HC49/U CRYSTAL

AB

11.5 x 5.0 x 13.46mm

Moisture Sensitivity Level (MSL) – This product is not Moisture Sensitive - MSL = 1

▷ **FEATURES:**

- High precision availability
- Resistance welded
- Ideal for large pullability application
- Wide frequency range

▷ **APPLICATIONS:**

- CPU, Memory
- Computer, printer
- Data communication (1MHz)
- Data input - output machine (1MHz)

▷ **STANDARD SPECIFICATIONS:**

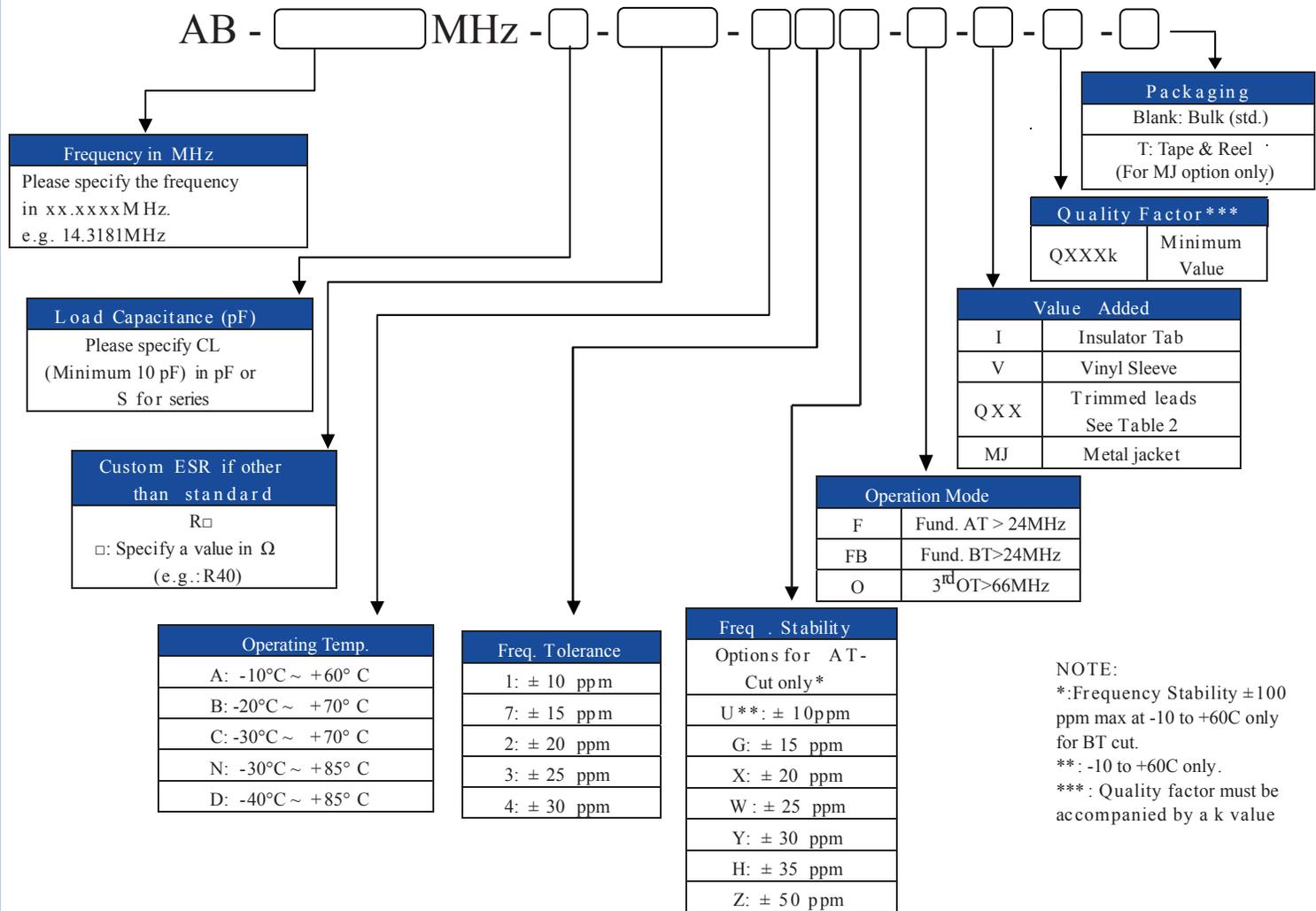| Parameters	Minimum	Typical	Maximum	Units	Notes
Frequency Range	1.8432		160.000	MHz	
Operation Mode	Fundamental				1.8432MHz – 24.000MHz
	3rd Overtone				24.01MHz – 66.00MHz
	5th Overtone				66.01MHz – 122.00MHz
	7th Overtone				122.01MHz – 160.00MHz
Operating Temperature	0		+70	℃	See options
Storage Temperature	-55		+125	℃	
Frequency Tolerance @+25℃	-50		+50	ppm	See options
Frequency Stability over the operating temperature (ref. to +25℃)	-100		+100	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℃±3℃			±5	ppm	First year
Insulation Resistance	500			M Ω	@100Vdc±15V
Drive level dependency (DLD), minimum 7 points tested: from 1µW to 500µW.	Change in frequency (Maximum - Minimum) over DLD range < ±10ppm; Change in ESR (Maximum - Minimum) over DLD range < 25% of Max ESR value; Maximum ESR over DLD range < Max ESR value.				

Table 1

FREQUENCY (MHz)	Operation Mode	ESR (Ω) max
1.8432-1.999	HC49/U Fundamental	750
2.000-2.399		550
2.400-2.999		350
3.000-3.699		200
3.700-4.199		100
4.200-4.899		70
4.900-5.999		50
6.000-7.999		40
8.000-9.999		35
10.000-12.499		30
12.50-50.00		25
24.00-66.00	HC49/U (3rd OT)	40
66.01-122.00	HC49/U (5th OT)	80
122.01-160.00	HC49/U (7th OT)	120

HC49/U CRYSTAL

AB

AB

11.5 x 5.0 x 13.46mm

▷ **OPTIONS AND PART IDENTIFICATION:**

(Left blank if standard)

AB - ☐ MHz - ☐ - ☐ - ☐ - ☐ - ☐ - ☐ - ☐

Packaging
Blank: Bulk (std.)
T: Tape & Reel (For MJ option only)

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

Quality Factor ***	
QXXXk	Minimum Value

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

Value Added	
I	Insulator Tab
V	Vinyl Sleeve
QXX	Trimmed leads See Table 2
MJ	Metal jacket

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

Operation Mode	
F	Fund. AT > 24MHz
FB	Fund. BT>24MHz
O	3rdOT>66MHz

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

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

Freq. Stability
Options for AT-Cut only*
U**: ± 10ppm
G: ± 15 ppm
X: ± 20 ppm
W: ± 25 ppm
Y: ± 30 ppm
H: ± 35 ppm
Z: ± 50 ppm

NOTE:
*:Frequency Stability ±100 ppm max at -10 to +60C only for BT cut.
** : -10 to +60C only.
*** : Quality factor must be accompanied by a k value

Table 2

CODES	TRIMMED L in(mm)
Q45	0.45 (11.43)
Q40	0.40 (10.16)
Q35	0.35 (8.89)
Q30	0.30 (7.62)
Q25	0.25 (6.35)
Q20	0.20 (5.08)
Q15	0.15 (3.81)
Q10	0.10 (2.54)
Q115	0.115 (2.92)

NOTE: Use appropriate code numbers for other trimmed lengths not listed. (e.g. Q14 for 0.14 inch (3.55 mm))
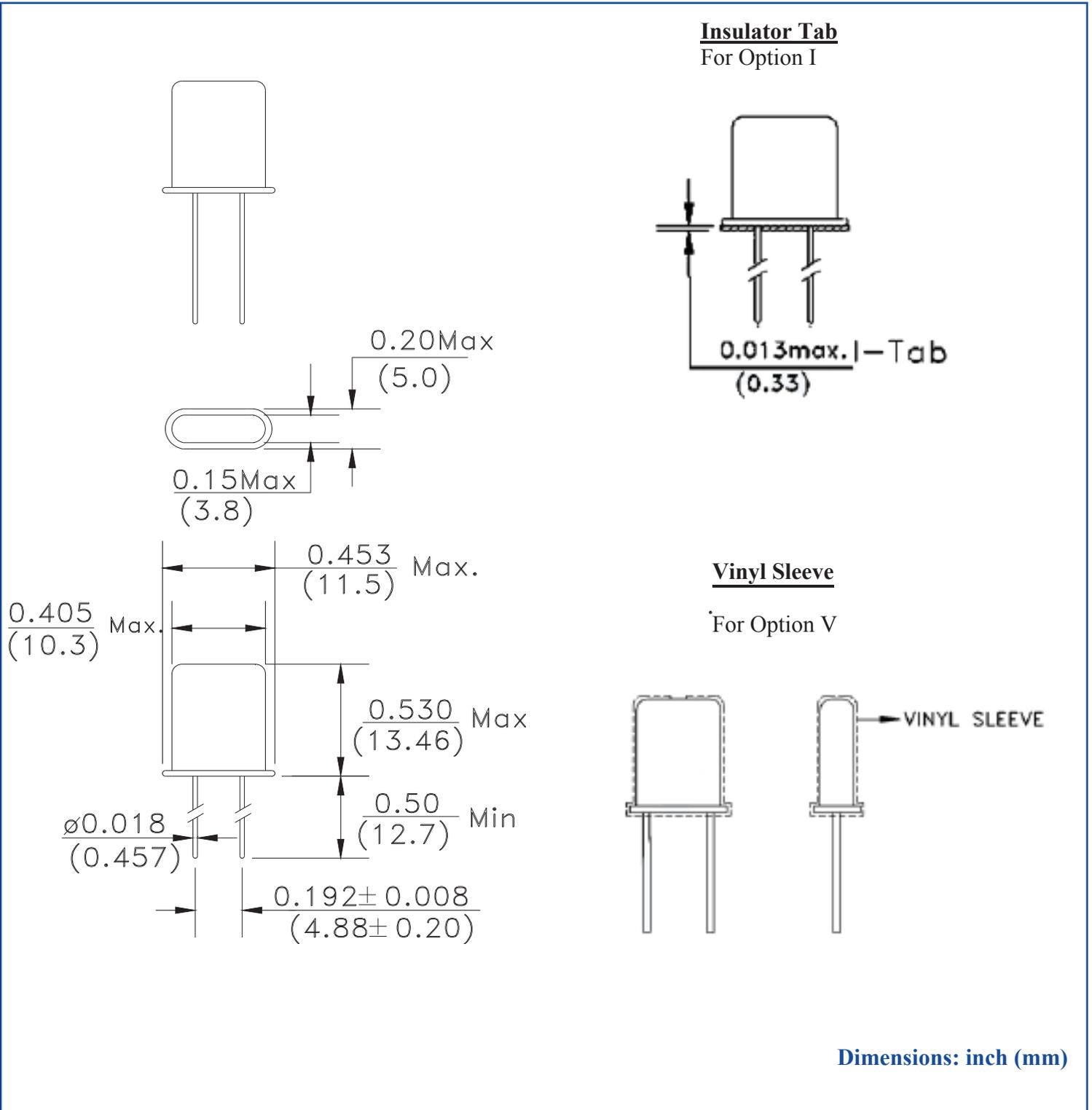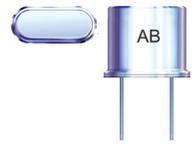
▷ **OUTLINE DRAWING:**

Insulator Tab
For Option I

0.20Max
(5.0)

0.15Max
(3.8)

0.013max.I-Tab
(0.33)

0.453 Max.
(11.5)

Vinyl Sleeve

For Option V

0.405 Max.
(10.3)

0.530 Max
(13.46)

0.50 Min
(12.7)

ø0.018
(0.457)

VINYL SLEEVE

0.192± 0.008
(4.88± 0.20)

Dimensions: inch (mm)

ABRACON LLC
The Power of Linking Together

REVISED: 01.05.2017

ABRACON IS
ISO9001-2008
CERTIFIED

▷ OUTLINE DIMENSION CONTD...

Metal Jacket Formed Leads

For Option MJ

3 ± 0.2
0.8 ± 0.1
16.1 ± 0.2
13.4max
2.7 ± 0.2
1.2 ± 0.2
1.7 ± 0.2
2.3 ± 0.2
0.8 ± 0.2
4.9
5.3max

3.7max
4.6max
10.11max
11.05max

3.5
2.5
13.0
3.8
4.0
1.0
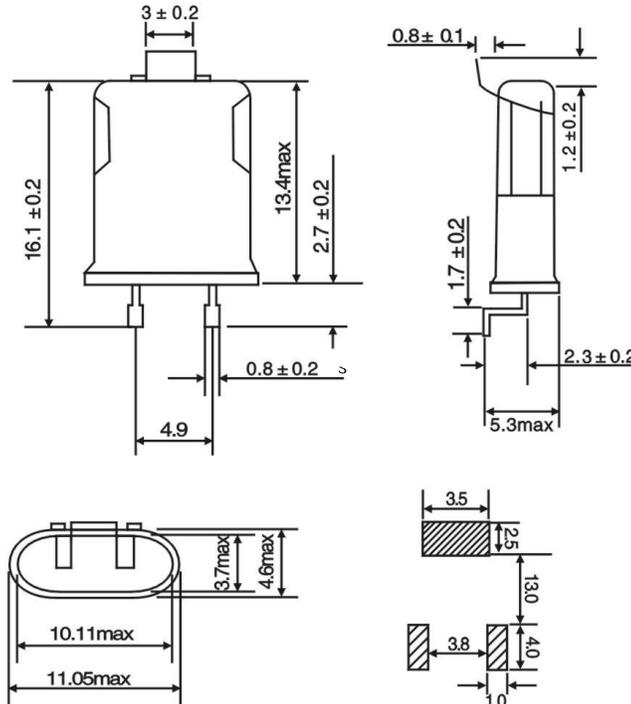
Dimensions: mm

▷ TAPE & REEL:

T: 1,000 pcs/reel

Tape and reel packaging applies only to MJ (metal jacket) option

P0
P2
16
0.5
1.8
11.2
A-A
14.8
18.2
6.2
1.5
B-B

30 ± 0.5
φ 100
φ 13.0 +0.5/-0.2
13.85 ± 0.5
330max
25 ± 0.5
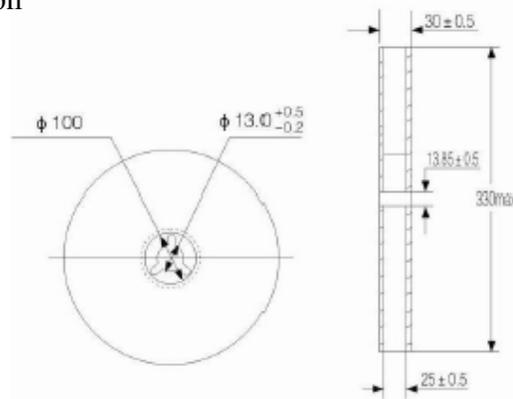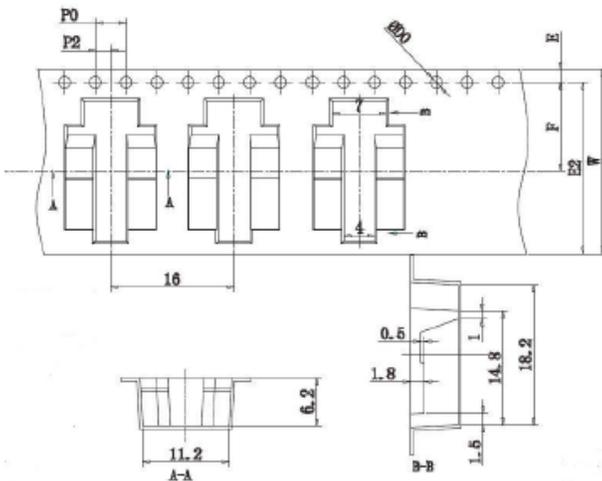
E	E2	F	P2	ØD0	P0	W
1.75±0.10	22.25 MIN.	11.5±0.10	2.00±0.10	1.50±0.10	4.00±0.10	24.00±0.30

Dimensions: mm

Mouser Electronics

Authorized Distributor

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

[ABRACON](#):

AB-25.000MHZ-B2F   AB-27.000MHZ-B2F   AB-14.4756MHZ-B2   AB-7.3728MHZ-B2   AB-19.6608MHZ-B2   AB-20.000MHZ-B2   AB-4.000MHZ-B2   AB-6.7458MHZ-20D   AB-50.000MHZ-B2   AB-48.000MHZ-B2   AB-1.8432MHZ-B2   AB-11.0592MHZ-B2   AB-14.7456MHZ-B2   AB-5.000MHZ-B2   AB-18.432MHZ-B2   AB-22.1184MHZ-B2   AB-16.000MHZ-B2   AB-24.000MHZ-B2   AB-12.228MHZ-B2   AB-12.288MHZ-B2   AB-14.31818MHZ-B2   AB-24.576MHZ-FB2   AB-2.000MHZ-B2   AB-32.768MHZ-B2   AB-4.9152MHZ-B2   AB-6.000MHZ-B2   AB-9.8304MHZ-B2   AB-10.000MHZ-B2   AB-3.6864MHZ-B2   AB-24.576MHZ-B2F   AB-8.192MHZ-B2   AB-32.000MHZ-B2   AB-8.000MHZ-B2   AB-3.579545MHZ-B2   AB15T-32.768KHZ   AB-12.000MHZ-B2   AB-33.000MHZ-4Z-FB   AB-17.734475-B4   AB-20.480MHZ-L   AB-14.7456MHz-1U-V   AB-22.000MHz-1U-V   AB-8.000MHz-1U-V