

# MICROPROCESSOR CRYSTALS

## AT49 (HC49 US) ULTRA LOW PROFILE

# ABL, ABL2, ABL3



### FEATURES:

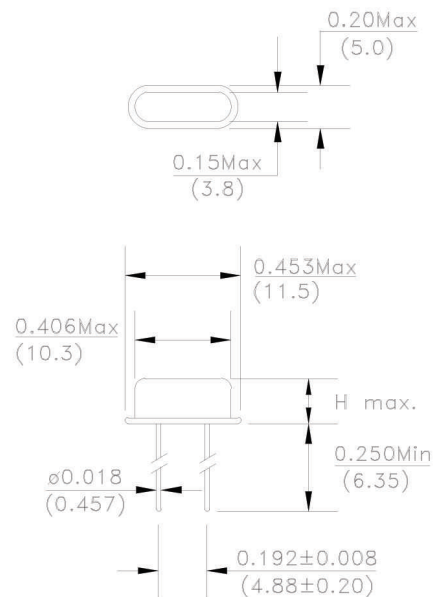
- High reliability, Low cost.
- Tight stability and extended temperature.
- Low profile.(2.0mm max. ABL3)
- Proven resistance welded metal package.

### APPLICATIONS:

- Blue-tooth and wireless applications.
- Computers, Modems, Communications.
- Automotive and industrial.
- Hi-precision TCXO and clock applications.

### STANDARD SPECIFICATIONS

|                                    |   |
|------------------------------------|---|
| Frequency Range                    | <b>3.579545MHz - 70.00MHz</b>   |
| Operation Mode                     | 3.579545MHz ≤ F ≤ 24.0MHz (Fundamental)<br>24.0MHz < F ≤ 50.00MHz (Fund. AT or BT)<br>24.0MHz < F ≤ 70MHz (Third- Overtone)   |
| Operating Temperature              | 0°C to + 70°C (See Options)   |
| Storage Temperature                | -40°C to +85°C  |
| Frequency Tolerance @ 25°C         | ±50ppm max. (See Options)   |
| Frequency stability over temp.     | ±50ppm max. (See Options)*  |
| Equivalent Series Resistance (ESR) | 180 Ω max. for 3.5MHz ≤ F < 5.0MHz<br>120 Ω max. for 5.0MHz ≤ F < 6.0MHz<br>100 Ω max. for 6.0MHz ≤ F < 8.0MHz<br>80 Ω max. for 8.0MHz ≤ F < 9.0MHz<br>60 Ω max. for 9.0MHz ≤ F < 10.0MHz<br>50 Ω max. for 10.0MHz ≤ F < 16.0MHz<br>40 Ω max. for 16.0MHz ≤ F ≤ 50.0MHz |
| Fundamental                        |   |
| Third Overtone                     | 100 Ω max. for 24.0MHz < F < 32.0MHz<br>80 Ω max. for 32.0MHz ≤ F ≤ 70.0MHz   |
| Shunt Capacitance C <sub>0</sub>   | 7pF max.  |
| Load Capacitance C <sub>L</sub>    | 18pF (See Options)  |
| Drive Level                        | 1mW max., 100μW correlation   |
| Aging @ 25°C per Year              | ±5ppm max.  |
| Insulation Resistance              | 500MΩ min. at 100Vdc ±15V   |



| Part Number | H (max.)      |
|-------------|---------------|
| ABL         | 0.138 ( 3.5 ) |
| ABL2        | 0.099 ( 2.5 ) |
| ABL3        | 0.079 ( 2.0 ) |

Dimensions: Inches (mm)

Environmental, and mechanical specifications, see appendix C. Group 1.  
Tape and Reel, see appendix H.(1,000pcs./reel). Reflow profile, see appendix E.  
Marking, see appendix G. Recommended handling, see appendix F.  
Application notes, see appendix A. Value added, see appendix D.

### ORDERING OPTIONS

ABLX - Frequency - CL - ESR - Temperature - Tolerance - Stability - Mode - Value Added - Packaging

|                                |  |  |  |   |   |
|--------------------------------|--|--|--|---|---|
| Blank, 2 or 3                  | RXXX (value in Ω)  | -H5 for ± 5ppm**<br>-1 for ± 10ppm<br>-7 for ± 15ppm<br>-2 for ± 20ppm<br>-3 for ± 25ppm<br>-4 for ± 30ppm | -R5 for ± 5ppm**<br>-U for ± 10ppm<br>-G for ± 15ppm<br>-X for ± 20ppm<br>-W for ± 25ppm<br>-Y for ± 30ppm<br>-H for ± 35ppm | -I Insulator tab<br>-V Vinyl sleeve<br>-L2 Middle third leads<br>-QXX (trimmed leads) | -T for Tape and Reel<br>-P for Foam<br>-TY for Tray Packing |
| XX.XXXX MHz                    | -A for -10°C to + 60°C<br>-B for -20°C to + 70°C<br>-C for -30°C to + 70°C<br>-N for -30°C to + 85°C<br>-D for -40°C to + 85°C |  |  | -F for Fundamental AT> 24MHz<br>-FB for Fundamental BT> 24MHz                         | ** Please call for availability                             |
| Load cap.in pF or S for Series |  |  |  | * BT cut ±100ppm max. -10°C to +60°C  |   |

NOTE: Left blank if standard • All specifications and markings subject to change without notice

ABRACON IS  
ISO 9001 / QS 9000  
CERTIFIED

29 Journey • Aliso Viejo, CA 92656 • USA  
(949) 448-7070 • Fax: (949) 448-8484

E-MAIL: [abinfo@abracon.com](mailto:abinfo@abracon.com) • INTERNET ADDRESS: [www.abracon.com](http://www.abracon.com)

