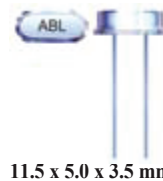


HC/49US (AT49) MICROPROCESSOR CRYSTAL

ABL Series



RoHS/RoHS II



11.5 x 5.0 x 3.5 mm

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		24.0	MHz	Fundamental AT-cut (Standard)
	24.01		70.00		3 rd OT AT-cut (Standard)
	24.01		50.00		Fundamental AT-cut or BT-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
24.01 - 31.999 (3rd O/T)	100
32.000 - 70.00 (3rd O/T)	80

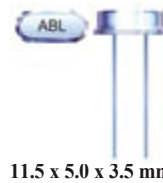
REVISED: 11.8.2016

HC/49US (AT49) MICROPROCESSOR CRYSTAL

ABL Series



RoHS/RoHS II



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

FB: Fund. BT>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 ± 50 ppm, ± 100 ppm, ± 150 ppm only. Contact ABRACON for tighter frequency stability.

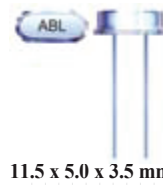
** Contact ABRACON for availability of ± 10 ppm with other operating temperature options.

HC/49US (AT49) MICROPROCESSOR CRYSTAL

ABL Series

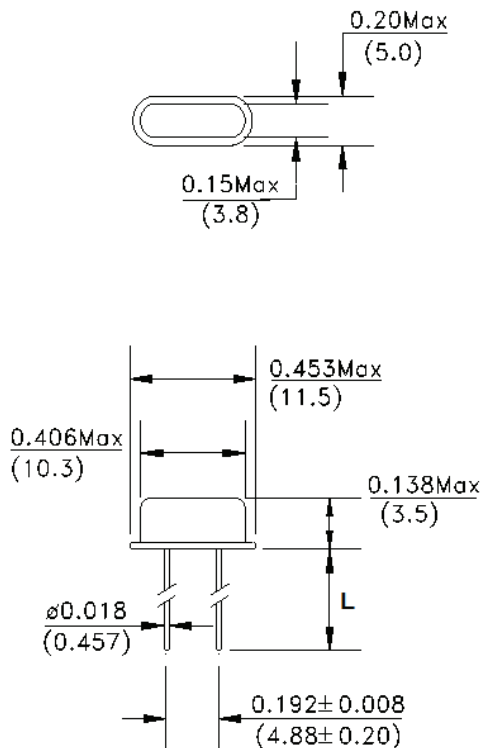


RoHS/RoHS II



11.5 x 5.0 x 3.5 mm

OUTLINE DRAWING:

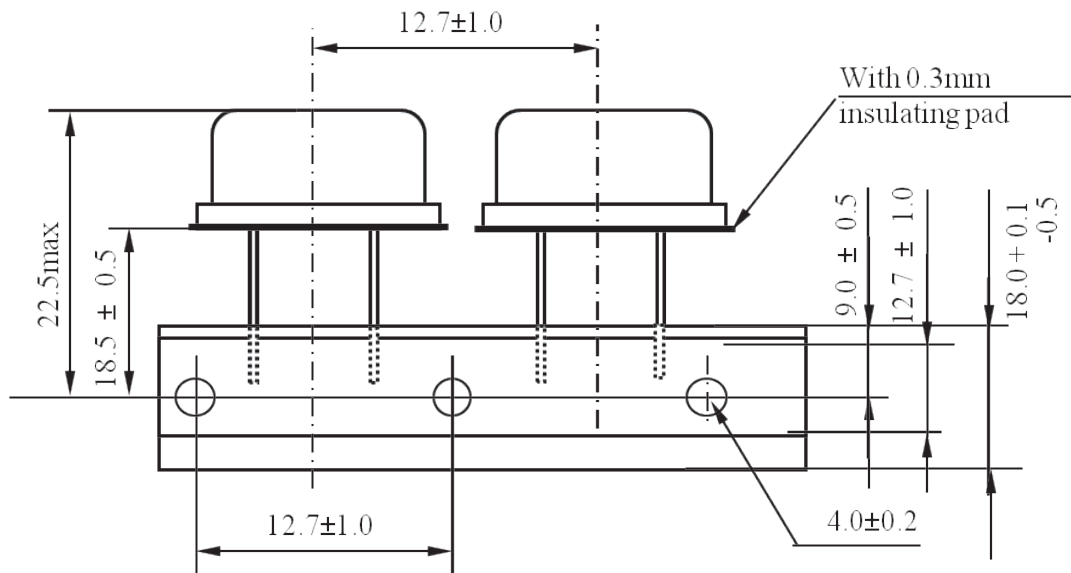


L	Packaging
5.5mm Min	Bulk
20.0 ± 0.5 mm	Tape & Reel

Dimensions: inch (mm)

TAPE & REEL:

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



Dimensions: mm

ATTENTION: Abracon LLC 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 LLC is required. Please contact Abracon LLC for more information.

REVISED: 11.8.2016

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-B1U](#) [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](#)