|--|
| e.g. 14.3181 MHz (Maximum 4 digits after decimal) |

| Operating Temp. |
|--------------------|
| Blank: 0°C ~ +70°C |
| E: -20°C ~ +70°C |
| L: -40°C ~ +85°C |

| Overall Freq. Stability |
|-------------------------|
| Blank: ±100ppm |
| R: ±25ppm |
| C: ±50ppm |

| Packaging |
|-----------------------|
| Blank*: 110pcs / Tube |
| T: 1,000pcs / reel |
| T3: 3,000pcs / reel |
| T5: 5,000pcs / reel |

* For Quick turn-around programmable orders < 1000pcs: Due to the immediate availability of stock and the qty of the order, the parts may be delivered as BULK: Cut Tape, Loose parts in Antistatic Bag or in Tube(s). The MOQ per the series will still apply for Tube packaging.

Un-Programmed Orders (Quantity < 1,000pcs)

Blank un-programmed oscillators are available for quick turn engineering requirements. Please call ABRACON for more information.

ASEM - BLANK - [] [] - []

| Operating Temp. Freq. Stability |
|------------------------------------|
| EC: ± 50 ppm / -20°C to +70°C |
| ER: ± 25 ppm / -20°C to +70°C |
| LC: ± 50 ppm / -40°C to +85°C |
| LR: ± 25 ppm / -40°C to +85°C |

| Packaging |
|----------------------|
| Blank: 110pcs / Tube |
| T: 1,000pcs / reel |
| T3: 3,000pcs / reel |
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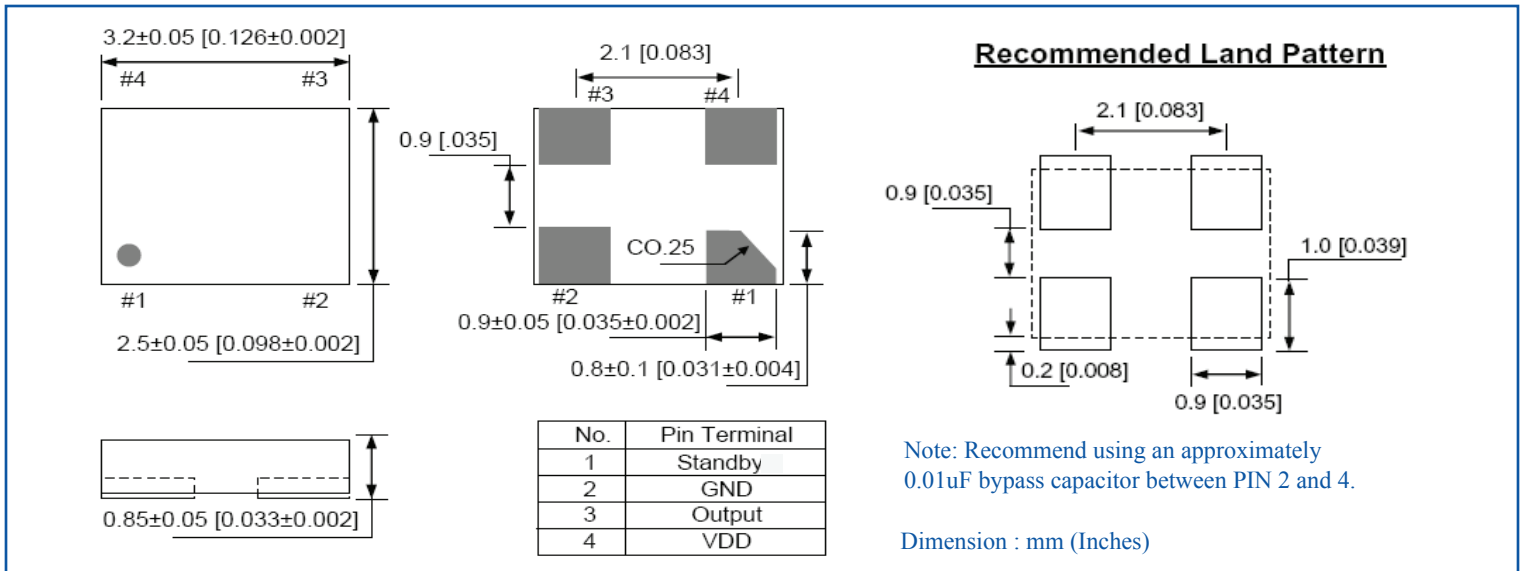
Life Size

3.2 x 2.5 x 0.85 mm

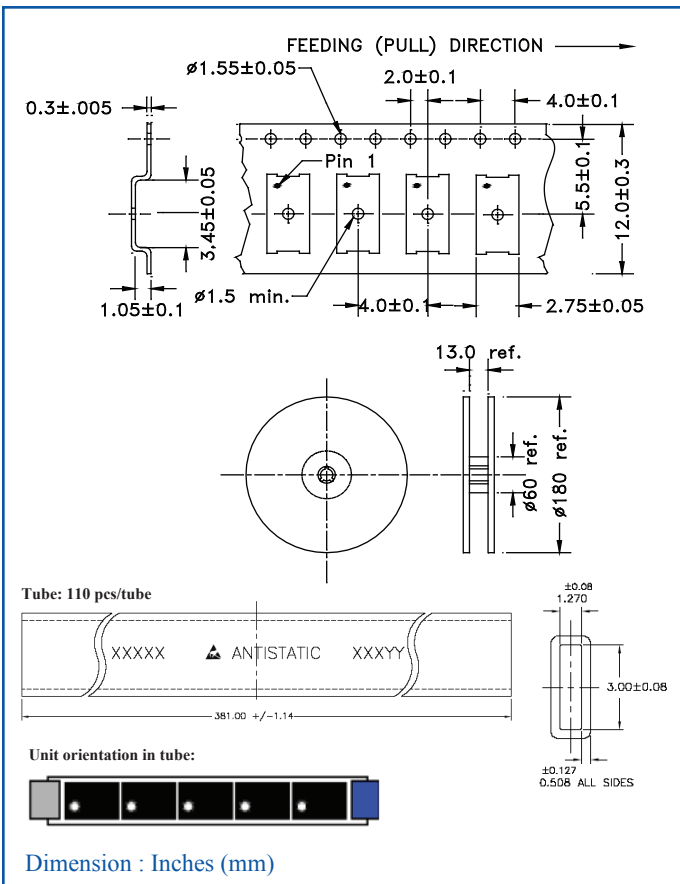
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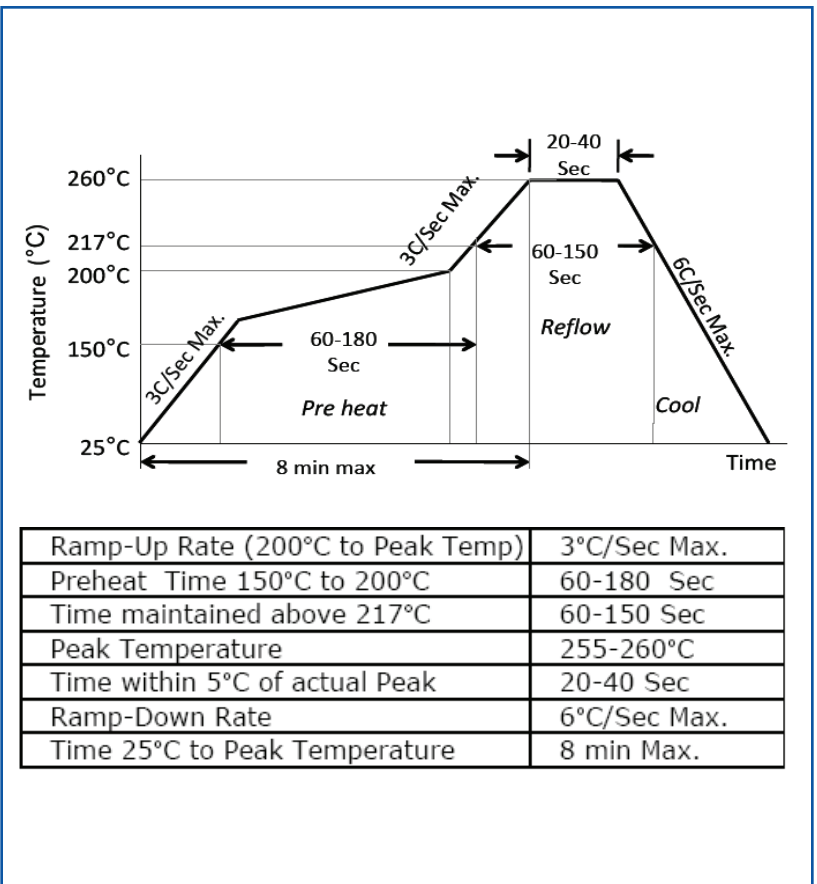
OUTLINE DRAWING:



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



REFLOW PROFILE:



Need a test socket for the ASEM Series? To view compatible **PRECISION TEST & BURN-IN SOCKETS** for these parts, [click here](#). P/N: **AXS-3225-04-02**

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