

3.3V CMOS SMD Crystal Oscillator



3.2 x 2.5 x 1.2mm

ASE SERIES



RoHS/RoHS II compliant

Moisture Sensitivity Level (MSL) –1

FEATURES:

- Low height 1.2mm max
- Tri-state function
- Low current consumption 30mA 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 | Minimum | Typical | Maximum | Units | Notes |
|-------------------------------|--|---------|----------|-------|--|
| Frequency Range | 0.625 | | 200 | MHz | |
| Operating Temperature | -10 | | +70 | °C | STD (See options) |
| Storage Temperature | -55 | | +125 | °C | |
| Overall Frequency Stability | -100 | | +100 | ppm | See options |
| Supply Voltage (Vdd) | +3.135 | 3.3 | +3.465 | V | |
| Supply Current (Idd) | | 2.5 | 7 | mA | 0.5 ~ 20 MHz |
| | | 4.4 | 13 | | 20.1 ~ 40.0 MHz |
| | | 6.5 | 19 | | 40.01 ~ 60.0 MHz |
| | | 12.7 | 24 | | 60.01 ~ 75.0 MHz |
| | | 7.4 | 20 | | 75.01 ~ 80.0 MHz |
| | | 7.4 | 25 | | 80.01 ~ 133.0MHz |
| | | 11.7 | 30 | | 133.01 ~ 200.0 MHz |
| Symmetry @ 1/2Vdd | 45 | 50 | 55 | % | 0.5 ~ 80.0MHz |
| | 40 | 50 | 60 | | 80.01 ~ 200.0MHz |
| Rise and Fall Time (Tr/Tf) | | 2.5 | 4.0 | ns | 0.5 ~ 20 MHz |
| | | 2.4 | 4.0 | | 20.1 ~ 40.0 MHz |
| | | 2.4 | 4.0 | | 40.01 ~ 60.0 MHz |
| | | 2.3 | 4.0 | | 60.01 ~ 75.0 MHz |
| | | 1.5 | 4.0 | | 75.01 ~ 133.0 MHz |
| | | 1.9 | 4.0 | | 133.01 ~ 200.0 MHz |
| Output Load | | | 15 | pF | CMOS |
| Output Voltage (VOH) | 0.9* Vdd | | | V | |
| Output Voltage (VOL) | | | 0.1* Vdd | V | |
| Start-up Time | | 1 | 2.0 | ms | 0.5 ~ 20 MHz |
| | | 1 | 2.0 | | 20.1 ~ 40.0 MHz |
| | | 1 | 2.0 | | 40.01 ~ 60.0 MHz |
| | | 1 | 2.0 | | 60.01 ~ 75.0 MHz |
| | | 1.2 | 2.0 | | 75.01 ~ 133.0 MHz |
| | | 1.5 | 2.0 | | 133.01 ~ 200.0 MHz |
| Tri-state function (Stand-by) | "1" (VIH≥0.7*Vdd) or Open: Oscillation; "0" (VIL<0.3*Vdd) : No oscillation/Hi Z | | | | |
| Peak to Peak Jitter | | 28 | | ps | Reference only. Contact ABRACON for the Jitter |
| RMS Jitter: | | 3.2 | 5 | ps | 0.5 ~ 20 MHz |
| | | 3.2 | 5 | | 20.1 ~ 40.0 MHz |
| | | 3.2 | 5 | | 40.01 ~ 60.0 MHz |
| | | 3.2 | 5 | | 60.01 ~ 75.0 MHz |
| | | 2.2 | 5 | | 75.01 ~ 133.0 MHz |
| | | 2.2 | 5 | | 133.01 ~ 200.0 MHz |
| Aging at 25°C (first year) | -3 | | +3 | ppm | |
| Stand-by Current: | | | 10 | µA | |

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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 |

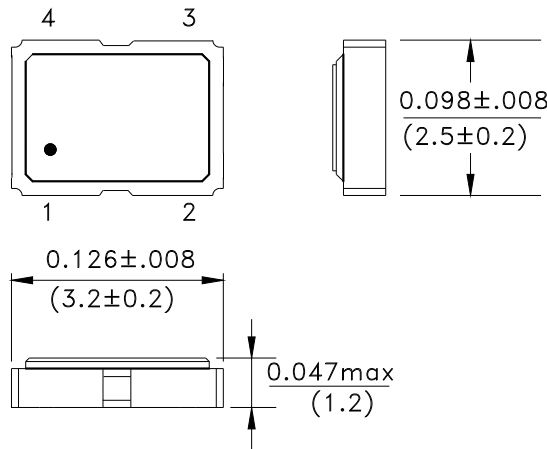
Contact ABRACON for wider temperature range.

| Overall Freq. Stability |
|-------------------------|
| J(*): ±20ppm |
| R: ±25ppm |
| K: ±30ppm |
| H: ±35ppm |
| B: ±40ppm |
| C: ±50ppm |

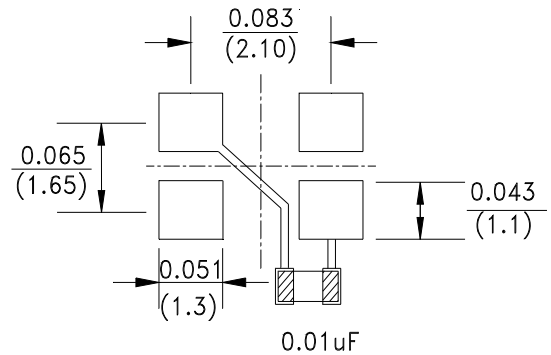
*: Temp options I, D, E, and -10°C to +70°C only

| Packaging |
|------------------|
| Blank: Bulk |
| T: 1000pcs/Reel |
| T2: 250pcs/Reel |
| T3: 3000pcs/Reel |

OUTLINE DIMENSIONS:



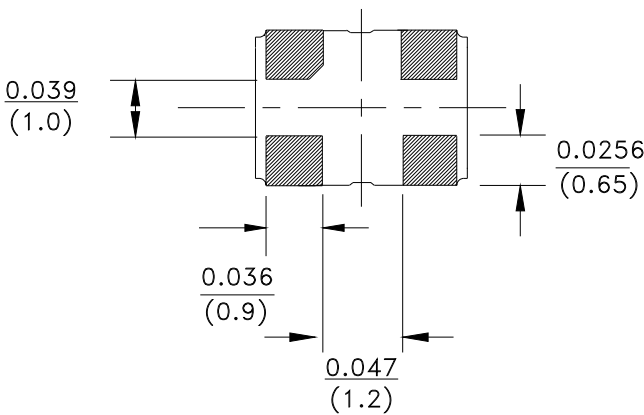
Recommended land pattern



| Pin | Function |
|-----|------------------|
| 1 | Tri-State (STBY) |
| 2 | GND/Case |
| 3 | Output |
| 4 | Vdd |

Note1: Recommend using an approximately 0.01uF bypass capacitor between PIN 2 and 4.

Note2: The outline package configuration varies with frequency range. Electrical properties, pin configuration, and land pattern are the same.



Bottom view

Dimensions: inches (mm)

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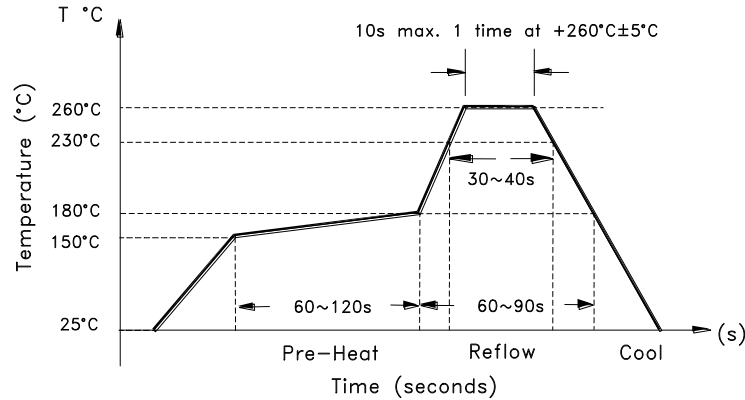


3.2 x 2.5 x 1.2mm

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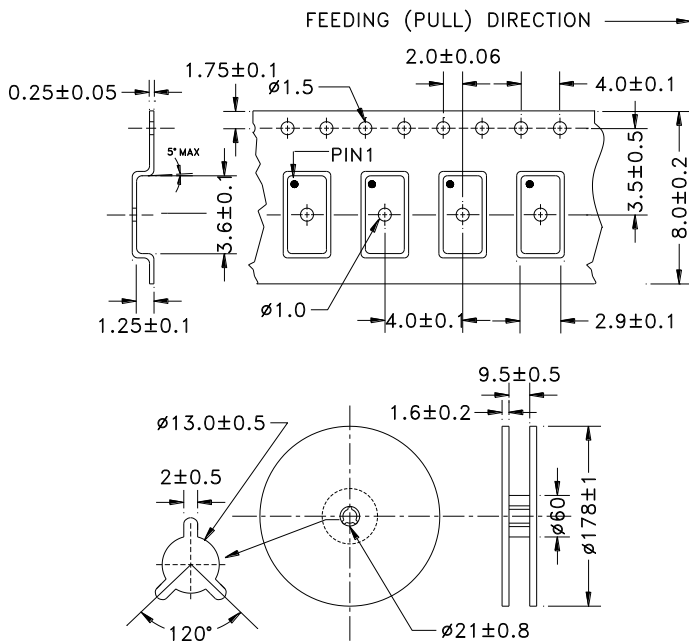
REFLOW PROFILE:



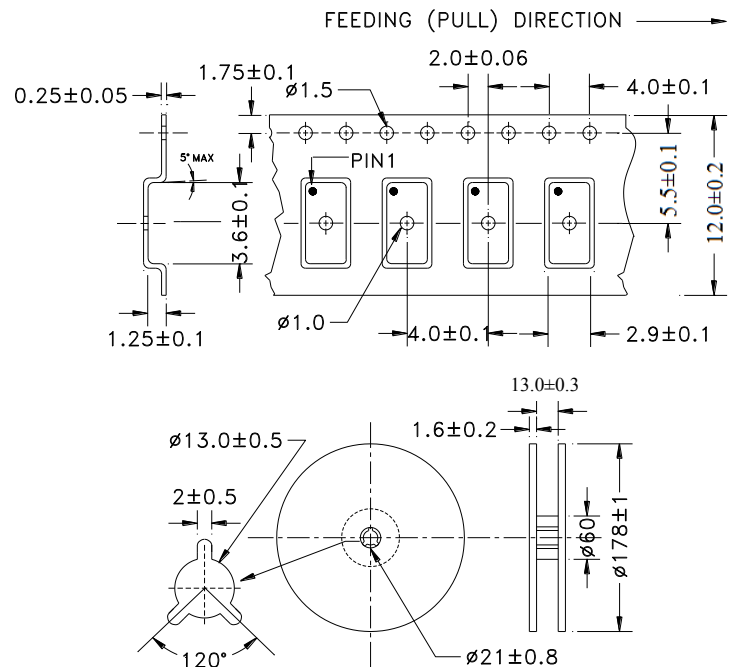
TAPE & REEL:

- T: 1000pcs/reel
- T2: 250pcs/reel
- T3: 3000pcs/reel

8mm Tape Width



12mm Tape Width



Dimensions: mm



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