

ECN/PCN No.: 4615

For Manufacturer			
<b>Product Description:</b> Half Size DIP Low Voltage Crystal clock oscillator	<b>Abrakon Part Number / Part Series:</b> ACH series	<input type="checkbox"/> Documentation only <input checked="" type="checkbox"/> ECN <input type="checkbox"/> EOL	<input checked="" type="checkbox"/> Series <input type="checkbox"/> Part Number
<b>Affected Revision:</b> M	<b>New Revision:</b> N	<b>Application:</b>	<input type="checkbox"/> Safety <input checked="" type="checkbox"/> Non-Safety
<b>Prior to Change:</b> Internal Assembly: Plating on Resonator type			
<b>After Change:</b> Internal Assembly: Ceramic SMD mount type			
<b>Cause/Reason for Change:</b> Change of internal assembly type. No form, fit, or function change. No affect on external mechanical dimensions or electrical specifications.			
Change Plan			
<b>Effective Date:</b> 3/24/2023	<b>Additional Remarks:</b>		
<b>Change Declaration:</b>			
<b>Issued Date:</b> 3/24/2023	<b>Issued By:</b> <i>Arturo Longoria</i>	<b>Issued Department:</b> Engineering	
<b>Approval:</b> <i>Thomas Culhane</i> Engineering Director	<b>Approval:</b> <i>Reuben Quintanilla</i> Quality Director	<b>Approval:</b> <i>Ying Huang</i> Purchasing Director	
For Abracon EOL only			
<b>Last Time Buy (if applicable):</b> N/A	<b>Alternate Part Number / Part Series:</b> N/A		
<b>Additional Approval:</b>	<b>Additional Approval:</b>	<b>Additional Approval:</b>	
Customer Approval (If Applicable)			
<b>Qualification Status:</b> <input type="checkbox"/> Approved <input type="checkbox"/> Not accepted <i>Note: It is considered approved if there is no feedback from the customer 1 month after ECN/PCN is released.</i>			
<b>Customer Part Number:</b>		<b>Customer Project:</b>	
<b>Company Name:</b>	<b>Company Representative:</b>	<b>Representative Signature:</b>	
<b>Customer Remarks:</b>			

# HALF SIZE DIP LOW VOLTAGE 5.0V CRYSTAL CLOCK OSCILLATOR

ACH Series



ESD Sensitive



RoHS/RoHS II Compliant



12.7 x 12.7 x 5.6mm

Moisture Sensitivity Level (MSL) – This product is Hermetically Sealed and not Moisture Sensitive - MSL = N/A: Not Applicable

## FEATURES:

- Wide frequency range.
- HCMOS and TTL compatible.
- Tight symmetry option.
- Tri-state Enable / Disable function.

## APPLICATIONS:

- Microprocessors.
- Digital circuit.

## STANDARD SPECIFICATIONS:

Parameters		Minimum	Typical	Maximum	Units	Notes
Frequency Range		0.032768		200.000	MHz	
Operating Temperature		0		+70	°C	See options
Storage Temperature		-55		+125	°C	
Overall Frequency Stability		-100		+100	ppm	See options
Supply Voltage (Vdd)		4.5	5.0	5.5	V	
Input Current	32.768kHz ~ 23.999MHz			30	mA	
	24.000MHz ~ 49.999MHz			45		
	50.000MHz ~ 79.999MHz			70		
	80.000MHz ~ 200.999MHz			85		
Symmetry (@ 1/2Vdd)	32.768kHz ~ 49.999MHz	45		55	%	See options
	50.000MHz ~ 200.000MHz	40		60		
Rise and Fall Time (Tr/Tf)	32.768kHz ~ 1.999MHz			40	ns	
	2.000MHz ~ 24.000MHz			10		
	24.001MHz ~ 200.000MHz			5		
Output Load	32.768kHz ~ 79.999MHz			15	pF	See options
				10	TTL	
	80.000MHz ~ 200.000MHz			15	pF	
				5	TTL	
Output Voltage	VOH	0.9*Vdd			V	
	VOL			0.1*Vdd	V	
Tri-state Function	VIH	2.2			V	"1" or Open: Oscillation
	VIL			0.8	V	"0": Output disable (Hi Z)
Output Enable time				4	ms	For option A only
Output Disable time				100	ns	For option A only
Start-up Time			1	10	ms	

\* Overall frequency stability includes initial tolerance and temperature stability.

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## OPTIONS & PART IDENTIFICATION:

(Left blank if standard)

ACH-  MHz-  -  -  -  -  -  -

Frequency in MHz
e.g. 24.576MHz
14.31818MHz
26.000MHz

Packaging
Blank: Tube
TY: Tray

Operating Temp.
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

Freq. Stability
Y*: ± 10 ppm
J**: ± 20 ppm
R: ± 25 ppm
K: ± 30 ppm
H: ± 35 ppm
C: ± 50 ppm

Symmetry
S: 45/55% @1/2Vdd
T: 47.5/52.5% @1/2Vdd

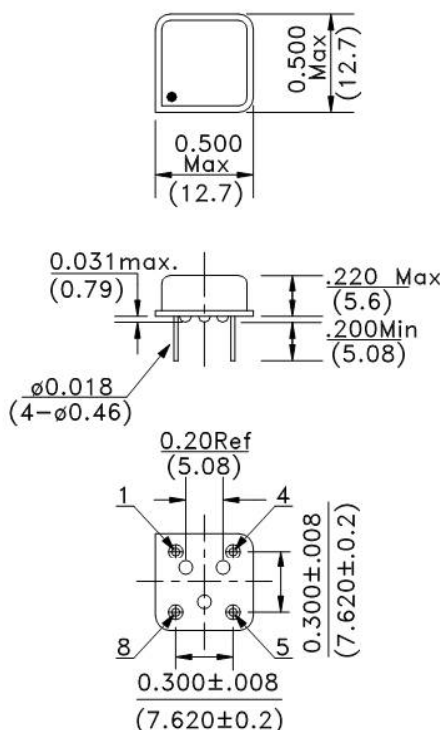
Tri-state
A: Tri-state on pin 1

Output Load
50: 50pF

Pin form
G: Gull Wing
Q25: 0.25" (6.35)
Q20: 0.20" (5.08)
Q15: 0.15" (3.81)

Note:  
\*: Temp option D only  
\*\*: Temp option D, E and 0-70°C only

## OUTLINE DIMENSION:



Pin	Function
1	Tri-State/NC
4	Case GND
5	Output
8	Vdd

Dimensions: inches (mm)

Packaging: 40pcs /tube

**ATTENTION:** Abracon 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 is required. Please contact Abracon for more information.