



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!



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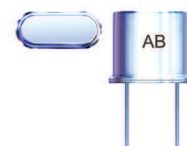


# HC49/U CRYSTAL

AB



RoHS/RoHS II Compliant



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:

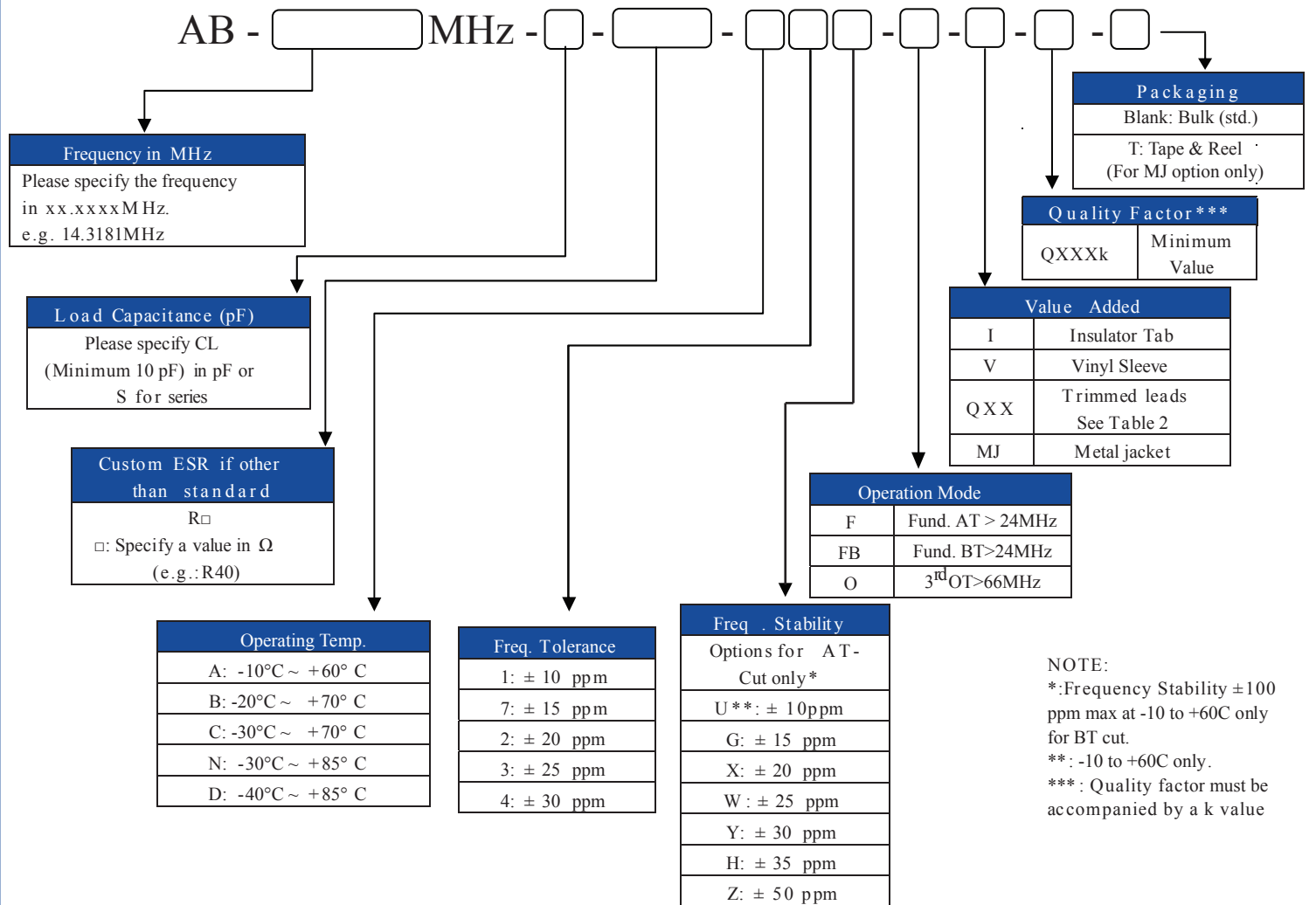
Parameters	Minimum	Typical	Maximum	Units	Notes
Frequency Range	1.8432		160.000	MHz	
Operation Mode	Fundamental				1.8432MHz – 24.000MHz
	3 <sup>rd</sup> Overtone				24.01MHz – 66.00MHz
	5 <sup>th</sup> Overtone				66.01MHz – 122.00MHz
	7 <sup>th</sup> Overtone				122.01MHz – 160.00MHz
Operating Temperature	0		+70	°C	See options
Storage Temperature	-55		+125	°C	
Frequency Tolerance @+25°C	-50		+50	ppm	See options
Frequency Stability over the operating temperature ( ref. to +25°C)	-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°C±3°C			±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

## OPTIONS AND PART IDENTIFICATION:

(Left blank if standard)



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))

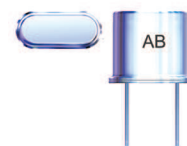


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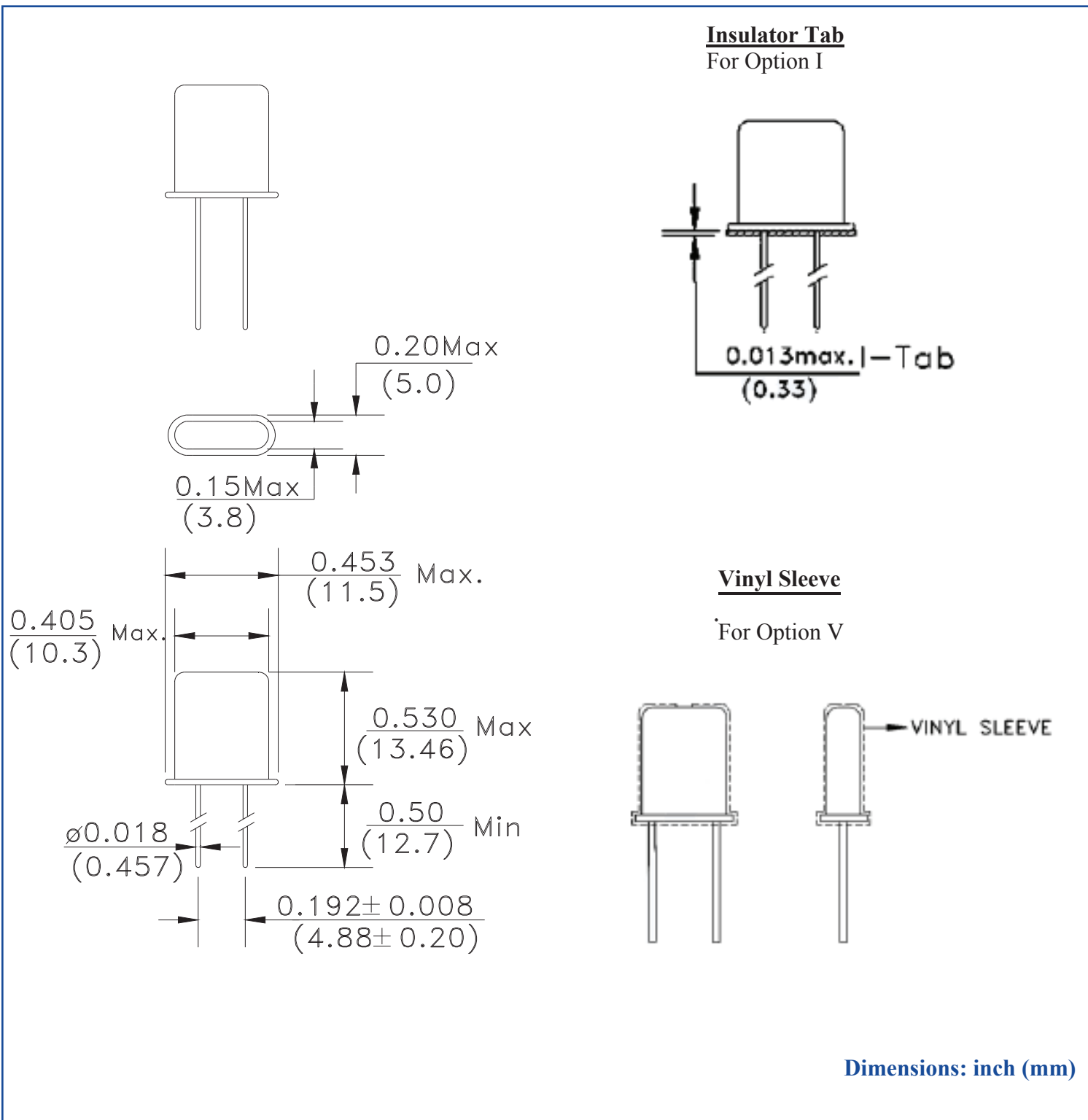


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## OUTLINE DRAWING:



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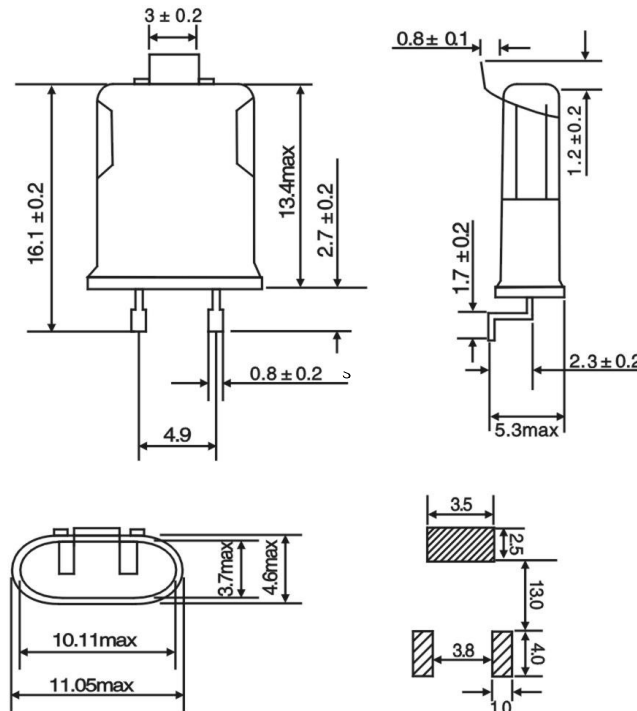
Pb RoHS/RoHS II Compliant



## OUTLINE DIMENSION CONTD...

### Metal Jacket Formed Leads

For Option MJ

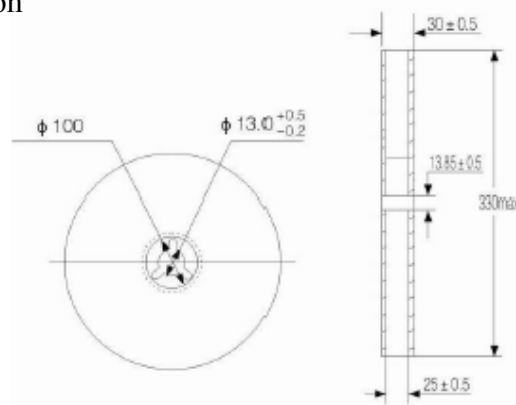
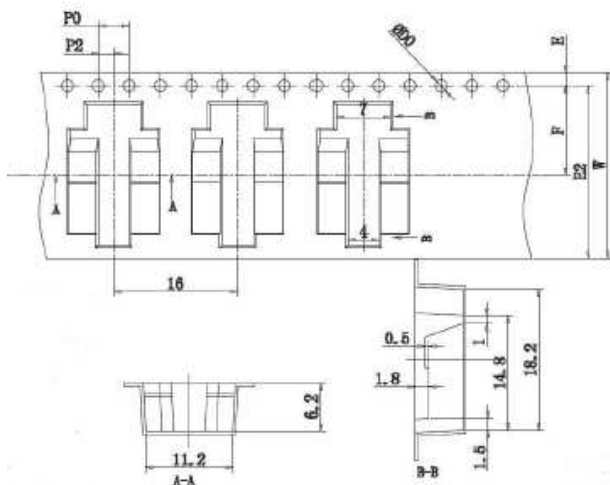


Dimensions: mm

## TAPE & REEL:

T: 1,000 pcs/reel

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



Dimensions: mm

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