

# HCMOS/TTL COMPATIBLE SURFACE-MOUNT PROGRAMMABLE CRYSTAL CLOCK OSCILLATOR



7.0 x 5.0 x 1.6mm

AP7S



**For Small Quantities, Delivery Time is 1-5 days**

## FEATURES:

- Performance comparable to fixed frequency oscillator
- Lowest peak-to-peak jitter
- Low supply current
- Short lead time
- Suitable for mass production
- Alternative to long lead-time XO's

## ELECTRICAL SPECIFICATIONS:

3.3V, 2.5V OPERATION		Unit	Minimum	Typical	Maximum
<b>Characteristics</b>					
<b>Frequency Range</b>	<b>3.3V</b>	MHz	10	--	200
	<b>2.5V</b>	MHz	10	--	166
<b>Operation Temp. Range (See Options)</b>		°C	0	--	+70
<b>Storage Temp. Range (See Options)</b>		°C	-55	--	125
<b>Overall Frequency Stability * (See Options)</b>		ppm	-100	--	100
<b>Input Voltage (Operating Vdd)</b>		V	2.97	3.3	3.63
		V	2.25	2.5	2.75
<b>Input Current</b>	<b>3.3V</b>	mA	--	--	20
	<b>2.5V</b>	mA	--	--	30
<b>Symmetry at 1/2 Vdd</b>		%	45	50	55
<b>Rise and fall time (Tr/Tf)**</b>		nSec	--	2.5	3.5
<b>Output Voltage</b>					
	<b>VOH</b>	V	--	--	Vdd-0.4min
<b>VOL</b>	V	0.4V max	--	--	--
<b>Start-up Time</b>		msec	--	--	10
<b>Tri-state Function (Input to pin 1)</b>			pin 1 : High or Open , pin 3 : Enable		
			pin 1 : Low , pin 3 : Disable		
<b>Jitter peak-to-peak</b>		pSec	--	50	100
<b>Phase Jitter (RMS, 12kHz to 20MHz)</b>		pSec	--	2.5	--
<b>Output Type</b>		--	CMOS		

\* 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 Vdd with an output load of 15 pf.

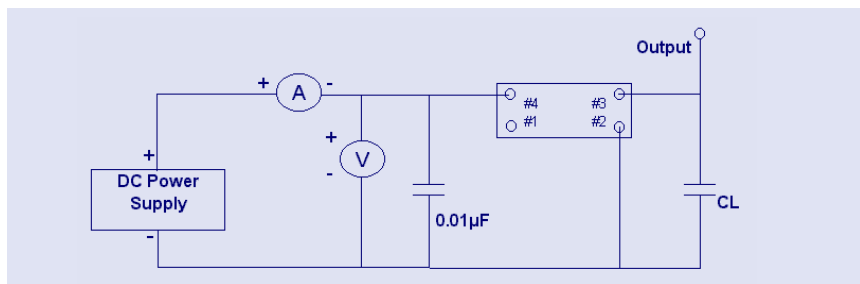
## OPTIONS & PART IDENTIFICATION:

(Left blank if standard)

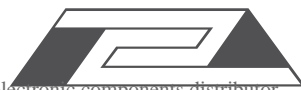
AP7S□-Frequency-□-□-□

Supply Voltage		Operating Temp.		Freq. Stability		Packaging	
Blank*	3.3 V	I	0°C to +50°C	J(**)	±20ppm	Blank	Bulk
1	2.5 V	D	-10°C to +60°C	R	±25ppm	T	Tape and Reel
*3.3V : Standard		E	-20°C to +70°C	K	±30ppm	* *Available for I, D, or E temp options only. Contact ABRACON for EJ or LR options. (Availability limited)	
		F	-30°C to +70°C	H	±35ppm		
		N	-30°C to +85°C	B	±40ppm		
		L	-40°C to +85°C	C	±50ppm		

## TEST CIRCUIT:



ABRACON IS  
ISO 9001 / QS 9000  
CERTIFIED



**ABRACON**  
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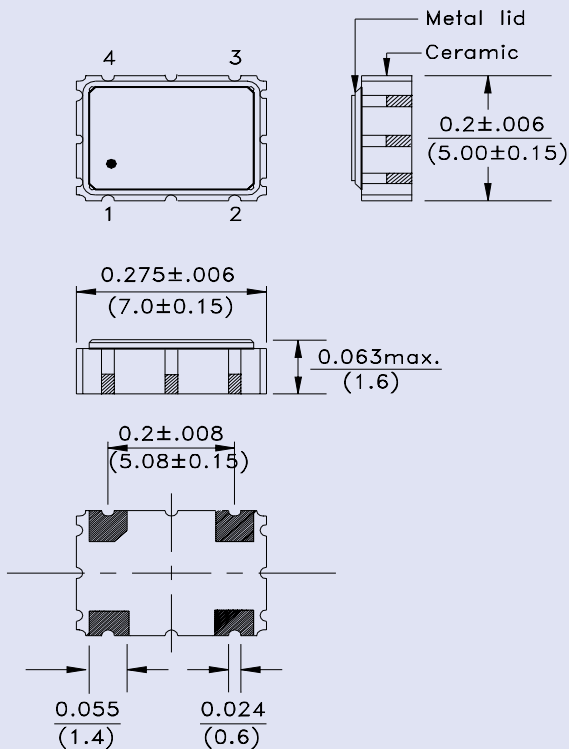
7.0 x 5.0 x 1.6mm

AP7S



RoHS  
Compliant

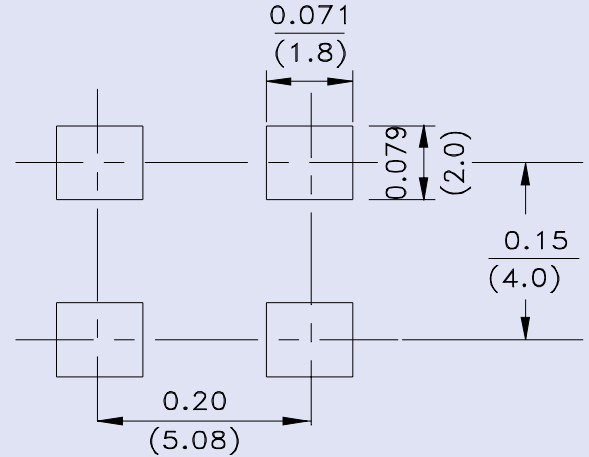
## OUTLINE DRAWING:



Bottom view

Dimensions: Inches (mm)

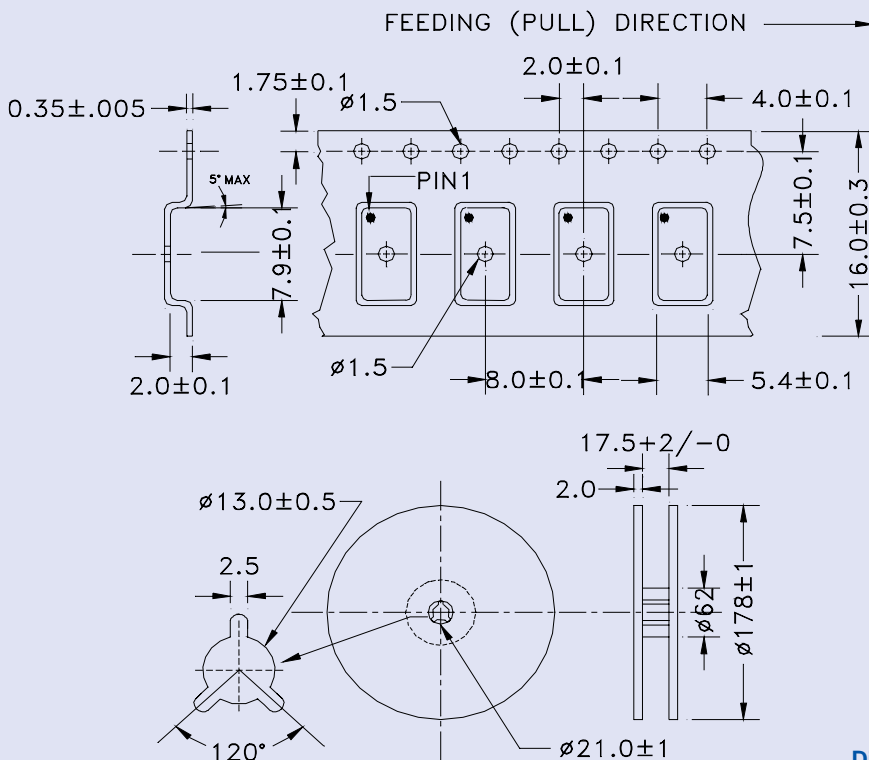
## Recommended land pattern



PIN	CONNECTION
# 1	OE
# 2	GND/CASE
# 3	OUTPUT
# 4	VDD

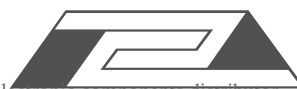
**Note:** It is recommended to use an approximately 0.01uF bypass capacitor between PIN 2 and 4.

## TAPE & REEL:



Dimensions: mm

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