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		3rd OT AT-cut (Standard)
	24.01		50.00		Fundamental AT-cut or BT-cut (See options)
Operating Temperature	0		+70	ºC	See options
Storage Temperature	-55		+125	ºC	
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

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▷ **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 ±50ppm, ±100ppm, ±150ppm only. Contact ABRACON for tighter frequency stability.
** Contact ABRACON for availability of ±10ppm with other operating temperature options.
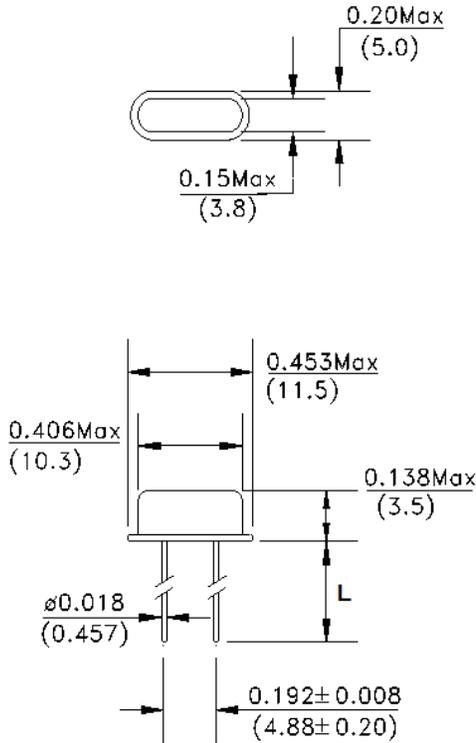
ABRACON LLC
The Power of Linking Together

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

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11.5 x 5.0 x 3.5 mm

➢ OUTLINE DRAWING:

0.20Max (5.0)

0.15Max (3.8)

0.453Max (11.5)

0.406Max (10.3)

0.138Max (3.5)

ø0.018 (0.457)

L

0.192± 0.008 (4.88± 0.20)

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

Dimensions: inch (mm)

➢ TAPE & REEL:

T= Tape and reel (1,000pcs/reel)
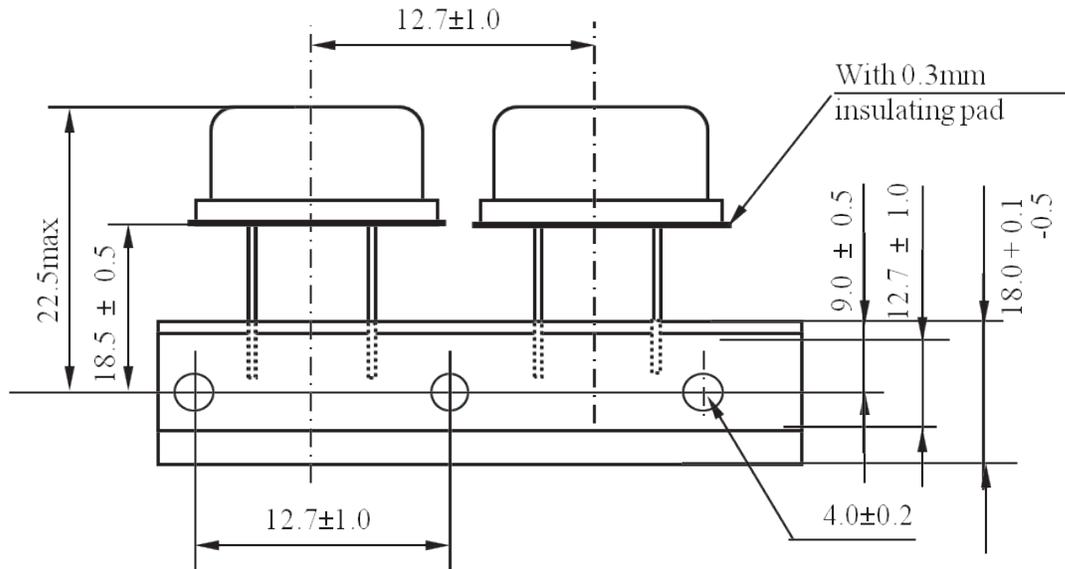
12.7±1.0

With 0.3mm insulating pad

22.5max

18.5 ± 0.5

9.0 ± 0.5

12.7 ± 1.0

18.0 + 0.1 -0.5

12.7±1.0

4.0±0.2

Dimensions: mm

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-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-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 ABL-26.000MHz-B1U ABL-18.432MHz-B4Y