

**MICROPROCESSOR CRYSTALS**  
**AT49 (HC49 US) ULTRA LOW PROFILE**  
**ABL, ABL2, ABL3**



**RoHS Directive**  
**2002/95/EC Compliant**



**FEATURES:**

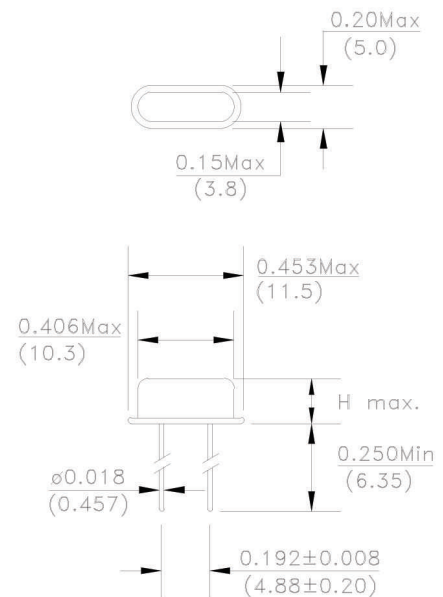
- High reliability, Low cost.
- Tight stability and extended temperature.
- Low profile.(2.0mm max. ABL3)
- Proven resistance welded metal package.

**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) 24.0MHz < F ≤ 50.00MHz (Fund. AT or BT) 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 120 Ω max. for 5.0MHz ≤ F < 6.0MHz 100 Ω max. for 6.0MHz ≤ F < 8.0MHz 80 Ω max. for 8.0MHz ≤ F < 9.0MHz 60 Ω max. for 9.0MHz ≤ F < 10.0MHz 50 Ω max. for 10.0MHz ≤ F < 16.0MHz 40 Ω max. for 16.0MHz ≤ F ≤ 50.0MHz
Fundamental	
Third Overtone	100 Ω max. for 24.0MHz < F < 32.0MHz 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** -1 for ± 10ppm -7 for ± 15ppm -2 for ± 20ppm -3 for ± 25ppm -4 for ± 30ppm	-R5 for ± 5ppm** -U for ± 10ppm -G for ± 15ppm -X for ± 20ppm -W for ± 25ppm -Y for ± 30ppm -H for ± 35ppm	-I Insulator tab -V Vinyl sleeve -L2 Middle third leads -QXX (trimmed leads)	-T for Tape and Reel -P for Foam -TY for Tray Packing
XX.XXXX MHz	-A for -10°C to + 60°C -B for -20°C to + 70°C -C for -30°C to + 70°C -N for -30°C to + 85°C -D for -40°C to + 85°C			-F for Fundamental AT> 24MHz -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**

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