

PLASTIC PACKAGE PURE SILICON™ CLOCK OSCILLATOR

ASVM



7.0x 5.0 x 0.85 mm

ASVM

RoHS/RoHS II Compliant

FEATURES:

- Pure Silicon™ Clock Oscillator
- MEMS Technology by Discera
- Low Power Consumption <10mA
- Low Stand by Current <1uA
- Exceptional Stability Over Temp. at 40 to +85°C
- Available over Extended Temp Range
- 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 | | | V | |
| HBM | | 2,000 | | |
| MM | | 200 | | |
| CDM | | 500 | | |

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PROGRAMMED ORDERS (QUANTITY > 1,000PCS)

ASVM [] - [] 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*: 50pcs / Tube |
| T: 1,000pcs / reel |
| T3: 3,000pcs / 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.

ASVM - 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 |
|---------------------|
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OUTLINE DRAWING:

| No. | Pin Terminal |
|-----|--------------|
| 1 | Standby |
| 2 | GND |
| 3 | Output |
| 4 | VDD |

Recommended Land Pattern

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

Dimensions: mm (Inches)

TAPE & REEL:

Tube: 50 pcs/tube

XXXXX ⚠️ ANTISTATIC XXXYY

381.00 +/-1.14

Unit orientation in tube:

Dimensions: mm

REFLOW PROFILE:

| | |
|-----------------------------------|--------------|
| Ramp-Up Rate (200°C to Peak Temp) | 3°C/Sec Max. |
| Preheat Time 150°C to 200°C | 60-180 Sec |
| Time maintained above 217°C | 60-150 Sec |
| Peak Temperature | 255-260°C |
| Time within 5°C of actual Peak | 20-40 Sec |
| Ramp-Down Rate | 6°C/Sec Max. |
| Time 25°C to Peak Temperature | 8 min Max. |

ATTENTION: Abracon LLC 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 dependent 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 LLC is required. Please contact Abracon LLC for more information.

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