

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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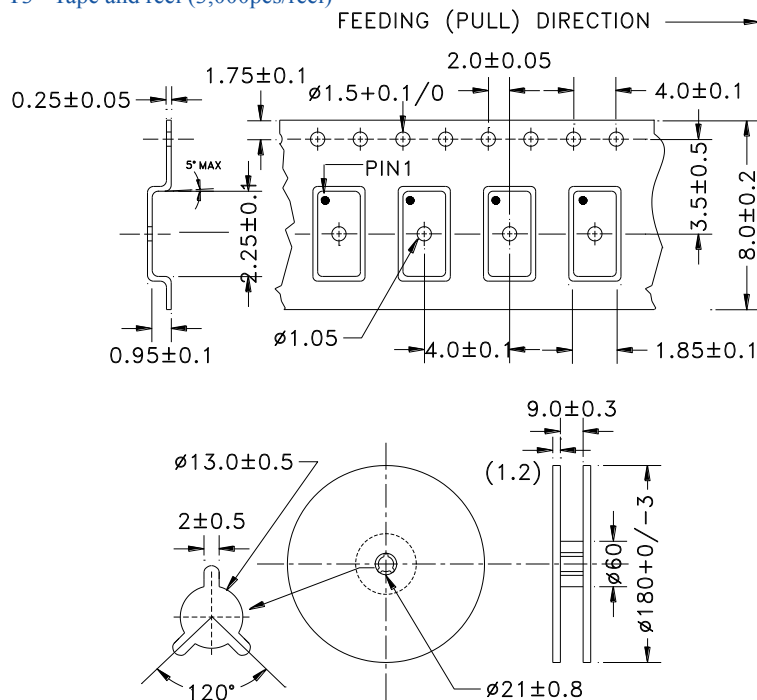
2.0 x 1.6 x 0.7mm

The mechanical drawings show the following dimensions:

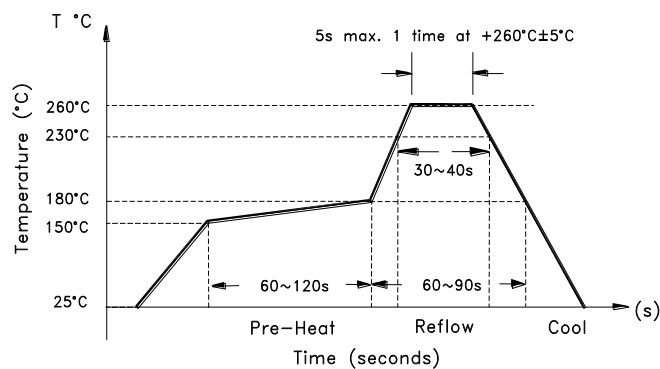
- Top View:** Overall width is $0.079 \pm .004$ in (2.0 ± 0.1) mm. Overall height is $0.063 \pm .004$ in (1.6 ± 0.1) mm. The width is divided into segments of 4 and 3. The height is divided into segments of 1 and 2.
- Bottom View:** Shows four mounting pads. The distance between the centers of the pads is $0.020 \pm .004$ in (0.5 ± 0.1) mm. The distance from the edge to the center of a pad is $0.024 \pm .004$ in (0.60 ± 0.1) mm. The pad diameter is 0.028 in (0.7) mm. The distance between the inner edges of the pads is 0.028 in (0.7) mm. The distance from the edge to the inner edge of a pad is $0.020 \pm .004$ in (0.5 ± 0.1) mm. The distance from the center of a pad to the edge is $0.024 \pm .004$ in (0.60 ± 0.1) mm. The distance between the inner edges of the pads is 0.028 in (0.7) mm. The distance from the edge to the center of a pad is $0.024 \pm .004$ in (0.60 ± 0.1) mm. The pad diameter is 0.028 in (0.7) mm. The distance between the centers of the pads is $0.020 \pm .004$ in (0.5 ± 0.1) mm.
- Side View:** Shows the thickness of the PCB is $0.028 \pm .004$ in (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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