



**THE DATASHEET OF
ASA1-48.000MHZ-L-T3**



HCMOS SURFACE-MOUNT CRYSTAL CLOCK OSCILLATOR



2.0 x 1.6 x 0.7 mm

ASA SERIES

Moisture Sensitivity Level (MSL) – This product is Hermetically Sealed and not Moisture Sensitive - MSL = N/A: Not Applicable

RoHS/RoHS II Compliant

FEATURES:

- Ultra miniature package, 2.0 x 1.6 x 0.7mm
- Tri-state function
- Suitable for high density SMT
- Suitable for RoHS compliant reflow process
- Seam sealed package assures high reliability

APPLICATIONS:

- CCD clock for VTR camera
- Computers and peripherals
- Portable electronics
- Mobile communication, PDA

STANDARD SPECIFICATIONS:

| Parameters | | Minimum | Typical | Maximum | Units | Notes |
|--|-----------------|---|---------|---------|-------|---|
| Frequency Range | | 1.0 | | 80 | MHz | |
| Operating Temperature | | -10 | | +60 | °C | See options |
| Storage Temperature | | -40 | | +85 | °C | |
| Overall Frequency Stability* | | -50 | | +50 | ppm | See options |
| Supply Voltage (Vdd) | | 2.97 | 3.3 | 3.66 | V | Standard |
| | | 2.25 | 2.5 | 2.75 | | Option 1 (CMOS) |
| | | 1.62 | 1.8 | 1.98 | | Option 2 (CMOS) |
| Supply Current (I _{dd}) into 15pF Load | Vdd = 3.3 V | | 2.0 | 5.0 | mA | 1MHz $\leq F \leq 20\text{ MHz}$ |
| | | | 4.0 | 10.0 | | 20 MHz <math>< F \leq 50\text{ MHz}</math> |
| | | | 7.0 | 15.0 | | 50 MHz <math>< F \leq 80\text{ MHz}</math> |
| | Vdd = 2.5 V | | 2.0 | 5.0 | | 1MHz $\leq F \leq 20\text{ MHz}$ |
| | | | 3.0 | 10.0 | | 20 MHz <math>< F \leq 50\text{ MHz}</math> |
| | | | 5.0 | 10.0 | | 50 MHz <math>< F \leq 80\text{ MHz}</math> |
| | Vdd = 1.8 V | | 1.5 | 5.0 | | 1MHz $\leq F \leq 20\text{ MHz}$ |
| | | | 2.5 | 5.0 | | 20 MHz <math>< F \leq 50\text{ MHz}</math> |
| | | | 4.0 | 10.0 | | 50 MHz <math>< F \leq 80\text{ MHz}</math> |
| Output Load | | | | 15 | pF | |
| | | | | 2 | TTL | |
| Output Voltage | V _{OH} | 0.9*Vdd | | | V | CMOS |
| | V _{OL} | | | 0.1*Vdd | | CMOS |
| | V _{OH} | 2.4 | | | | TTL |
| | V _{OL} | | | 0.4 | | TTL |
| Tri-state function | | "1" (VIH ≥ 0.7*Vdd) or Open : Oscillation "0" (VIH < 0.3*Vdd) : Hi Z | | | | |
| Aging | | -3.0 | | +3.0 | ppm | @+25°C First year |
| Symmetry @1/2Vdd | | 40 | 50 | 60 | % | Standard |
| | | 45 | 50 | 55 | | Option S |
| Start-up Time | | | | 10.0 | ms | |
| Rise/Fall Time (Tr/Tf) | | | | 10.0 | ns | |

*Overall frequency stability includes initial frequency tolerance @+25°C and stability over the operating temperature.

OPTIONS AND PART IDENTIFICATION:

(Left blank if standard)

ASA - MHz - - - -

| Supply Voltage |
|-----------------|
| Blank: 3.3V±10% |
| 1: 2.5 V±10% |
| 2: 1.8 V±10% |

| Packaging |
|-------------------------|
| Blank: Bulk |
| T: Tape & Reel (1kpcs) |
| T3: Tape & Reel (3kpcs) |

| Frequency in MHz |
|--|
| Please specify the frequency in MHz. e.g. 14.31818MHz |

| Operating Temp. |
|----------------------|
| Blank: -10°C ~ +60°C |
| E: -20°C ~ +70°C |
| L: -40°C ~ +85°C |

| Overall Freq. Stability |
|-------------------------|
| Blank: ±50ppm |
| R**: ±25ppm |
| K***: ±30 ppm |

| Symmetry |
|-----------------------|
| Blank: 40/60% @1/2Vdd |
| S: 45/55% @1/2Vdd |

**Available for -10 to +60°C only
***Available for -10 to +60°C, option E only
Contact Abracon for tighter frequency stability options

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30332 Esperanza, Rancho Santa Margarita, California 92688
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HCMOS SURFACE-MOUNT CRYSTAL CLOCK OSCILLATOR

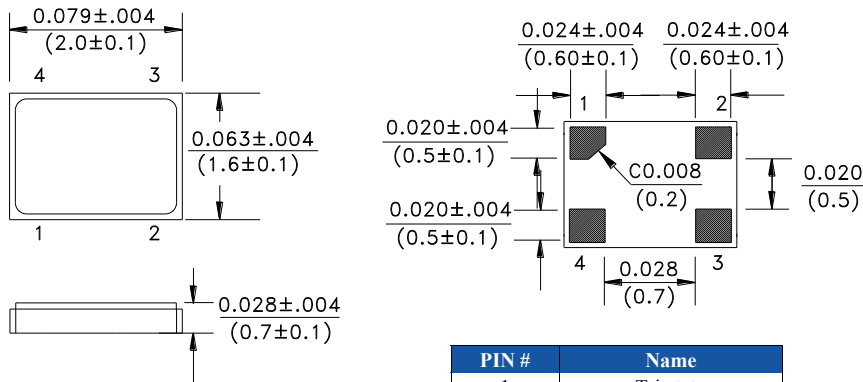


ASA SERIES

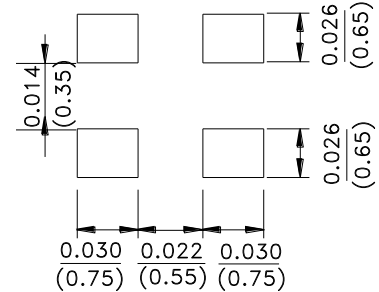
RoHS/RoHS II Compliant

2.0 x 1.6 x 0.7mm

OUTLINE DRAWING:



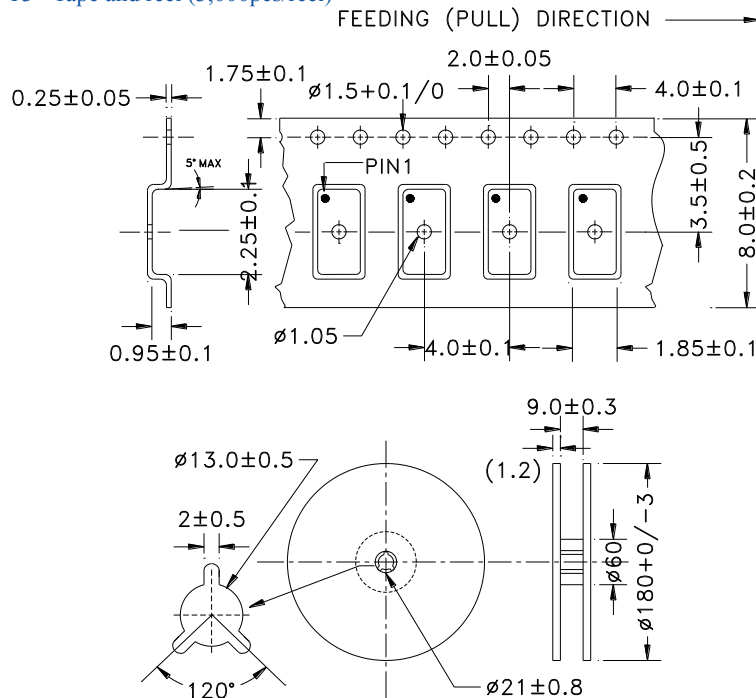
Recommended land pattern



| PIN # | Name |
|-------|-----------|
| 1 | Tri-state |
| 2 | GND |
| 3 | Output |
| 4 | Vdd |

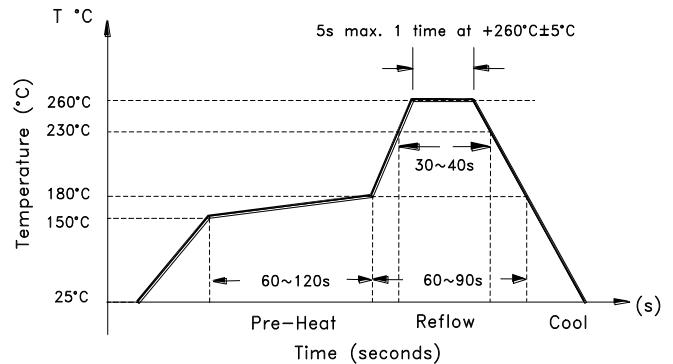
TAPE & REEL:

T= Tape and reel (1,000pcs/reel)
T3= Tape and reel (3,000pcs/reel)



Dimensions: mm

REFLOW PROFILE:



Need a test socket for the ASA Series? To view compatible **PRECISION TEST & BURN-IN SOCKETS** for these parts, [click here](#).

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