



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



## Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



# 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 <sup>rd</sup> 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

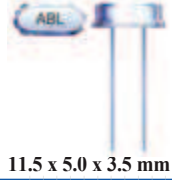


5101 Hidden Creek Lane Spicewood TX 78669  
 Phone: 512-371-6159 | Fax: 512-351-8858  
 For terms and conditions of sale please visit:  
[www.abracon.com](http://www.abracon.com)

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.



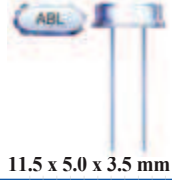
5101 Hidden Creek Lane Spicewood TX 78669  
Phone: 512-371-6159 | Fax: 512-351-8858  
For terms and conditions of sale please visit:  
www.abracon.com

REVISED: 03.27.2018

ABRACON IS  
ISO9001-2008  
CERTIFIED

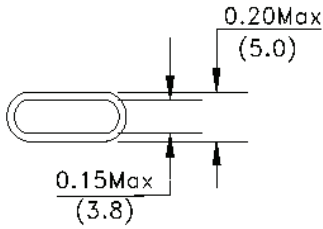
# HC/49US (AT49) MICROPROCESSOR CRYSTAL

ABL Series

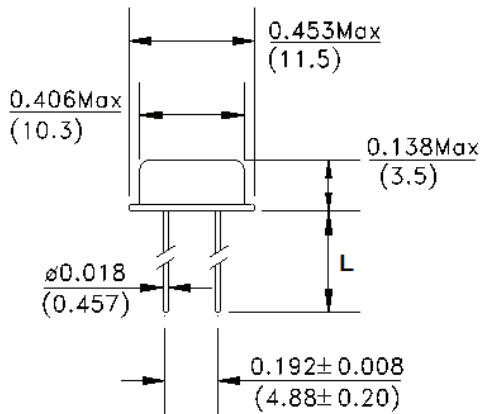


11.5 x 5.0 x 3.5 mm

## OUTLINE DRAWING:



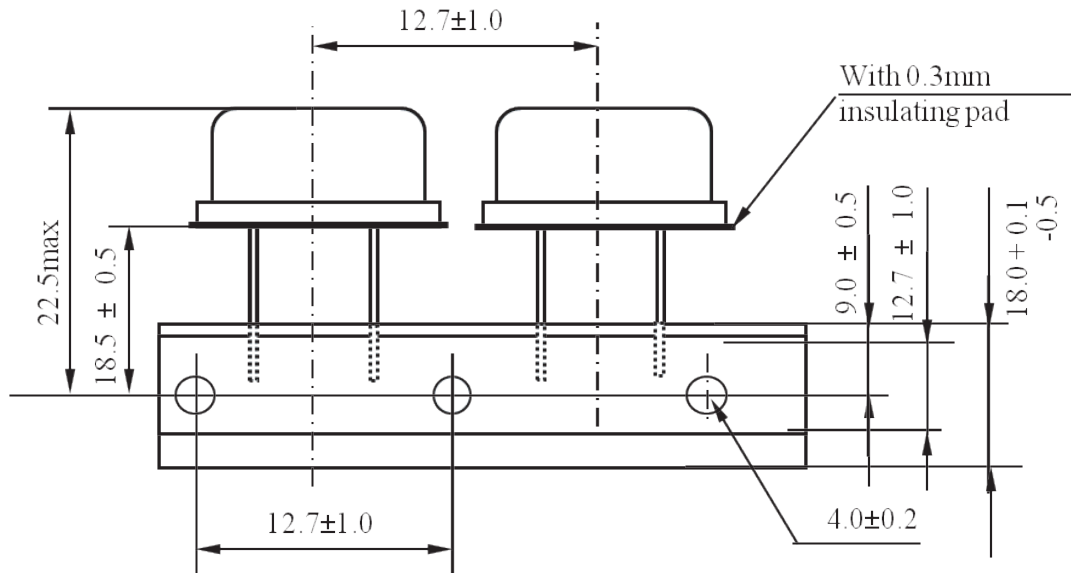
L	Packaging
5.5mm Min	Bulk
20.0 ± 0.5mm	Tape & Reel



Dimensions: inch (mm)

## TAPE & REEL:

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



Dimensions: mm



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](http://www.abracon.com)

REVISED: 03.27.2018

ABRACON IS  
 ISO9001-2008  
 CERTIFIED