

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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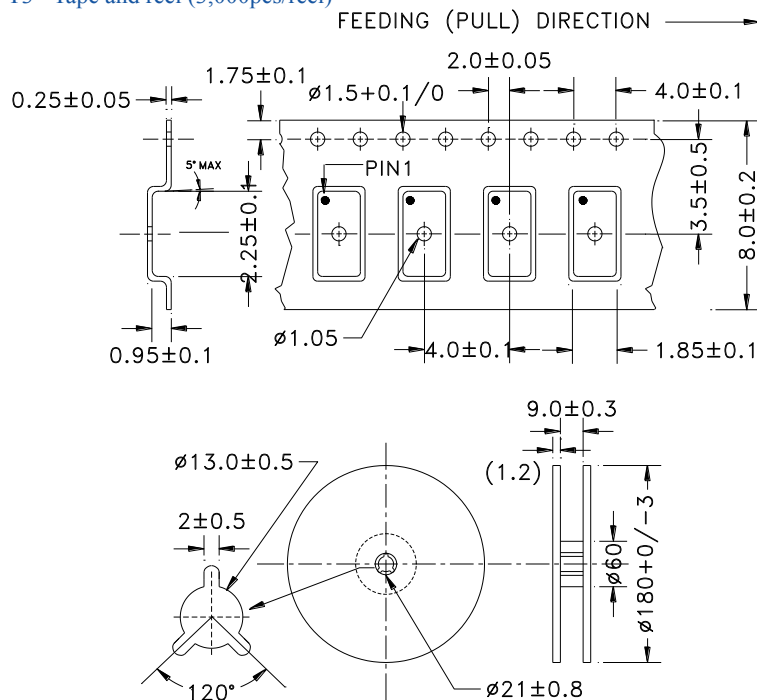
2.0 x 1.6 x 0.7mm

The mechanical drawings show the following dimensions:

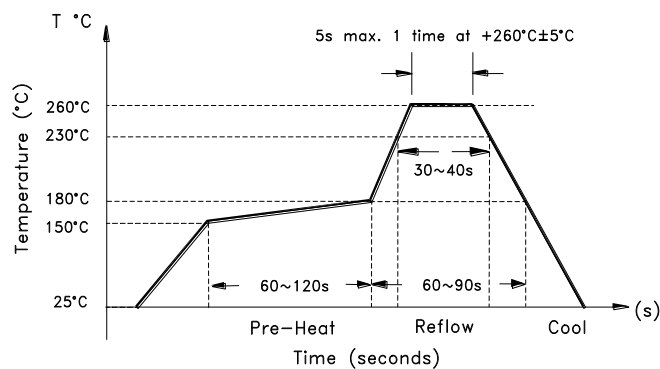
- Top View:** Overall width is $0.079 \pm .004$ inches (2.0 ± 0.1 mm). The width is divided into two sections of 4 and 3. The overall height is $0.063 \pm .004$ inches (1.6 ± 0.1 mm). The bottom edge is divided into two sections of 1 and 2.
- Bottom View:** Shows four mounting holes. The distance between the centers of the holes on the left is $0.020 \pm .004$ inches (0.5 ± 0.1 mm). The distance between the centers of the holes on the right is $0.020 \pm .004$ inches (0.5 ± 0.1 mm). The distance between the top and bottom holes on the left is $0.024 \pm .004$ inches (0.60 ± 0.1 mm). The distance between the top and bottom holes on the right is $0.024 \pm .004$ inches (0.60 ± 0.1 mm). The distance between the left and right holes on the top is 0.028 inches (0.7 mm). The distance between the left and right holes on the bottom is 0.028 inches (0.7 mm). The diameter of each hole is 0.008 inches (0.2 mm).
- Side View:** The thickness of the PCB is $0.028 \pm .004$ inches (0.7 ± 0.1 mm).

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)



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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