

HCMOS/TTL COMPATIBLE SURFACE-MOUNT PROGRAMMABLE CRYSTAL CLOCK OSCILLATOR

AP5S



RoHS
Compliant



5.0 x 3.2 x 1.2mm

FEATURES:

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

APPLICATIONS:

- Microcontroller
- 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	
Tri-state function (Stand-by) :		"1" (V _{IH} ≥ 0.7*V _{dd}) or Open: Oscillation "0" (V _{IL} < 0.3*V _{dd}) : Hi Z				
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	@+25°C 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.

ABRACON IS
ISO 9001:2008
CERTIFIED



ABRACON
CORPORATION

Visit www.abracon.com for Terms & Conditions of Sale **Revised: 07.04.11**
30332 Esperanza, Rancho Santa Margarita, California 92688
tel 949-546-8000 | fax 949-546-8001 | www.abracon.com

HCMOS/TTL COMPATIBLE SURFACE-MOUNT PROGRAMMABLE CRYSTAL CLOCK OSCILLATOR

AP5S



RoHS
Compliant



5.0 x 3.2 x 1.2mm

OPTIONS & PART IDENTIFICATION:

(Left blank if standard)

AP5S - MHz - -

Supply Voltage

Blank: 3.3V
1: 2.5V

Frequency in MHz

Please specify the
frequency in MHz.
e.g. 14.31818MHz

Operating Temp.

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

Overall Freq. Stability

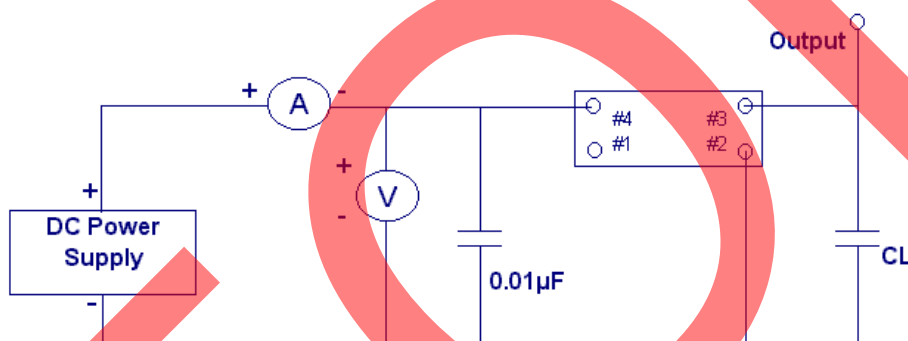
J(**): ±20ppm
R: ±25ppm
K: ±30ppm
C: ±50ppm

Packaging

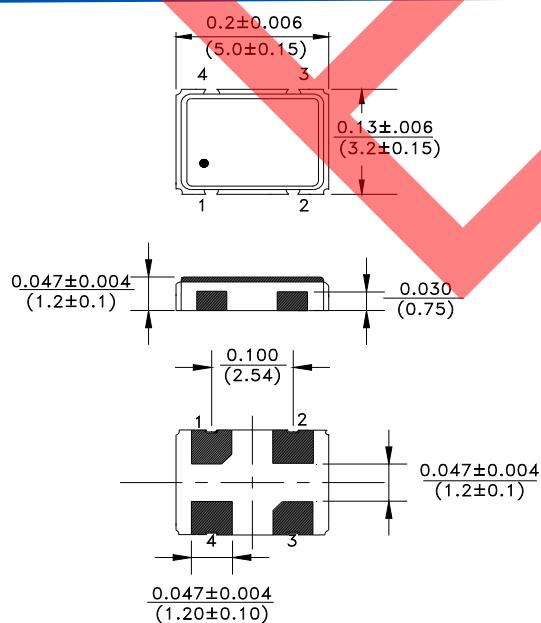
Blank: Bulk
T: Tape & Reel

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

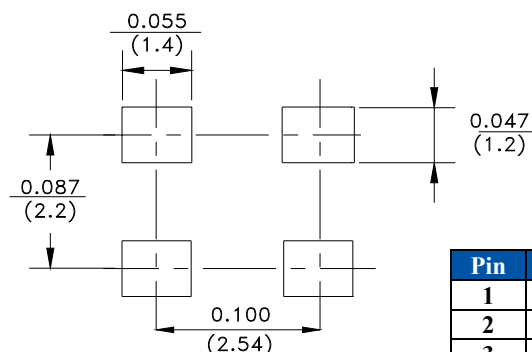
TEST CIRCUIT:



OUTLINE DRAWING:



Recommended land pattern



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

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

Dimensions: inches (mm)

ABRACON IS
ISO 9001:2008
CERTIFIED



ABRACON
CORPORATION

Visit www.abracon.com for Terms & Conditions of Sale **Revised: 07.04.11**
30332 Esperanza, Rancho Santa Margarita, California 92688
tel 949-546-8000 | fax 949-546-8001 | www.abracon.com

HCMOS/TTL COMPATIBLE SURFACE-MOUNT PROGRAMMABLE CRYSTAL CLOCK OSCILLATOR

AP5S

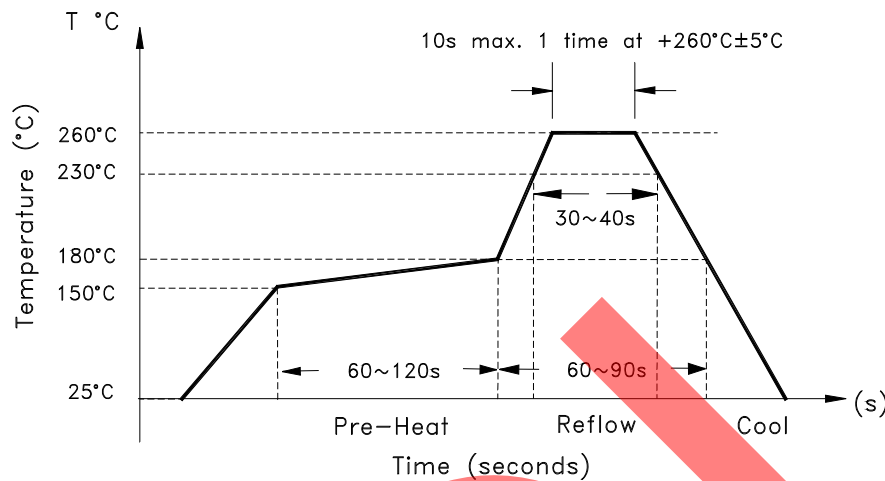


RoHS
Compliant



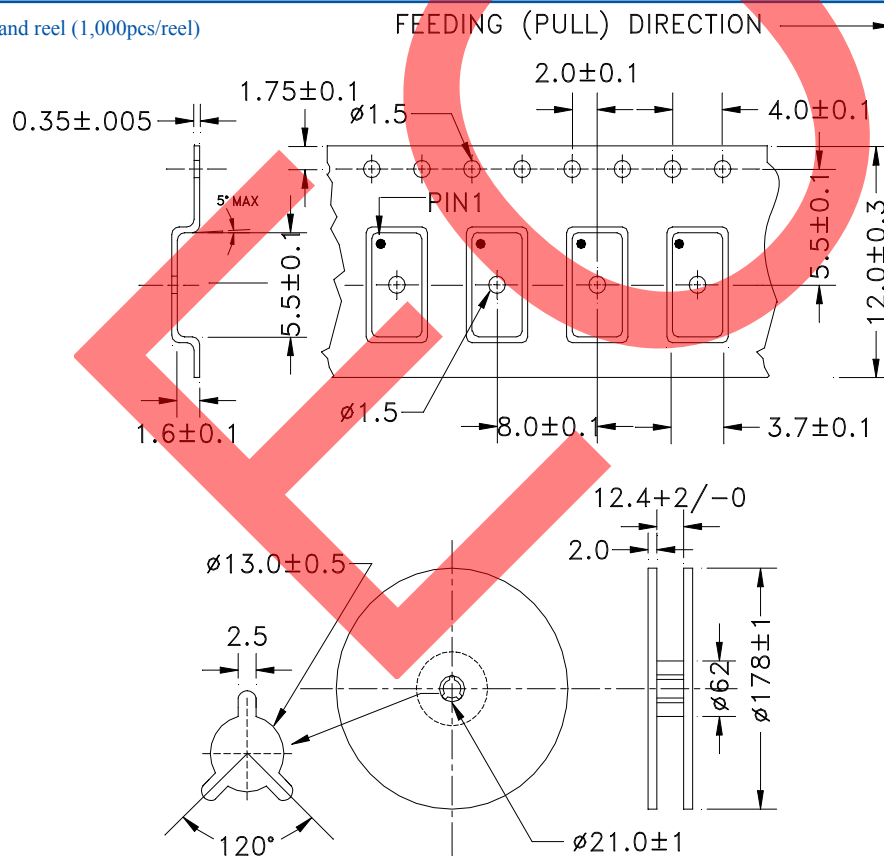
5.0 x 3.2 x 1.2mm

REFLOW PROFILE:



TAPE & REEL:

T= Tape and reel (1,000pcs/reel)



Dimensions (mm)



Need a test socket for the AP5S Series? To view compatible **PRECISION TEST SOCKETS** for these parts, click here. P/N AXS-5032-04-02

ATTENTION: Abracon Corporation's products are COTS – Commercial-Off-The-Shelf products; suitable for Commercial, Industrial and, where designated, Automotive Applications. Abracon's products are not specifically designed for Military, Aviation, Aerospace, Life-dependant Medical applications or any application requiring high reliability where component failure could result in loss of life and/or property. For applications requiring high reliability and/or presenting an extreme operating environment, written consent and authorization from Abracon Corporation is required. Please contact Abracon Corporation for more information.

ABRACON IS
ISO 9001:2008
CERTIFIED



ABRACON
CORPORATION

Visit www.abracon.com for Terms & Conditions of Sale **Revised: 07.04.11**
30332 Esperanza, Rancho Santa Margarita, California 92688
tel 949-546-8000 | fax 949-546-8001 | www.abracon.com

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

ABRACON:

[AP5S-36.0000-ER](#) [AP5S1-166.00-LR](#) [AP5S-65.0000M-EJ-B](#) [AP5S-108.0000MHz-EJ-B](#) [AP5S-FREQ-LR-B](#) [AP5S2-FREQ-EJ-B](#) [AP5S2-FREQ-EC-B](#) [AP5S1-FREQ-EJ-B](#) [AP5S2-FREQ-ER-B](#) [AP5S-FREQ-ER-B](#) [AP5S1-FREQ-EC-B](#) [AP5S2-FREQ-LC-B](#) [AP5S1-FREQ-LC-B](#) [AP5S2-FREQ-LR-B](#) [AP5S1-FREQ-LR-B](#) [AP5S-FREQ-EC-B](#) [AP5S-FREQ-LC-B](#) [AP5S-FREQ-EJ-B](#) [AP5S1-FREQ-ER-B](#) [AP5S1-166MHZ-LR](#) [AP5S-180MHZ-LR](#) [AP5S-FREQ-DK-B](#) [AP5S1-FREQ-IK-B](#) [AP5S-FREQ-IJ-B](#) [AP5S-FREQ-DC-B](#) [AP5S-FREQ-IB-B](#) [AP5S2-FREQ-DJ-B](#) [AP5S2-FREQ-IB-B](#) [AP5S1-FREQ-DC-B](#) [AP5S-FREQ-FR-B](#) [AP5S1-FREQ-EB-B](#) [AP5S1-FREQ-EK-B](#) [AP5S-FREQ-DB-B](#) [AP5S2-FREQ-DR-B](#) [AP5S1-FREQ-LB-B](#) [AP5S2-FREQ-NR-B](#) [AP5S2-FREQ-NK-B](#) [AP5S-FREQ-IK-B](#) [AP5S1-FREQ-IJ-B](#) [AP5S2-FREQ-EK-B](#) [AP5S1-FREQ-FR-B](#) [AP5S-FREQ-NC-B](#) [AP5S-FREQ-EK-B](#) [AP5S2-FREQ-DK-B](#) [AP5S2-FREQ-DC-B](#) [AP5S1-FREQ-NB-B](#) [AP5S-FREQ-NR-B](#) [AP5S-FREQ-LK-B](#) [AP5S1-FREQ-FC-B](#) [AP5S1-FREQ-IB-B](#) [AP5S-FREQ-IC-B](#) [AP5S2-FREQ-FC-B](#) [AP5S1-FREQ-IC-B](#) [AP5S1-FREQ-DR-B](#) [AP5S2-FREQ-IC-B](#) [AP5S2-FREQ-FR-B](#) [AP5S-FREQ-NB-B](#) [AP5S-FREQ-DR-B](#) [AP5S-FREQ-NK-B](#) [AP5S-FREQ-FB-B](#) [AP5S1-FREQ-DB-B](#) [AP5S1-FREQ-FK-B](#) [AP5S-FREQ-EI-B](#) [AP5S2-FREQ-LB-B](#) [AP5S-FREQ-DJ-B](#) [AP5S2-FREQ-NC-B](#) [AP5S1-FREQ-DJ-B](#) [AP5S2-FREQ-LK-B](#) [AP5S2-FREQ-IR-B](#) [AP5S2-FREQ-IJ-B](#) [AP5S2-FREQ-FK-B](#) [AP5S-FREQ-EB-B](#) [AP5S1-FREQ-LK-B](#) [AP5S2-FREQ-IK-B](#) [AP5S1-FREQ-FB-B](#) [AP5S2-FREQ-NB-B](#) [AP5S2-FREQ-EB-B](#) [AP5S1-FREQ-IR-B](#) [AP5S1-FREQ-NC-B](#) [AP5S1-FREQ-DK-B](#) [AP5S-FREQ-FK-B](#) [AP5S1-FREQ-EI-B](#) [AP5S-FREQ-FC-B](#) [AP5S2-FREQ-FB-B](#) [AP5S1-FREQ-NR-B](#) [AP5S2-FREQ-EI-B](#) [AP5S2-FREQ-DB-B](#) [AP5S-FREQ-LB-B](#) [AP5S1-FREQ-NK-B](#) [AP5S-FREQ-IR-B](#) [AP5S-33.206MHZ-LR](#) [AP5S-26.2141-EJ-B](#) [AP5S-26.884-EJ-B](#) [AP5S-27.0336-EJ-B](#) [AP5-11.0592MHz-LR](#) [AP5S1-FREQ-DC](#) [AP5S1-FREQ-DJ](#) [AP5S2-FREQ-EJ](#) [AP5S1-FREQ-EK](#) [AP5S1-FREQ-ER](#)