# 2.5V CMOS Compatible SMD Crystal Oscillator




3.2 x 2.5 x 1.2m m

## ASE2 SERIES

ESD Sensitive

RoHS / RoHS II Compliant

**Moisture Sensitivity Level (MSL) –1**

## FEATURES:

- Compact and low in height at 1.2mm
- Low current consumption 2mA typ. for 19.2MHz
- Tri state function
- Suitable for RoHS reflow
- Tight stability option ±20ppm for -40 to +85°C
- Seam sealed package assures high reliability

## APPLICATIONS:

- CCD clo ck for VTR camera
- Equipment connected to PC or PC cards
- Wireless communication

## STANDARD SPECIFICATIONS:

| Parameters | Minimum | Typical | Maximum | Units | Notes |
|---|---|---|---|---|---|
| Frequency Range | 0.625 | | 156.25 | 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) | +2.375 | 2.5 | +2.625 | V | |
| Supply Current (Idd) | | 2 | 8 | mA | 0.625 ~ 19.99 MHz |
| | | 3 | 8 | | 20.00 ~ 31.99 MHz |
| | | 5 | 15 | | 32.00 ~ 59.99 MHz |
| | | 12 | 25 | | 60.00 ~ 125.00 MHz |
| | | 15 | 25 | | 125.01 ~ 156.25MHz |
| Symmetry @ 1/2Vdd | 45 | | 55 | % | 0.625 ~ 89.999 MHz |
| | 40 | | 60 | | 90.00 ~ 156.25 MHz |
| Rise and Fall Time (Tr/Tf) | | 3 | 5 | ns | 0.625 ~ 19.99 MHz |
| | | 3 | 5 | | 20.00 ~ 31.99 MHz |
| | | 3 | 5 | | 32.00 ~ 59.99 MHz |
| | | 3 | 5 | | 60.00 ~ 125.00 MHz |
| | | 3 | 5 | | 125.01 ~ 156.25MHz |
| Output Load | | | 15 | pF | CMOS |
| Output Voltage (VOH) | 0.9* Vdd | | | V | |
| Output Voltage (VOL) | | | 0.1* Vdd | V | |
| Start-up Time | | 0.6 | 3 | ms | 0.625 ~ 19.99 MHz |
| | | 0.6 | 3 | | 20.00 ~ 31.99 MHz |
| | | 0.6 | 3 | | 32.00 ~ 59.99 MHz |
| | | 1.3 | 2 | | 60.00 ~ 125.00 MHz |
| | | 1.3 | 2 | | 125.01 ~ 156.25MHz |
| Tri-state function | "1" (VIH≥0.7*Vdd) or Open: Oscillation; "0" (VIL<0.3*Vdd) : Hi Z | | | | |
| RMS Jitter: | | 2 | 5 | ps | |
| Aging at 25°C (first year) | -5 | | +5 | ppm | |
| Stand-by Current: | | | 10 | µA | |

## OPTIONS & PART IDENTIFICATION: (Left blank if standard)

ASE2 - [ ] MHz - [ ] - [ ] - [ ]

| Frequency in MHz |
|---|
| e.g. 0.625MHz |
| 24.576MHz |
| 14.31818MHz |
| 26.000MHz |
| 156.25MHz |

| 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 |




30332 Esperanza, Rancho Santa Margarita, California 92688
tel 949-546-8000 | fax 949-546-8001 | www.abracon.com

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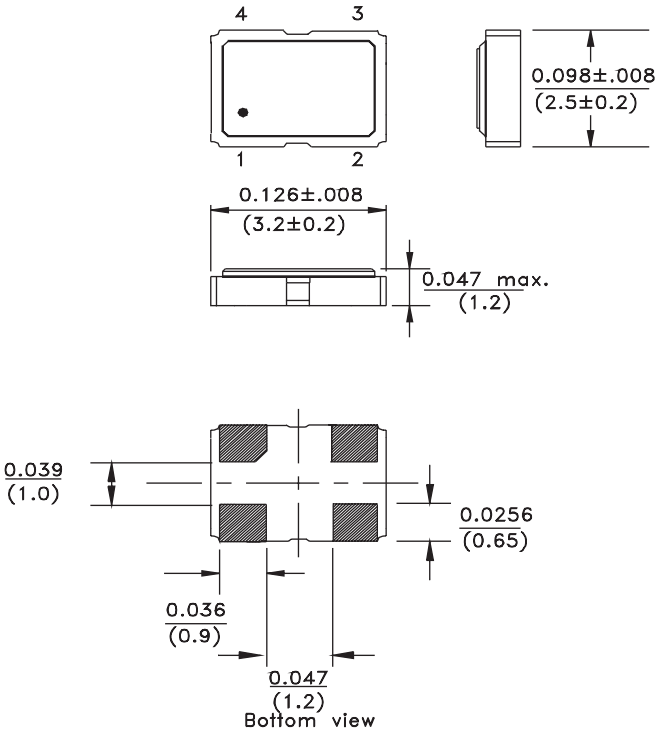
## ASE2 SERIES

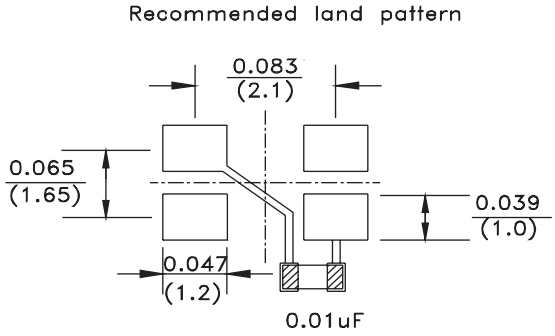
RoHS / RoHS II Compliant




3.2 x 2.5 x 1.2mm

## OUTLINE DRAWING:



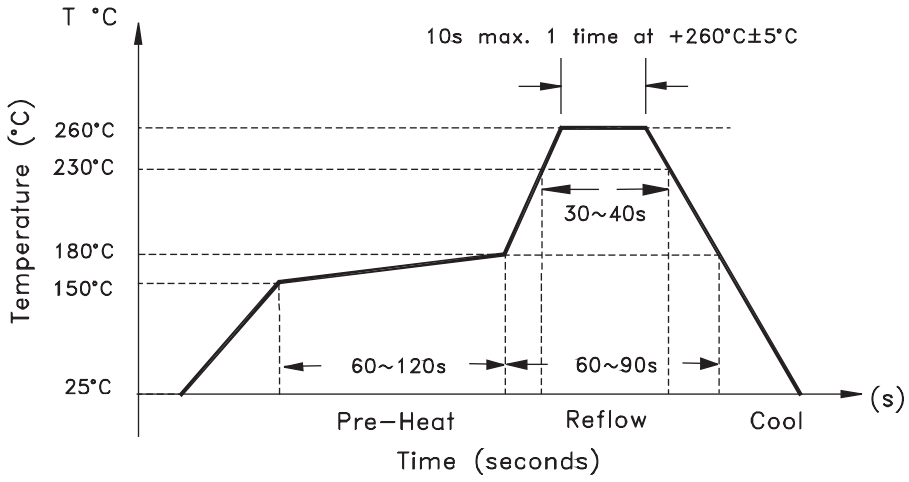




Note:
1. The outline package configuration varies with frequency range. Electrical properties, pin configuration, and land pattern are the same.
2. Recommend using an approximately 0.01µF bypass capacitor between Pin 2 and 4.

| PIN | FUNCTION |
|---|---|
| 1 | Tri-state |
| 2 | GND/Case |
| 3 | Output |
| 4 | Vdd |

**Dimensions: Inches (mm)**

## REFLOW PROFILE






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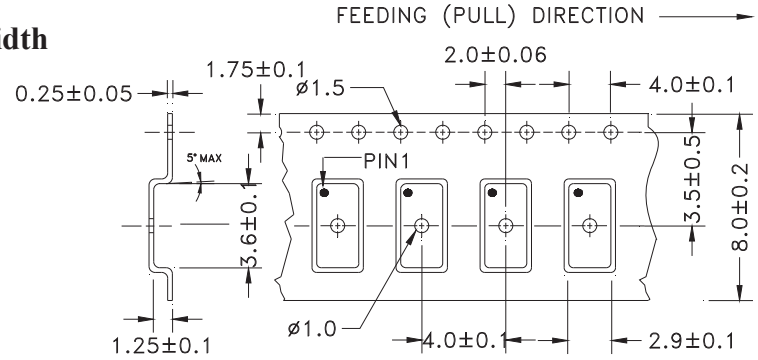


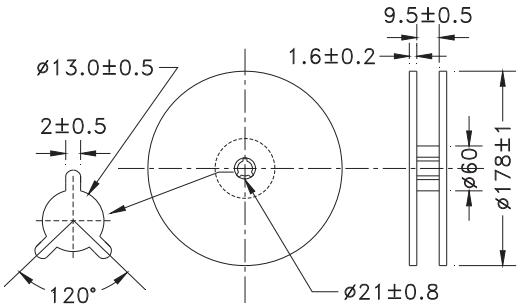

3.2 x 2.5 x 1.2mm

## TAPE & REEL:

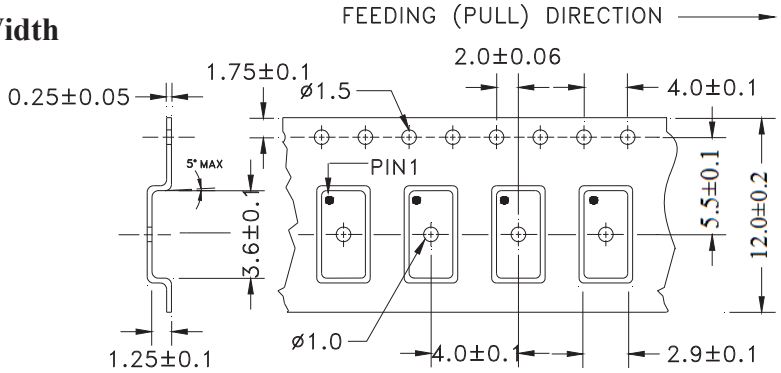
**T: 1000pcs/reel**

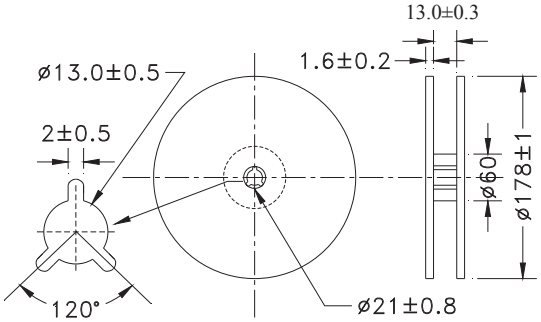
**8mm Tape Width**




**12mm Tape Width**




Dimensions: mm



Need a test socket for the ASE2 Series? To view compatible **PRECISION TEST & BURN-IN SOCKETS** for these parts, **click here.**

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