Engineering/Process Change Notice

ECN/PCN No.: 4616

For Manufacturer			
Product Description: Half Size DIP Low Voltage 3.3V HCMOS/TTL Crystal clock oscillator	**Abracon Part Number / Part Series:** ACHL series	☐ Documentation only ☒ ECN ☐ EOL	☒ Series ☐ Part Number
Affected Revision: M	**New Revision:** N	**Application**:	☐ Safety ☒ Non-Safety
Prior to Change: Internal Assembly: Plating on Resonator type			
After Change: Internal Assembly: Ceramic SMD mount type			
Cause/Reason for Change: Change of internal assembly type. No form, fit, or function change. Change of internal assembly type. No form, fit, or function change. No affect on external mechanical dimensions or electrical specifications.			

Change Plan		
Effective Date: 3/24/2023	**Additional Remarks:**	
Change Declaration:		
Issued Date: 3/24/2023	**Issued By:** *Arturo Longoria*	**Issued Department:** Engineering
Approval: *Thomas Culhane* Engineering Director	**Approval:** *Reuben Quintanilla* Quality Director	**Approval:** *Ying Huang* Purchasing Director

For Abracon EOL only		
Last Time Buy (if applicable): N/A	**Alternate Part Number / Part Series:** N/A	
Additional Approval:	**Additional Approval:**	**Additional Approval:**

Customer Approval (If Applicable)		
Qualification Status: ☐ Approved ☐ Not accepted *Note: It is considered approved if there is no feedback from the customer 1 month after ECN/PCN is released.*		
Customer Part Number:	**Customer Project:**	
Company Name:	**Company Representative:**	**Representative Signature:**
Customer Remarks:		

HALF SIZE DIP LOW VOLTAGE 3.3VHCMOS/TTL COMPATIBLE CRYSTAL CLOCK OSCILLATOR

13.2 x 13.2 x 5.5mm

ACHL Series

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

RoHS Compliant

FEATURES:

- Tri-state Enable/Disable option
- Low supply voltage 3.3V
- HCMOS and TTL compatible
- Tight symmetry option 50% +/-5%

APPLICATIONS:

- Clock signal sources for digital chips and microprocessors
- Low power applications

STANDARD SPECIFICATIONS:

Parameters		Minimum	Typical	Maximum	Units	Notes
Frequency Range		0.400	-----	160.000	MHz	
Operating Temperature		0	-----	+70	°C	See options
Storage Temperature		-55	-----	+125	°C	
Overall Frequency Stability		-100	-----	+100	ppm	See options
Supply Voltage (Vdd)		2.97	3.3	3.63	V	
Input Current	0.400MHz ~ 24.999MHz	-----	-----	20	mA	
	25.000MHz ~ 99.999MHz	-----	-----	40		
	100.000MHz ~ 16000MHz	-----	-----	80		
Symmetry (@ 1/2Vdd)		40	50	60	%	See options
Rise and Fall Time (Tr/Tf)	0.400MHz ~ 24.999MHz	-----	-----	10	ns	
	25.000MHz ~ 99.999MHz	-----	-----	5		
	100.000MHz ~ 16000MHz	-----	-----	4		
Output Load		-----	-----	15	pF	See options
		-----	-----	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	
Phase Jitter RMS (12~20MHz)		-----	-----	1	ps	Reference only. Please contact Abracon for specific frequencies
Aging		-5.0	-----	+5.0	ppm	@+25°C First year

*** Overall frequency stability includes initial tolerance, temperature stability, and aging.**

OPTIONS & PART IDENTIFICATION:

(Left blank if standard)

ACHL -□□□ MHz -□□-□ -□ - □ -□

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

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

Freq. Stability
- J: ± 20 ppm(*)
- R: ± 25 ppm
- K: ± 30 ppm
- H: ± 35 ppm
- C: ± 50 ppm

(*) Temp option I, D, E and 0°C ~ +70°C only.

Symmetry
- Blank: 40/60% @1/2Vdd
- S: 45/55% @1/2Vdd

Tri-state
- Blank: No Tri-state
- A: Tri-state on pin 1

Output Load
- Blank: 15pF
- 30: 30pF
- 50: 50pF

Pin form
- G: Gull Wing
- G3; Gull Wing
- Q25: 0.25" (6.35)
- Q20: 0.20" (5.08)
- Q15: 0.15" (3.81)

2 Faraday, Suite# B | Irvine | CA 92618 **Revised: 01.20.16**
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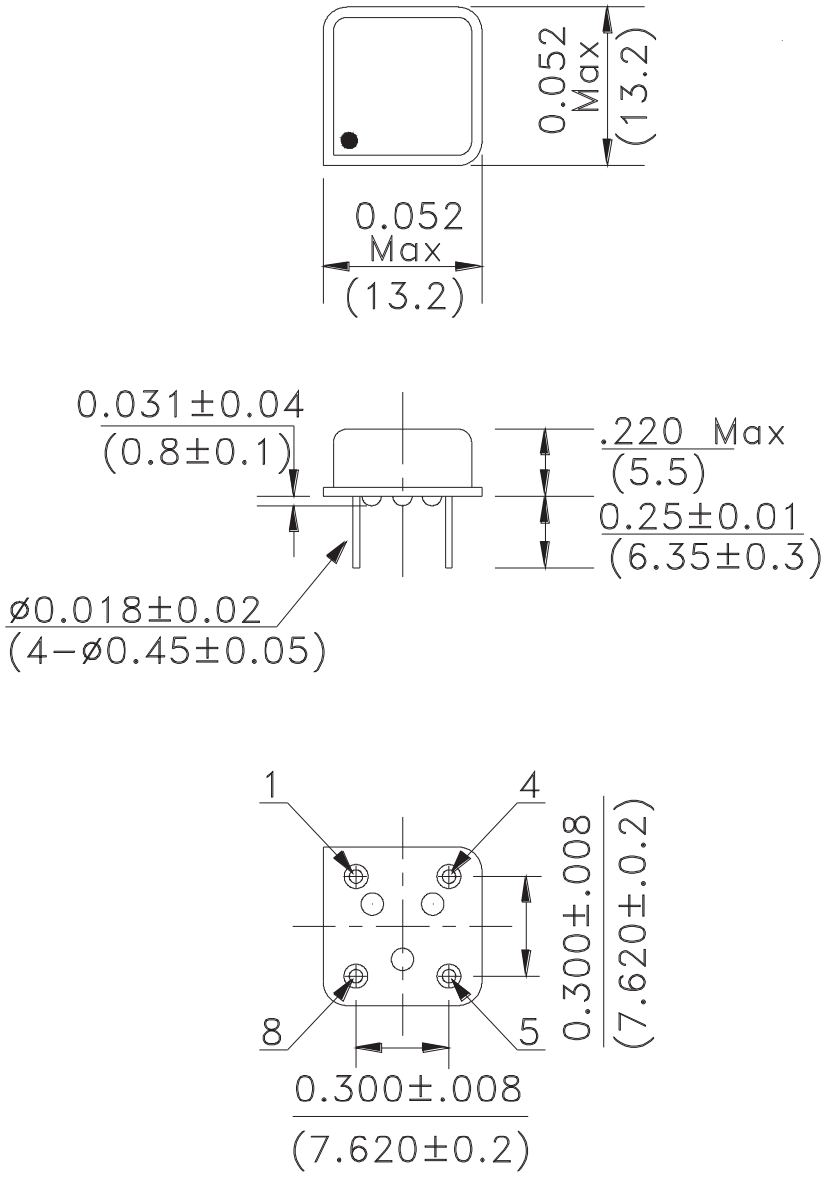
HALF SIZE DIP LOW VOLTAGE 3.3VHCMOS/TTL COMPATIBLE CRYSTAL CLOCK OSCILLATOR

13.2 x 13.2 x 5.5mm

ACHL Series

Pb RoHS Compliant

OUTLINE DIMENSIONS:



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

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

Dimensions: inches (mm)

Packaging

40pcs /tube

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