

HCMOS SURFACE-MOUNT CRYSTAL CLOCK OSCILLATOR

ASA SERIES

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



RoHS
Compliant



2.0 x 1.6 x 0.7mm

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})	Vdd = 3.3 V	-----	2.0	5.0	mA	1MHz ≤ F ≤ 20 MHz			
		-----	4.0	10.0		20 MHz < F ≤ 50 MHz			
		-----	7.0	15.0		50 MHz < F ≤ 80 MHz			
	Vdd = 2.5 V	-----	2.0	5.0		1MHz ≤ F ≤ 20 MHz			
		-----	3.0	10.0		20 MHz < F ≤ 50 MHz			
		-----	5.0	10.0		50 MHz < F ≤ 80 MHz			
	Vdd = 1.8 V	-----	1.5	5.0		1MHz ≤ F ≤ 20 MHz			
		-----	2.5	5.0		20 MHz < F ≤ 50 MHz			
		-----	4.0	10.0		50 MHz < F ≤ 80 MHz			
		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) : Oscillation "0" (VIH<0.3*Vdd) : Hi Z				Pin 1 must be pulled “high” for oscillation			
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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2.0 x 1.6 x 0.7mm

Technical drawings of the 10-pin connector showing dimensions in inches and millimeters.

Top View Dimensions:

- Overall Width: $0.079 \pm .004$ (2.0 $\pm$ 0.1)
- Segment 4 Width: 4
- Segment 3 Width: 3
- Overall Height: $0.063 \pm .004$ (1.6 $\pm$ 0.1)
- Segment 1 Height: 1
- Segment 2 Height: 2

Side View Dimensions:

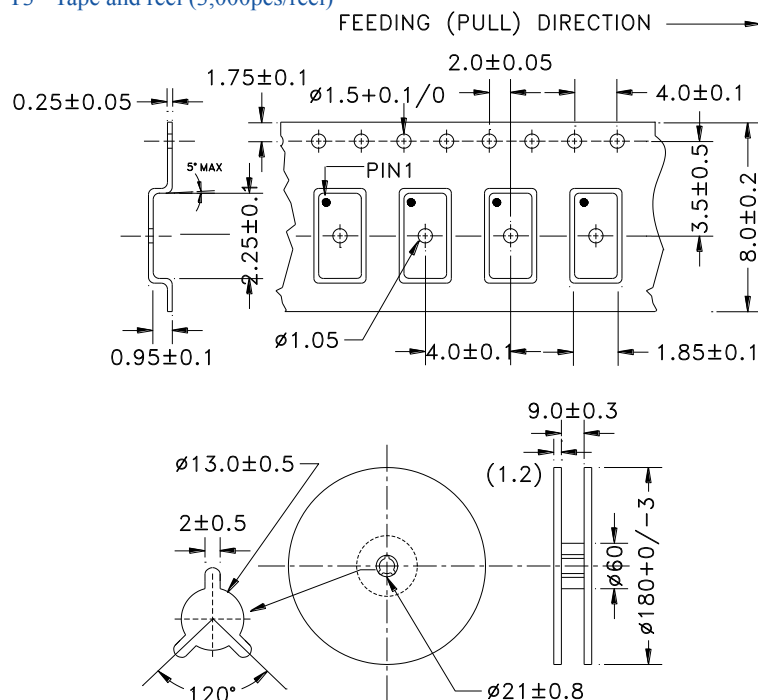
- Overall Height: $0.028 \pm .004$ (0.7 $\pm$ 0.1)

Pin Details:

- Pin Width: $0.024 \pm .004$ (0.60 $\pm$ 0.1)
- Pin Pitch: $0.020 \pm .004$ (0.5 $\pm$ 0.1)
- Pin 1 Position: 1
- Pin 2 Position: 2
- Pin 3 Position: 3
- Pin 4 Position: 4
- Pin Contact Diameter: 0.008 (0.2)
- Pin 2 Offset: 0.028 (0.7)

PIN #	Name
1	Tri-state (Stand-by)
2	GND
3	Output
4	Vdd

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



Dimensions: mm

Figure 1 is a graph showing a typical reflow profile. The Y-axis represents Temperature (°C) and the X-axis represents Time (seconds). The profile consists of three main phases: Pre-Heat, Reflow, and Cool. The temperature starts at 25°C, rises to 150°C, then to 180°C, and finally to 260°C. The time intervals for these phases are: Pre-Heat (60~120s), Reflow (30~40s), and Cool (60~90s). A maximum dwell time of 5s at 260°C is indicated.



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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