

HCMOS/TTL COMPATIBLE SURFACE-MOUNT PROGRAMMABLE CRYSTAL CLOCK OSCILLATOR



7.0 x 5.0 x 1.6mm

AP7S



RoHS
Compliant

FEATURES:

- Comparable performance to fixed frequency oscillator
- Low jitter with PLL technology

APPLICATIONS:

- Micro controller
- FPGA
- CPLG
- Prototype evaluation
- Portable computers (Laptop, tablet PC)

For Small Quantities, Delivery Time is 1-5 days

ELECTRICAL SPECIFICATIONS:

Parameters	Minimum	Typical	Maximum	Units	Notes	
Frequency Range:	V _{dd} = 3.3V	10	-----	200	MHz	
	V _{dd} = 2.5V	10	-----	166	MHz	
Operating Temperature:	0	-----	+70	°C	See options	
Storage Temperature:	-55	-----	+155	°C		
Overall Frequency Stability*:	-100	-----	+100	ppm	See options	
Supply Voltage (V _{dd}):	V _{dd} = 3.3V	2.97	3.3	3.63	V	Standard
	V _{dd} = 2.5V	2.25	2.5	2.75	V	Option 1
Input Current:	V _{dd} = 3.3V	-----	-----	30	mA	
	V _{dd} = 2.5V	-----	-----	20	mA	
Symmetry:	45	50	55	%	@ 1/2V _{dd}	
Rise and Fall Time (Tr/Tf)**:	-----	2.5	3.5	ns		
Output Load:			15	pF	CMOS	
Output Voltage:	VOH	V _{dd} -0.4	-----	-----	V	
	VOL	-----	-----	0.4	V	
Start-up Time:	-----	-----	10.0	ms		
Enable/Disable Function :	"1" (V _{IH} ≥ 0.7*V _{dd}) or Open: Oscillation "0" (V _{IL} < 0.3*V _{dd}) : No output					
Period jitter RMS (Reference only. Please contact Abracon for each frequencies.):	25MHz	-----	2.0	4.0	ps	
	50MHz	-----	5.0	10.0	ps	
	100MHz	-----	7.0	14.0	ps	
Period jitter Peak to Peak (Reference only. Please contact Abracon for each frequencies.):	25MHz	-----	14.0	25.0	ps	
	50MHz	-----	25.0	35.0	ps	
	100MHz	-----	35.0	50.0	ps	
Phase jitter RMS	20MHz	-----	0.6	1.0	ps	12kHz to 10MHz
	25MHz	-----	5.6	7.0	ps	12kHz to 10MHz
	50MHz	-----	16.0 ~ 25.0	40.0	ps	12kHz to 20MHz
	100MHz	-----	18.0	25.0	ps	12kHz to 20MHz
Aging:	-3.0	-----	+3.0	ppm	First year	

* Inclusive of calibration @25°C, operating temperature range, input voltage variation, load variation, aging, shock, and vibration.

** Transition times are measured between 10% and 90% of V_{dd} with an output load of 15 pF.

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Revised: 07.03.11

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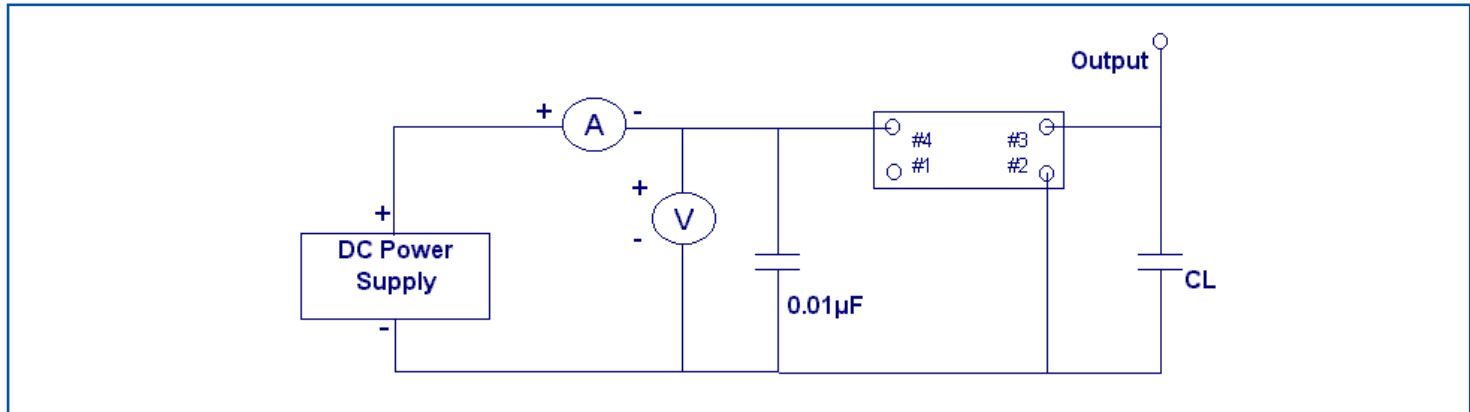
OPTIONS & PART IDENTIFICATION:

AP7S - MHz - -

Supply Voltage	Frequency in MHz	Operating Temp.	Overall Freq. Stability	Packaging
Blank: 3.3V I: 2.5V	Please specify the frequency in MHz. e.g. 14.31818MHz	I: 0°C ~ +50°C D: -10°C ~ +60°C E: -20°C ~ +70°C F: -30°C ~ +70°C N: -30°C ~ +85°C L: -40°C ~ +85°C	J(**): ±20ppm R: ±25ppm K: ±30ppm C: ±50ppm	Blank: Bulk T: Tape & Reel

* Temp. option I, D, E and 0°C ~ +70°C only
Contact ABRACON for EJ or LR options. (Availability limited)

TEST CIRCUIT:



OUTLINE DRAWING:

Top view: 0.275±.006 (7.0±0.15)

Side view: 0.2±.006 (5.00±0.15)

Bottom view: 0.2±.008 (5.08±0.15)

Other dimensions: 0.055 (1.4), 0.024 (0.6), 0.063max. (1.6)

Recommended land pattern

0.071 (1.8)

0.079 (2.0)

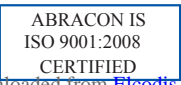
0.15 (4.0)

0.20 (5.08)

Pin	Function
1	Tri-State
2	GND/Case
3	Output
4	Vdd

Dimension: inch (mm)

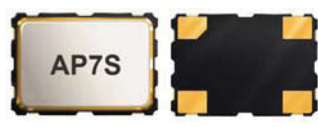
Note: Recommend using an approximately 0.01µF bypass capacitor between PIN 2 and 4.



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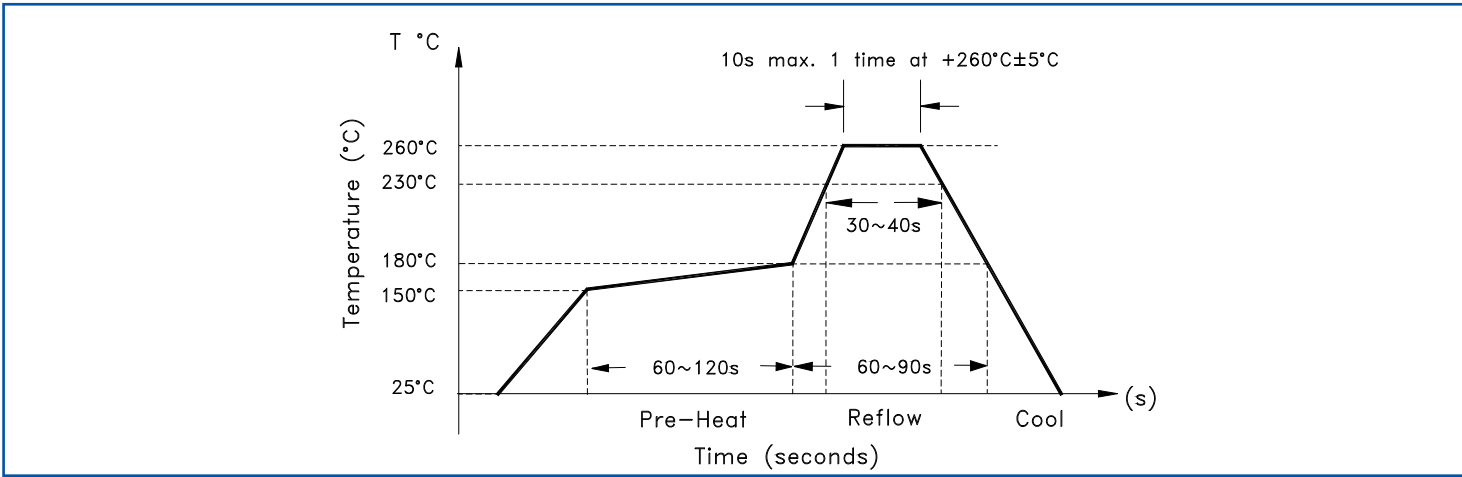


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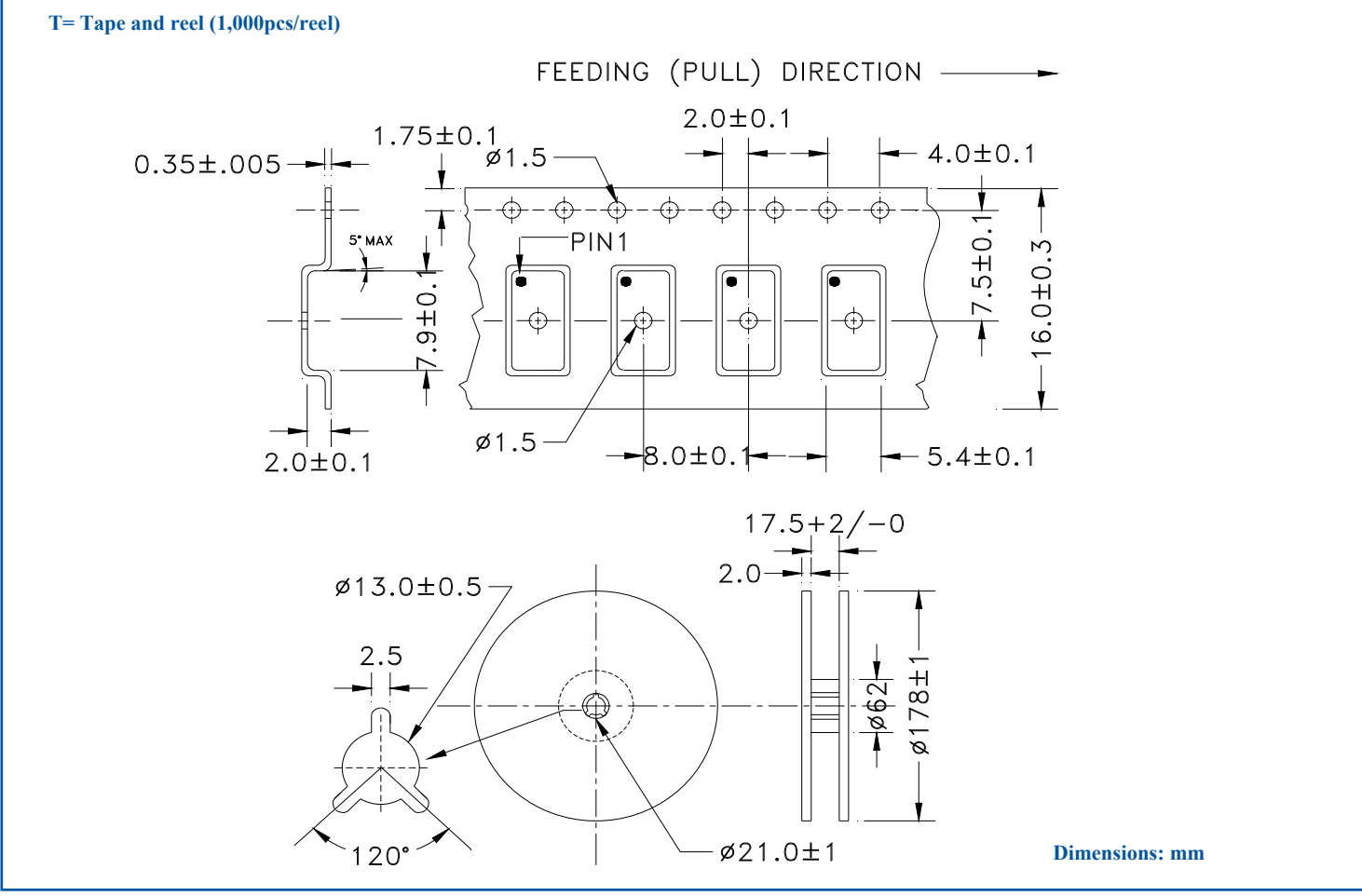
AP7S



REFLOW PROFILE:

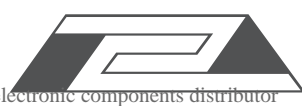
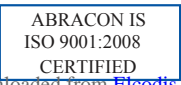


TAPE & REEL:



Need a test socket for the AP7S Series? To view compatible **PRECISION TEST SOCKETS** for these parts, click here. P/N AXS-7050-04-01

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