

LOW JITTER PIN CONFIGURABLE DUAL CMOS OUTPUT ULTRA MINIATURE PURE SILICON™ SMD CLOCK OSCILLATORS

ASDMDC



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Moisture Sensitivity Level – MSL 1



RoHS/RoHS II

2.5 x 2.0 x 0.85 mm

FEATURES:

- Two Simultaneous CMOS Outputs:
- Low RMS Phase Jitter: <1 ps (typ)
- High Stability: ±10, ±25, ±50 ppm
- Wide Temperature Range
- High Supply Noise Rejection: -50dBc
- High Shock & Vibration Immunity
- High Reliability
- Supply Range of 2.25 to 3.6V
- Lead Free & RoHS Compliant

APPLICATIONS:

- Consumer Electronics
- Camera and Imaging Modules
- Home Automation
- Industrial and Power Conversion
- Mobile Communications, Internet and Sensor Devices
- Solid State, HardDrive, and Flash Drive Storage

STANDARD SPECIFICATIONS: (unless specified, otherwise T=25°C, V_{DD}=3.3V)

| Parameters | Minimum | Typical | Maximum | Units | Notes |
|--------------------------------------------|------------------------------------------------------------------------------------------------|---------------------|---------------------|-------|---------------------------------------------------------------|
| Configurable frequency range | 2.3 | | 170 | MHz | Commercial, Industrial temp range Automotive temp range |
| | 2.3 | | 100 | | |
| Operating Temperature | -20 | | +70 | °C | See options |
| Storage Temperature | -55 | | +150 | °C | |
| Overall Frequency Stability* ¹ | -50 | | +50 | ppm | See options |
| Supply Voltage (V _{dd}) | +2.25 | | +3.6 | V | |
| Startup Time | | | 5 | ms | |
| Enable Time | | | 20 | ns | |
| Disable Time | | | 5 | ns | |
| Disable Current | | 21 | 23 | mA | |
| Tri-state Function (Standby/Disable) | "1" (VIH≥0.75*V _{dd}) or Open: Oscillation "0" (VIL<0.25*V _{dd}) : Hi Z | | | V | 40kΩ pull-up resistor embedded |
| Aging | -5.0 | | +5.0 | ppm | First year |
| Supply Current (I _{dd}) | | 25 | 28 | mA | CL=15pF, 25MHz |
| Output Logic Level | V _{OH} | 0.9*V _{dd} | | V | I=±6mA |
| | V _{OL} | | 0.1*V _{dd} | | |
| Rise Time | | 1.1 | 2.0 | ns | CL=15pF |
| Fall Time | | 1.4 | 2.0 | ns | 20%/80%*VDD |
| Duty Cycle | 45 | | 55 | % | |
| Period Jitter RMS (J _{PER}) | | 3.0 | | ps | F01=F02= 25MHz |
| Integrated Phase Jitter (J _{PH}) | | 0.30 | 2 | ps | 200kHz ~ 20MHz, @25MHz |
| | | 0.38 | 2 | | 100kHz ~ 20MHz, @25MHz |
| | | 1.70 | 2 | | 12kHz ~ 20MHz, @25MHz |

*1. Frequency stability includes frequency variations due to initial tolerance, temp. and power supply voltage

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30332 Esperanza, Rancho Santa Margarita, California 92688
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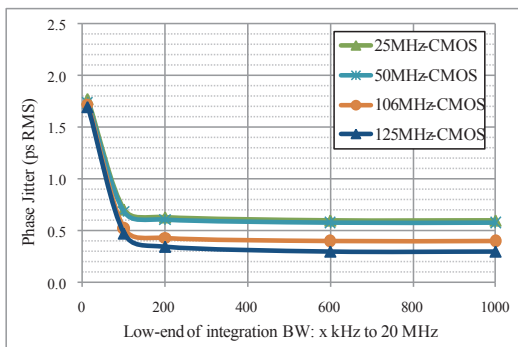


RoHS/RoHS II

2.5 x 2.0 x 0.85 mm

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PHASE JITTER



ABSOLUTE MAXIMUM RATINGS

| Item | Minimum | Maximum | Unit | Condition |
|-----------------|---------|----------------------|------|-----------|
| Supply Voltage | -0.3 | +4.0 | V | |
| Input Voltage | -0.3 | V _{dd} +0.3 | V | |
| Junction Temp. | | +150 | °C | |
| Storage Temp. | -55 | +150 | °C | |
| Soldering Temp. | | +260 | °C | 40sec max |
| ESD | | | V | |
| HBM | | 4,000 | | |
| MM | | 400 | | |
| CDM | | 1,500 | | |

PART IDENTIFICATION:

ASDMDC-□-□-□-□

| Frequency Combination (See table below) |
|-----------------------------------------------------------|
| Blank: Standard |
| Please contact Abracon for custom frequency configuration |

| Operating Temp. |
|----------------------|
| Blank: -20°C ~ +70°C |
| L: -40°C ~ +85°C |
| X: -40°C ~ +105°C |
| Z: -55°C ~ +125°C |

| Overall Freq. Stability |
|-------------------------|
| Blank: ±50ppm |
| Y: ±10ppm* |
| R: ±25 ppm |

| Packaging |
|----------------------------------|
| Blank**: Tube (140pcs / Tube) |
| T: Tape & Reel (1kpcs / reel) |
| T3: Tape & Reel (3kpcs / reel) |
| T5: Tape & Reel (5kpcs / reel) |
| T10: Tape & Reel (10kpcs / reel) |

*-20°C ~ +70°C, option L, or X only

** 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.

| Ordering Information | CLK1 (MHz) | CLK2 (MHz) |
|----------------------------------|-----------------------------------------------|------------|
| Standard (default configuration) | 25.0000 | 25.0000 |
| Custom Configuration | Contact Abracon for customized configurations | |



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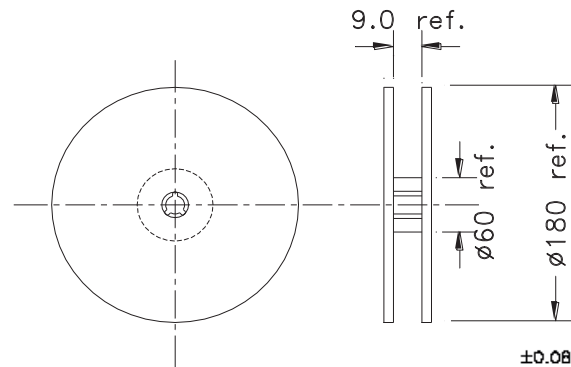
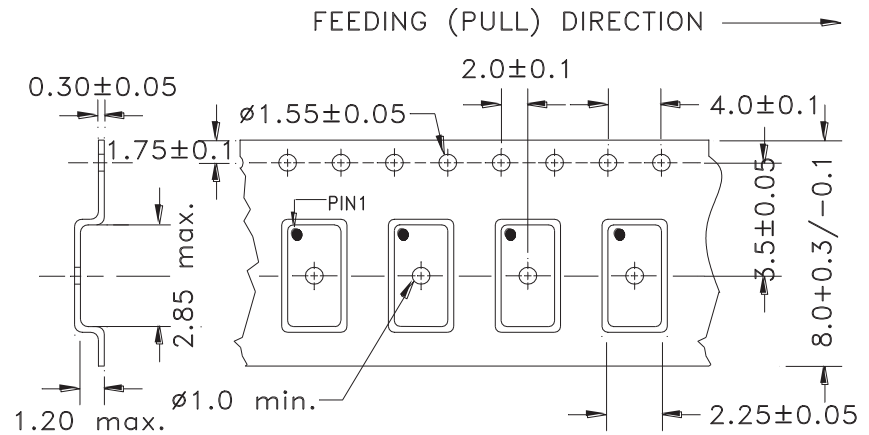


2.5 x 2.0 x 0.85 mm

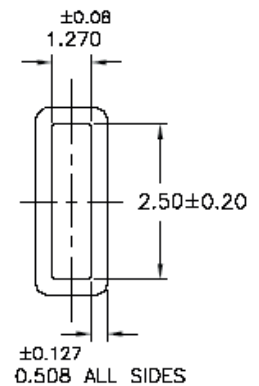
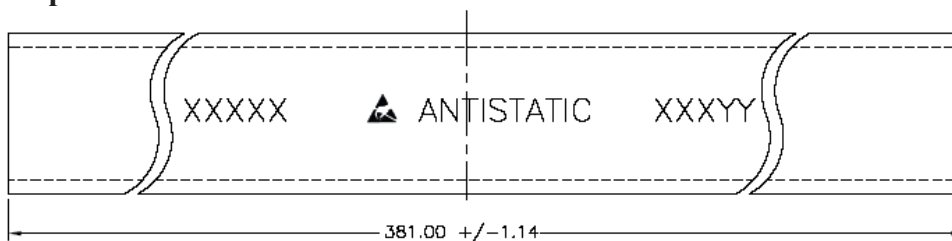
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TAPE & REEL:

- T= 1,000pcs/reel (D=180mm)
- T3= 3,000pcs/reel (D=180mm)
- T5= 5,000pcs/reel (D=330mm)
- T10= 10,000pcs/reel (D=330mm)



Tube: 140 pcs/tube



Unit orientation in tube:



Dimensions: mm

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