Engineering/Process Change Notice

ECN/PCN No.: 3846

For Manufacturer		
Product Description: Automotive&Industrial Grade Ceramic SMD Low Profile Microprocessor Crystal	**Abracon Part Number / Part Series:** ABM4BAIG	☐ Documentation only ☒ Series ☐ ECN ☐ Part Number ☒ EOL
Affected Revision: A	**New Revision:** N/A, EOL	**Application:** ☐ Safety ☐ Non-Safety
Prior to Change: N/A, EOL		
After Change: N/A, EOL		
Cause/Reason for Change: Discontinuation of standard product series.		

Change Plan		
Effective Date:	**Additional Remarks:** N/A	
Change Declaration: N/A, EOL		
Issued Date: 06/09/2021	**Issued By:** *Brooke Cushman* Product Engineer	**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): NO LAST TIME BUY	**Alternate Part Number / Part Series:** N/A	
Additional Approval: *N/A*	**Additional Approval:** *N/A*	**Additional Approval:** *N/A*

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:		

Affected Part Numbers
ABM4BAIG-12.000MHZ-R60-4-T
ABM4BAIG-20.000MHZ-20-R40-J4
ABM4BAIG-24.000MHZ-R40-4-T
ABM4BAIG-6.000MHZ
ABM4BAIG-8.000MHZ-10-R40-J
ABM4BAIG-8.000MHZ-10-R40-J-T
ABM4BAIG-8.000MHZ-R60-4-T

Automotive Grade Ceramic SMD Low Profile Microprocessor Crystal

7.0 x 5.0 x 1.6mm

ABM4BAIG

Pb in glass (exempt 7(c) - I per RoHS II 2011/65/EU Annex) | RoHS Compliant

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

FEATURES:

- Low profile
- AEC-Q200 qualified
- Ceramic package hermetically glass sealed assures high precision and reliability.
- Extended temperature -40°C to +125°C for automotive/industrial applications
- Suitable for RoHS reflow profile

APPLICATIONS:

- Automotive electronics
- Industrial electronics

STANDARD SPECIFICATIONS:

Parameters	Minimum	Typical	Maximum	Units	Notes
Frequency Range	6.000		25.000	MHz	
Operation Mode	Fundamental AT-cut				
Operating Temperature	-40		+125	°C	See options
Storage Temperature	-40		+125	°C	
Frequency Tolerance @+25°C	-50		+50	ppm	See options
Frequency Stability over the Operating Temperature (ref. to +25°C)	-100		+100	ppm	See options
Equivalent series resistance (R1)			300	Ω	6.000~ 7.999MHz
			200		8.000~ 9.999MHz
			100		10.000~ 25.000MHz
Shunt capacitance (C0)			5	pF	
Load capacitance (CL)	18			pF	Standard (See options if other than STD)
Drive Level		10	100	µW	
Aging	-5		+5	ppm	@25°C±3°C First year
Insulation Resistance	500			MΩ	@ 100Vdc ± 15V

OPTIONS AND PART IDENTIFICATION:

ABM4BAIG - [ ] MHz - [ ] - [ ] - [ ][ ][ ] - [ ]

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

Load Capacitance (pF)
Blank: 18pF
If not standard, please specify CL in pF or S for series

Custom ESR if other than standard
R□
□: Specify a value in Ω
(e.g.: R80)

Operating Temp.
Blank: -40°C ~ +125°C
D: -40°C ~ +85°C
J: -40°C ~ +105°C

Freq. Tolerance
Blank: ± 50 ppm
4: ± 30 ppm

Freq. Stability
Blank: ± 100 ppm
Z*: ± 50 ppm
R: ± 150 ppm
*: for option "D" (-40 ~ +85°C) only.

Packaging
Blank: Bulk
T: Tape & Reel

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tel 949-546-8000 | fax 949-546-8001 | www.abracon.com

Revised: 11.19.13

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ABM4BAIG

Pb in glass
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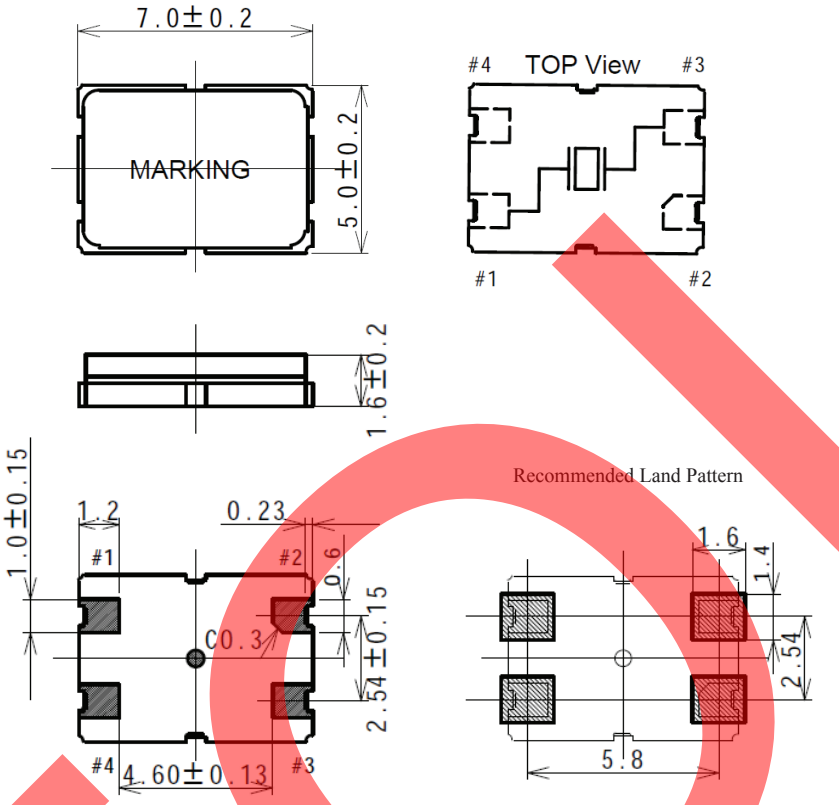
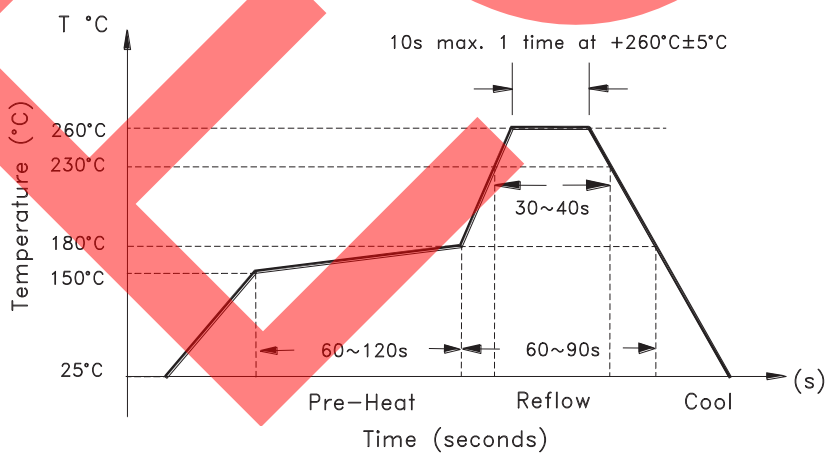
OUTLINE DIMENSIONS:



Dimensions: mm

REFLOW PROFILE:



FOL

Automotive Grade Ceramic SMD Low Profile Microprocessor Crystal

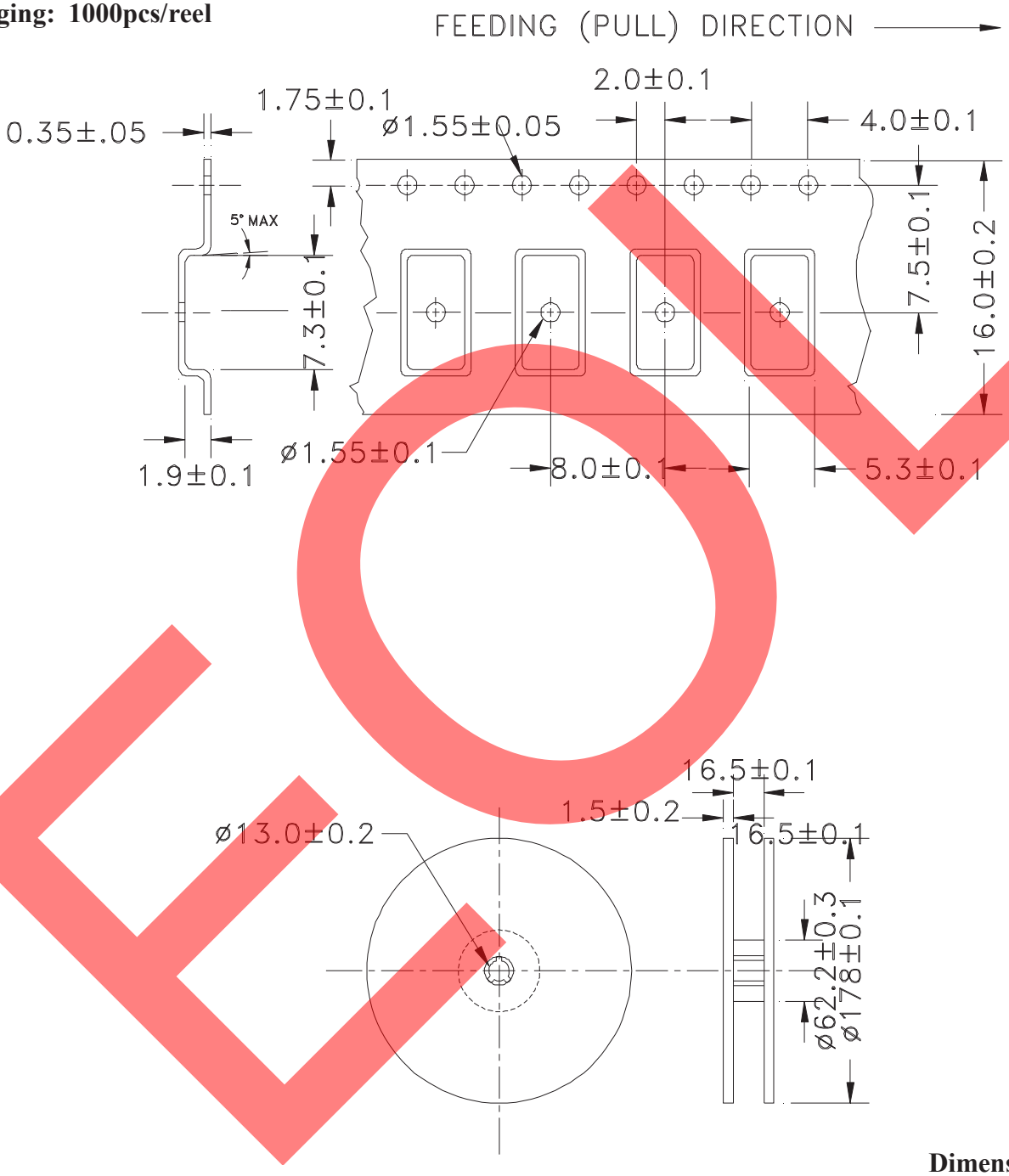
ABM4BAIG

Pb in glass (exempt 7(c) - I per RoHS II 2011/65/EU Annex) | RoHS Compliant

7.0 x 5.0 x 1.6mm

TAPE & REEL:

Packaging: 1000pcs/reel



Dimensions: mm

EOL

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.

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Pierce Analyzer System (PAS)
Advanced Board Characterization Service

Abracon PAS System enables us to offer Automotive, Medical, and Industrial application customers a comprehensive, automated assessment of the Pierce Oscillator loop, in concert with the customers selected Quartz Crystal. The PAS System Circuit Analysis report is ideally suited for PPAP documentation, design history reporting, and overall assurance of a reliable optimized circuit.

Features:

- Circuit characterization; providing best possible match between Quartz Crystal, oscillator loop and associated components
- Eliminates probability of oscillator start-up issues related to inadequate design or marginal component performance
- Eliminates production launch issues related to crystal oscillator based timing circuit
- Solves design margin uncertainty

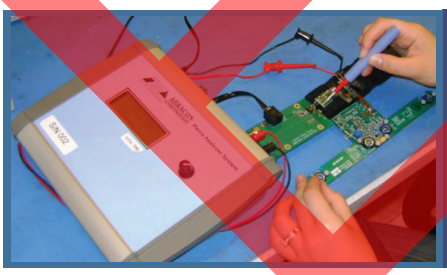
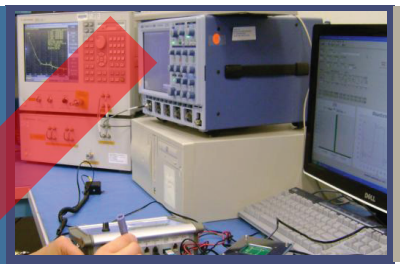
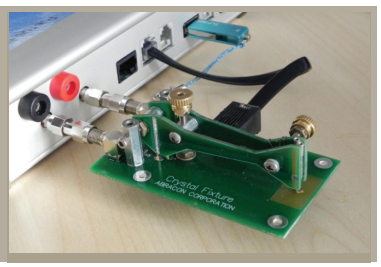
Deliverables: A detail Report encompassing:

- ***Stand alone Quartz Crystal characteristics including:***
  - Motional parameters (Cm, Lm, ESR & C0)
  - Narrow Band Frequency Response Plot
  - Wide Band Frequency Response Plot
  - Admittance versus Susceptance plot
  - Frequency dependence versus load capacitance plot
- ***Oscillator loop characteristics including:***
  - Initial frequency accuracy and drive level as seen by the crystal with measured ESR
  - Worst case projected drive level with maximum specified ESR
  - Safety Factor of the oscillator loop under both typical and maximum ESR
  - Recommendation on proper component selection (C1, C2 & Rs when applicable) for best compromise with respect to Safety Factor and Frequency accuracy
  - Recommendation on the Abracon Crystal part # with proper plating load and other key attributes to enable the most robust design, specific to the µcontroller/processor implemented

Ordering information:

PAS-BC1WK	Analysis & Report with 1-week maximum lead-time
PAS-BC2WK	Analysis & Report with 2-week maximum lead-time
PAS-BC3WK	Analysis & Report with 3-week maximum lead-time

For detailed information, click here:

For additional information, please contact at: tech-support@abracon.com

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