

HC/49US (AT49) MICROPROCESSOR CRYSTAL

ABL Series



RoHS/RoHS II



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

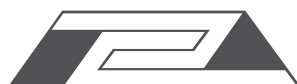
STANDARD SPECIFICATIONS:

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

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30332 Esperanza, Rancho Santa Margarita, California 92
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Revised: 01.08.13

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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

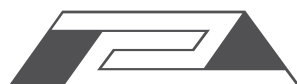
R: ± 150 ppm

NOTE:

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

** -10 to +60C only.

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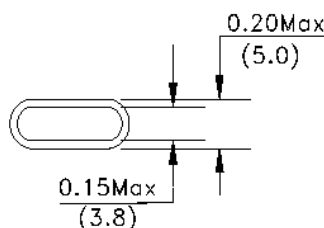
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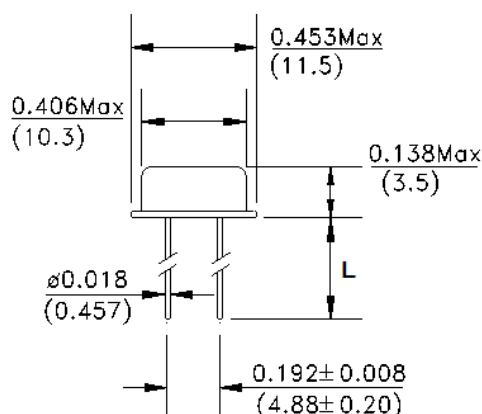
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OUTLINE DRAWING:



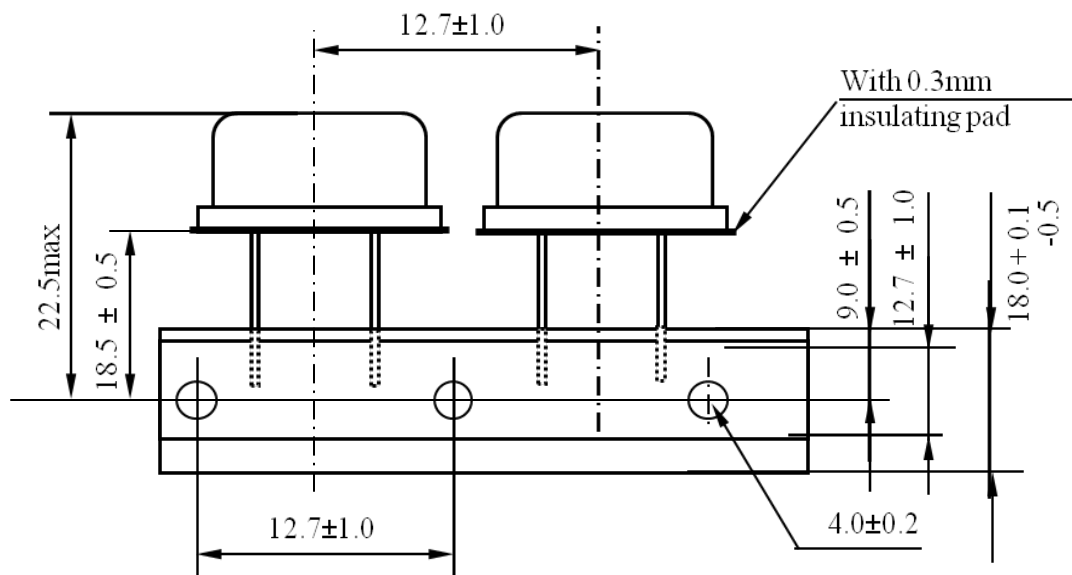
L	Packaging
5.5mm Min	Bulk
$20.0 \pm 0.5\text{mm}$	Tape & Reel



Dimensions: inch (mm)

TAPE & REEL:

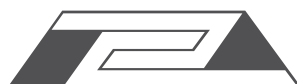
T= Tape and reel (1,000pcs/reel)



Dimensions: mm

NOTION: Abracon Corporation's 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 Corporation is required. Please contact Abracon Corporation for more information.

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