

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



5.0 x 3.2 x 1.2mm

AP5S



## FEATURES:

- Comparable performance to fixed frequency oscillator
- Low supply current
- Low peak to peak jitter with PLL technology
- Alternative to long lead-time XO's

For Small Quantities, Delivery Time is 1-5 days

## ELECTRICAL SPECIFICATIONS:

Characteristics	Unit	Minimum	Typical	Maximum
Frequency Range (3.3V)	MHz	10	--	200
(2.5V)	MHz	10	--	166
Operating Temperature Range (See Options)	°C	0	--	+70
Storage Temperature Range (See Options)	°C	-55	--	125
Over all Frequency Stability * (See Options)	ppm	-100	--	100
Input Voltage (Operating Vdd)	V	2.97	3.3	3.63
	V	2.25	2.5	2.75
Input Current (3.3V)	mA	--	--	30
(2.5V)	mA	--	--	20
Symmetry at 1/2Vdd	%	45	50	55.0
Rise and fall time (Tr/Tf)**	nsec		2.5	3.5
Output Voltage				
	VOH	V	--	Vdd-0.4min
VOL	V	0.4V max	--	--
Start-up Time	msec	--	--	10
Tri-state Function (Input to pin 1)		pin 1 : High or Open , pin 3 : Enable		
		pin 1 : Low , pin 3 : Disable		
Jitter peak-to-peak	psec	--	70	--
Phase jitter (RMS, 12kHz to 20MHz)	psec	--	2.5	--
Output type	--	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)

AP5S□-Frequency\*\*\*-□-□-□

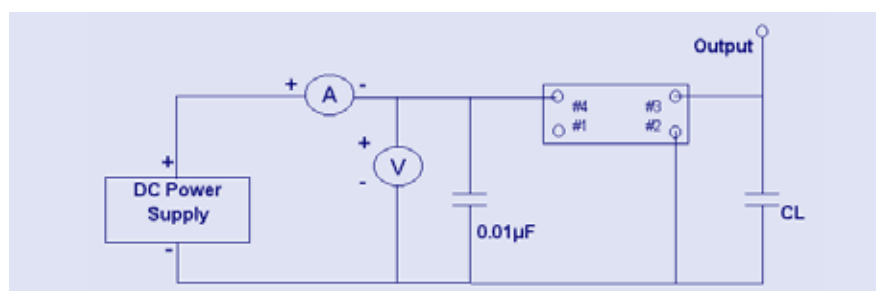
Supply Voltage		Operating Temp.		Freq. Stability		Packaging	
Blank*	3.3 V	I	0°C to +50°C	J(**)	±20ppm	Blank	Bulk
1	2.5 V	D	-10°C to +60°C	R	±25ppm	T	Tape and Reel
*3.3V : Standard		E	-20°C to +70°C	K	±30ppm		
		F	-30°C to +70°C	C	±50ppm		
		N	-30°C to +85°C				
		L	-40°C to +85°C				

\*\* Available for I, D, or E temp options only.

Contact ABRACON for EJ or LR options. (Availability limited)

\*\*\* Frequency in MHz

## TEST CIRCUIT:



ABRACON IS  
ISO 9001 / QS 9000  
CERTIFIED



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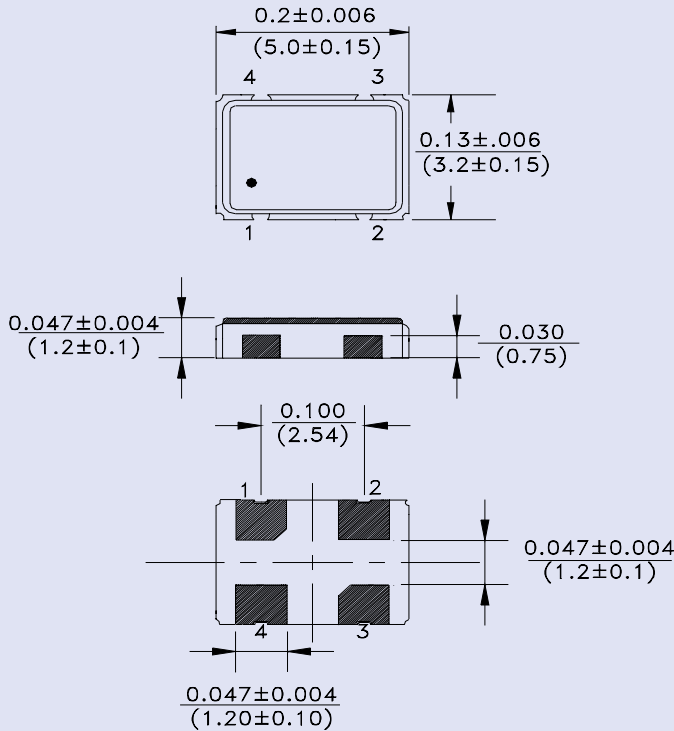


RoHS  
Compliant



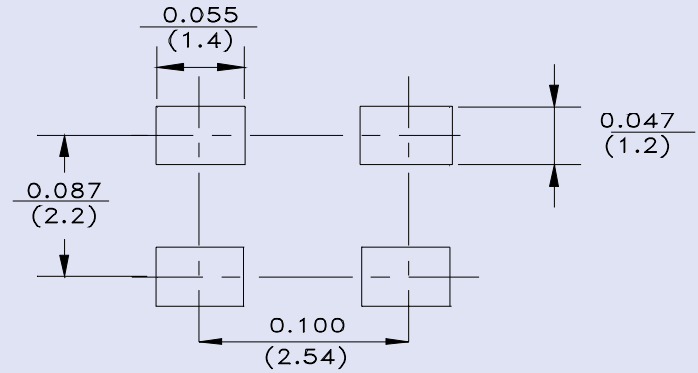
5.0 x 3.2 x 1.2mm

## OUTLINE DRAWING:



Dimensions: Inches (mm)

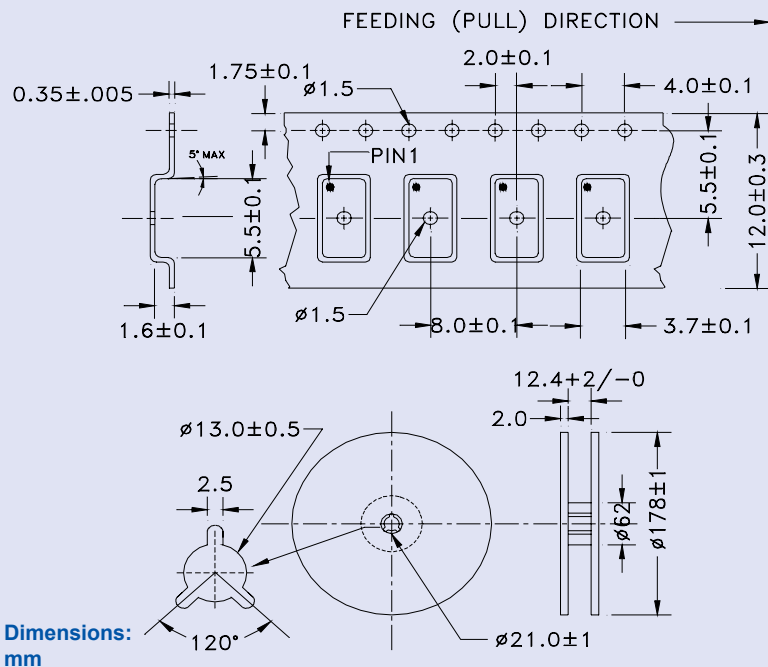
## Recommended land pattern



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

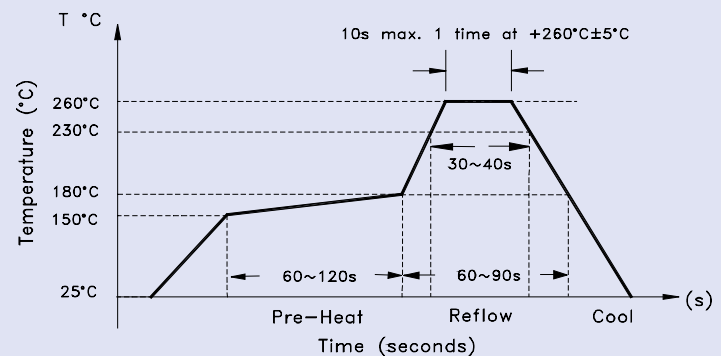
**Note:** It is recommended to use an approximately 0.01uF bypass capacitor between PIN 2 and 4.

## TAPE & REEL:



Dimensions: mm

## REFLOW PROFILE:



**NOTE:** Abracon manufactured products are intended for general commercial and industrial use. For applications requiring high reliability and/or presenting extreme operating environment, written consent & authorization from Abracon is required.

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