

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/RoHS II 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}) into 15pF Load	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) 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

ABRACON IS
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 **RoHS/RoHS II Compliant**

[illegible]

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

FEEDING (PULL) DIRECTION →

0.25±0.05
1.75±0.1
2.25±0.1
5° MAX
0.95±0.1
2.0±0.05
ø1.5+0.1/0
4.0±0.1
4.0±0.1
1.85±0.1
3.5±0.5
8.0±0.2
PIN 1
ø1.05
ø13.0±0.5
2±0.5
120°
9.0±0.3
(1.2)
ø60
ø21±0.8
ø180+0/-3

Figure 1 is a graph showing Temperature (°C) versus Time (seconds) for the heat treatment of a 100 mm diameter 42CrMo4 steel rod. The graph illustrates the temperature profile for two different heat treatment methods: a standard method (solid line) and a method using a high-frequency induction heating coil (dashed line). The temperature profile is divided into three main stages: Pre-Heat, Reflow, and Cool.

- Pre-Heat:** Heating from 25°C to 150°C at 180°C/min, followed by a dwell at 150°C for 60~120s.
- Reflow:** Heating from 150°C to 260°C at 180°C/min, followed by a dwell at 260°C for 5s max. 1 time at +260°C±5°C. The dwell time is indicated as 30~40s.
- Cool:** Cooling from 260°C to 180°C at 180°C/min, followed by a dwell at 180°C for 60~90s, and then cooling to 25°C at 180°C/min.

The dashed line represents the temperature profile using the high-frequency induction heating coil, which shows a slightly higher temperature profile during the Pre-Heat and Reflow stages compared to the solid line.



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