

HC/49US (AT49) MICROPROCESSOR CRYSTAL

ABL Series



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

FEATURES:

- High reliability & Low Cost
- Tight stability & extended temperature
- Proven resistance welded metal package

APPLICATIONS:

- Home electronics
- Computers, modems, and communications
- High-precision TCXO and clock applications
- Microprocessors

STANDARD SPECIFICATIONS:

| Parameters | Minimum | Typical | Maximum | Units | Notes |
|--|-------------------|---------|--------------------|-------|--------------------------------------|
| Frequency Range | 3.579545 | | 70 | | |
| Operation mode | 3.579545 | | 33.999 | MHz | Fundamental AT-cut (Standard) |
| | 34.00 | | 70.00 | | 3 rd OT AT-cut (Standard) |
| | 24.01 | | 50.00 | | Fundamental AT-cut (See options) |
| Operating Temperature | 0 | | +70 | °C | See options |
| Storage Temperature | -55 | | +125 | °C | |
| Frequency Tolerance | -50 | | +50 | ppm | See options |
| Frequency Stability over the Operating Temperature (ref. to +25°C) | -50 | | +50 | ppm | See options |
| Equivalent series resistance (R1) | See table 1 below | | | Ω | |
| Shunt capacitance (C0) | | | 7 | pF | |
| Load capacitance (CL) | | 18 | | pF | See options |
| Drive Level | | 100 | 1000 | μW | |
| Aging @ 25°C per year | | | ±5 | ppm | |
| Insulation Resistance | 500 | | | MΩ | @ 100Vdc ± 15V |
| Drive Level Dependency (DLD, Minimum 7 points tested: from 1μW to 500μW) | | | ±10 | ppm | Δfrequency (Max – Min) |
| | | | 25% of Max ESR | Ω | ΔESR (Max – Min) |
| | | | Max ESR in Table 1 | Ω | Max ESR over DLD range |

Table 1

| Frequency (MHz) | ESR(Ω) max. |
|--------------------------|-------------|
| 3.579 - 4.999 (Fund.) | 180 |
| 5.000 - 5.999 (Fund.) | 120 |
| 6.000 - 7.999 (Fund.) | 100 |
| 8.000 - 8.999 (Fund.) | 80 |
| 9.000 - 9.999 (Fund.) | 60 |
| 10.000 - 15.999 (Fund.) | 50 |
| 16.000 - 50.000 (Fund.) | 40 |
| 34.000 - 70.00 (3rd O/T) | 80 |

REVISED: 03.27.2018



5101 Hidden Creek Lane Spicewood TX 78669
 Phone: 512-371-6159 | Fax: 512-351-8858
 For terms and conditions of sale please visit:
www.abracon.com

ABRACON IS
 ISO9001-2008
 CERTIFIED

HC/49US (AT49) MICROPROCESSOR CRYSTAL

ABL Series



11.5 x 5.0 x 3.5 mm

OPTIONS AND PART IDENTIFICATION:

(Left blank if standard)

ABL - MHz - - - - - -

Frequency in MHz
Please specify the frequency in xx.xxxxMHz.
e.g. 14.3181MHz

Load Capacitance (pF)
Please specify CL (Minimum 10pF) in pF or S for series

Custom ESR if other than standard
R
□: Specify a value in Ω (e.g.: R40)

Packaging
Blank: Bulk
T: Tape & Reel
TRAY: Tray

| Value Added | |
|-------------|------------------|
| I | Insulator Tab |
| L2 | Middle 3rd lead |
| QXX | Trimmed leads |
| Q15 | for 0.15" length |

Oscillation Mode
F: Fund. AT>24MHz

| Operating Temp. |
|--------------------|
| A: -10°C ~ +60°C |
| B: -20°C ~ +70°C |
| C: -30°C ~ +70°C |
| N: -30°C ~ +85°C |
| D: -40°C ~ +85°C |
| J*: -40°C ~ +105°C |
| K*: -40°C ~ +125°C |
| L*: -55°C ~ +125°C |

| Freq. Tolerance |
|-----------------|
| H5: ± 5 ppm |
| 1: ± 10 ppm |
| 7: ± 15 ppm |
| 2: ± 20 ppm |
| 3: ± 25 ppm |
| 4: ± 30 ppm |

| Freq. Stability |
|-----------------|
| U**: ± 10 ppm |
| G: ± 15 ppm |
| X: ± 20 ppm |
| W: ± 25 ppm |
| Y: ± 30 ppm |
| H: ± 35 ppm |
| Q: ± 100 ppm |
| R: ± 150 ppm |

NOTE:

* Frequency stability ±50ppm, ±100ppm, ±150ppm only. Contact ABRACON for tighter frequency stability.

** Contact ABRACON for availability of ±10ppm with other operating temperature options.



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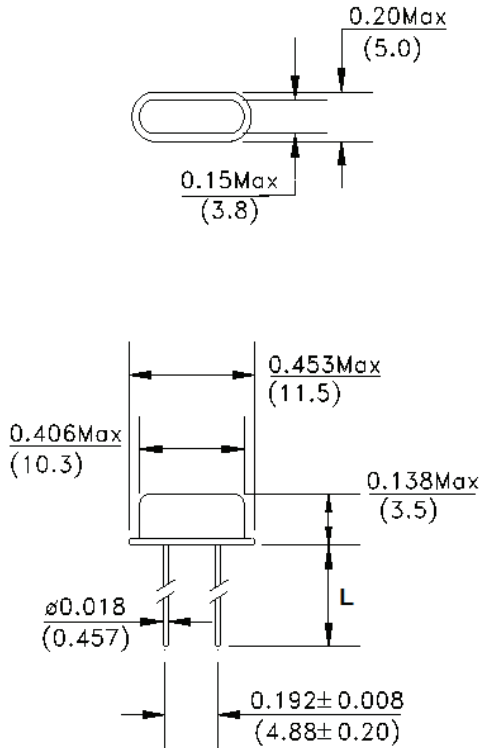
HC/49US (AT49) MICROPROCESSOR CRYSTAL

ABL Series

 RoHS/RoHS II



OUTLINE DRAWING:

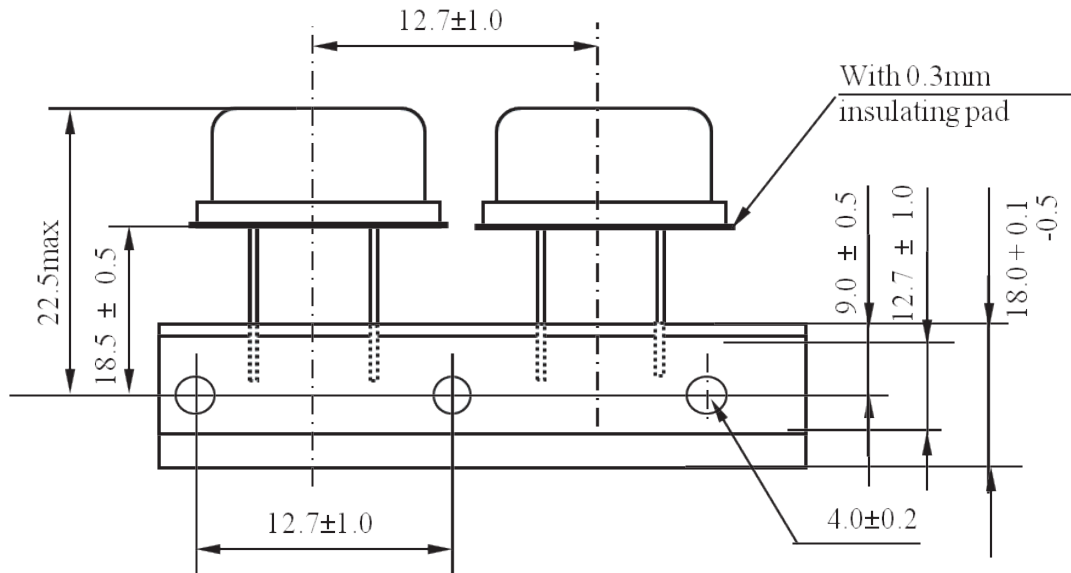


| L | Packaging |
|--------------|-------------|
| 5.5mm Min | Bulk |
| 20.0 ± 0.5mm | Tape & Reel |

Dimensions: inch (mm)

TAPE & REEL:

T= Tape and reel (1,000pcs/reel)



Dimensions: mm

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

ABRACON:

[ABL-3.579545MHZ-B2](#) [ABL-24.576MHZ-B2F](#) [ABL-25.000MHZ-B2F](#) [ABL-22.1184MHZ-B2](#) [ABL-12.288MHZ-B2](#)
[ABL-48.000MHZ-B2](#) [ABL-8.192MHZ-B2](#) [ABL-16.384MHZ-B2](#) [ABL-9.8304MHZ-B2](#) [ABL-3.6864MHZ-B2](#) [ABL-7.3728MHZ-B2](#) [ABL-19.6608MHZ-B2](#) [ABL-27.000MHZ-B2F](#) [ABL-4.9152MHZ-B2](#) [ABL-14.31818MHZ-B2](#) [ABL-18.432MHZ-B2](#) [ABL-32.000MHZ-B2](#) [ABL-4.096MHZ-B2](#) [ABL-6.000MHZ-B2](#) [ABL-16.128MHZ-B2](#) [ABL-8.000MHZ-B2](#)
[ABL-12.000MHZ-B2](#) [ABL-40.000MHZ-B2](#) [ABL-20.000MHZ-B2](#) [ABL-14.7456MHZ-B2](#) [ABL-11.0592MHZ-B2](#) [ABL-10.000MHZ-B2](#) [ABL-24.000MHZ-B2](#) [ABL-4.000MHZ-B2](#) [ABL-16.000MHZ-B2](#) [ABL-32.000MHZ-B2F](#) [ABL-40.000MHZ-B2F](#) [ABL-12.000MHZ-20-D4HFI](#) [ABL-11.0592MHz-B1U](#) [ABL-27.000MHz-B1U](#) [ABL-4.9152MHz-B4Y](#) [ABL-25.000MHz-B1UFB](#) [ABL-14.31818MHz-B1U](#) [ABL-16.384MHz-B1U](#) [ABL-12.000MHz-B4Y](#) [ABL-18.432MHz-B1U](#) [ABL-30.000MHz-B1U](#) [ABL-28.63636MHz-B1U](#) [ABL-24.000MHz-B1U](#) [ABL-19.200MHz-B4Y](#) [ABL-11.0592MHz-B4Y](#) [ABL-3.579545MHz-B4Y](#) [ABL-13.560MHz-B4Y](#) [ABL-50.000MHz-B1U](#) [ABL-12.000MHz-B1U](#) [ABL-35.328MHz-B4Y](#) [ABL-13.560MHz-B1U](#) [ABL-12.288MHz-B1U](#) [ABL-24.576MHz-B4Y](#) [ABL-7.3728MHz-B4Y](#) [ABL-8.912MHz-B4Y](#) [ABL-22.000MHz-B1U](#) [ABL-60.000MHz-B4Y](#) [ABL-22.000MHz-B4Y](#) [ABL-22.1184MHz-B4Y](#) [ABL-64.000MHz-B4Y](#) [ABL-15.360MHz-B4Y](#) [ABL-4.096MHz-B4Y](#) [ABL-3.6864MHz-B4Y](#) [ABL-6.000MHz-B4Y](#) [ABL-8.192MHz-B1U](#) [ABL-36.000MHz-B4Y](#) [ABL-19.200MHz-B1U](#) [ABL-12.288MHz-B4Y](#) [ABL-16.000MHz-B1U](#) [ABL-14.4756MHZ-B2](#) [ABL-48.000MHz-B1U](#) [ABL-4.000MHz-B4Y](#) [ABL-8.000MHz-B4Y](#) [ABL-20.000MHz-B4Y](#) [ABL-14.7456MHz-B1U](#) [ABL-14.7456MHz-B4Y](#) [ABL-15.360MHz-B1U](#) [ABL-27.000MHz-B4Y](#) [ABL-24.000MHz-B4Y](#) [ABL-54.000MHz-B4Y](#) [ABL-50.000MHz-B4Y](#) [ABL-11.2896MHz-B4Y](#) [ABL-35.328MHz-B1U](#) [ABL-48.000MHz-B4Y](#) [ABL-28.63636MHz-B4Y](#) [ABL-16.000MHz-B4Y](#) [ABL-16.384MHz-B4Y](#) [ABL-8.192MHz-B4Y](#) [ABL-14.31818MHz-B4Y](#) [ABL-20.000MHz-B1U](#) [ABL-22.1184MHz-B1U](#) [ABL-10.000MHz-B1U](#) [ABL-10.000MHz-B4Y](#) [ABL-26.000MHz-B4Y](#) [ABL-36.000MHz-B1U](#) [ABL-30.000MHz-B4Y](#) [ABL-8.000MHz-B1U](#) [ABL-25.000MHz-B4Y](#) [ABL-7.680MHz-B4Y](#)