

# HCMOS SURFACE-MOUNT CRYSTAL CLOCK OSCILLATOR



ASA SERIES

: PRELIMINARY

\* RoHS COMPLIANT

2.0 X 1.6 X 0.7mm

➤ **FEATURES:**

- Pb-Free/RoHS Compliant
- Smallest industry package
- Tri state function
- Suitable for high density SMT. Reflow capable
- Hermetically sealed

➤ **APPLICATIONS:**

- CCD clock for VTR camera
- Computers and peripherals
- Portable electronics

➤ **STANDARD SPECIFICATIONS:**

PARAMETERS	
Frequency Range	1.000 MHz to 80 MHz
Operating Temperature	-10°C to + 60°C (See Options)
Storage Temperature	- 40°C to + 85°C
Overall Frequency Stability	± 50 ppm max. (see options)
Supply Voltage (Vdd)	See Table 1
Input Current	20mA max
Symmetry	40/60 % max.@ 1/2Vdd (see options)
Rise and Fall Time (Tr/Tf)	10ns max
Output Load	15 pF (3TTL)
Output Voltage	VOH = 0.9* Vdd min. VOL = 0.1* Vdd max.
Start-up Time	10ms max.
Tristate Function (stand-by)	"1" (VIH >= 0.7* Vdd) or open: Oscillation "0" (VIL < 0.3* Vdd) : No oscillation/Hi Z
Aging at 25°C/year	± 5ppm max.

P/N	Vdd (V)
ASA	3.3±0.1
ASA1	2.5±0.1
ASA2	1.8±0.1

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

\*"H" or "open": Oscillation  
"L": Oscillation stops/Hi impedance

Note: Decoupling capacitor shall be connected between Vdd and GND for best performance and stability.

➤ **MARKING:**

- XX.X R (XX.X First 3 digits of frequency)
- A1 ZYW (Z: month A to L; Y: year 4 for 2004  
W: Traceability code (A-Z))  
(1 for ASA1, 2 for ASA2, None for ASA)

➤ **OPTIONS AND PART IDENTIFICATION (Left blank if standard):**

**ASAX** - Frequency - Temperature - Overall Frequency Stability - Packaging

**Vdd options:**

Blank (3.3Vdc±0.1V), 1 (2.5Vdc±0.1V), 2 (1.8Vdc±0.1V)  
(See table 1)

**Symmetry option:**

- S for 45/55% at 1/2Vdd

**Packaging option:** T for Tape and Reel (1,000pcs/reel, Dia.180mm)

**Temperature options:**

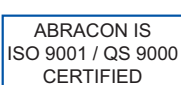
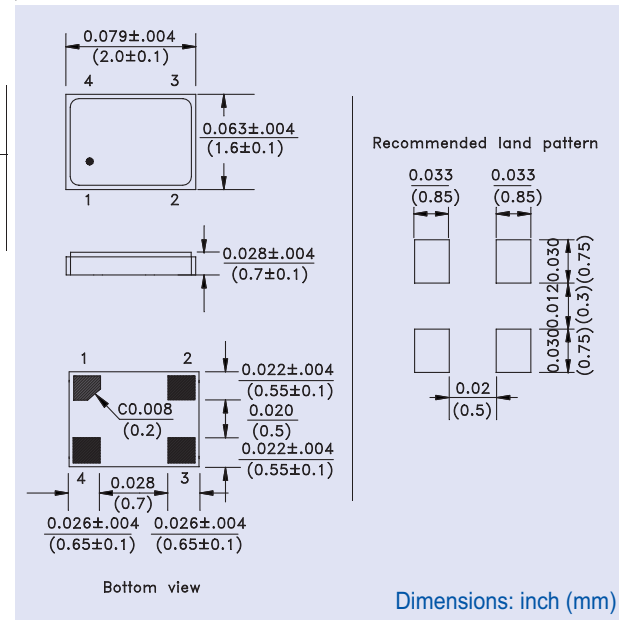
- E for -20°C to +70°C
- F for -30°C to +70°C
- N for -30°C to +85°C
- L for -40°C to +85°C

**Overall Frequency stability options:**

- R15 for ± 15 ppm max.
- J for ± 20 ppm max.
- K for ± 30 ppm max.
- C for ± 50 ppm max.

\*Please contact factory for frequency stability / temperature range options.

➤ **OUTLINE DRAWING:**



rev.2.1-4.06

