

# HC/49US (AT49) SMD LOW PROFILE CRYSTAL



11.5 x 4.8 x 4.2 mm

**ABLS**



**RoHS**  
Compliant

## FEATURES:

- Suitable for reflow
- Low in height - suitable for thin equipment
- Tight stability & extended temperature

## APPLICATIONS:

- Computers, Modems, Microprocessors
- Automotive and Industrial
- Wireless Applications

## STANDARD SPECIFICATIONS:

### PARAMETERS

ABRACON P/N	ABLS Series
Frequency	3.579545 MHz to 70 MHz
Operation Mode	AT cut (Fundamental or 3rd OT) or BT cut (See options) 3.579545MHz - 24.0MHz (Fundamental) (Standard) 24.01 - 70.00MHz (3rd- Overtone) (Standard) 24.01MHz - 50.00MHz (Fund. AT or BT) (Option. See 2.1)
Operating Temperature	0°C to +70°C (see options)
Storage Temperature	-55°C to +125°C
Frequency Tolerance at +25°C	± 50 ppm max. (see options)
Frequency Stability over the Operating Temp. (Ref to +25°C)	± 50 ppm max. (see options)
Equivalent Series Resistance	See Table 1
Shunt Capacitance C <sub>0</sub>	7pF max.
Load Capacitance C <sub>L</sub>	18pF (see options)
Drive Level	1 mW max., 100µW typical
Aging at 25°C ± 3°C Per Year	± 5ppm max.
Insulation Resistance	500 MΩ min at 100Vdc ± 15V
Spurious Responses	-3dB max.
Drive level dependency (DLD)	from 1µW to 500µW (minimum 7 points tested)

**TABLE 1: ESR**

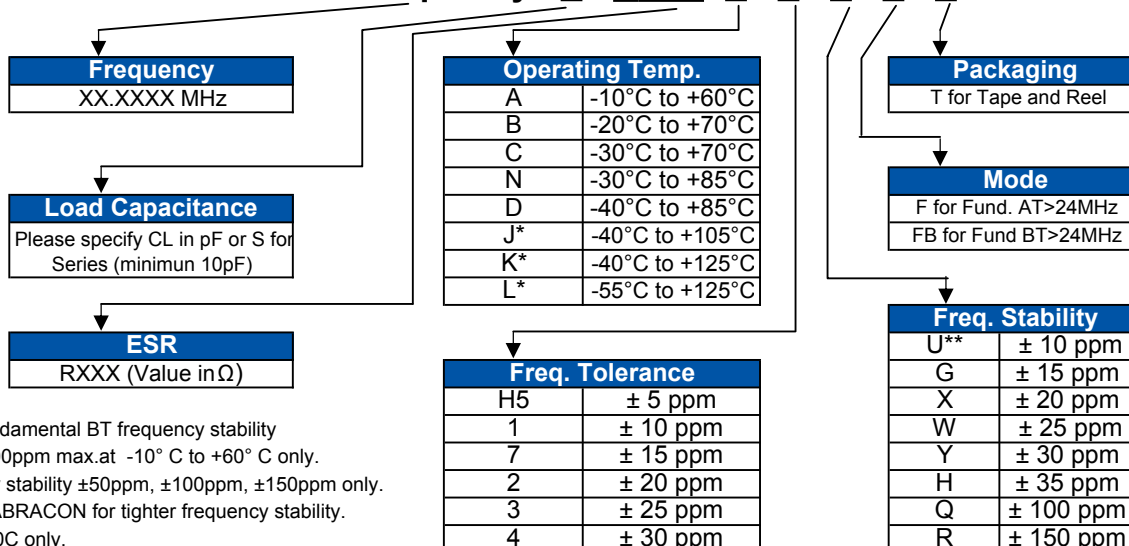
FREQUENCY (MHz)	ESR (Ω)
3.579 - 4.999 (Fund.)	180
5.000 - 5.999 (Fund.)	120
6.000 - 7.999 (Fund.)	100
8.000 - 8.999 (Fund.)	80
9.000 - 9.999 (Fund.)	60
10.000 - 15.999 (Fund.)	50
16.000 - 50.000 (Fund.)	40
24.01 - 31.999 (3rd O/T)	100
32.000 - 70.00 (3rd O/T)	80

- 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

## OPTIONS & PART IDENTIFICATION:

[Left blank if standard]

**ABLS - Frequency -  -  - R -  -  -  -  -  -**



NOTE: Fundamental BT frequency stability  
± 100ppm max.at -10° C to +60° C only.  
\* Frequency stability ±50ppm, ±100ppm, ±150ppm only.  
Contact ABRACON for tighter frequency stability.  
\*\* -10 to +60C only.

ABRACON IS  
ISO 9001 / QS 9000  
CERTIFIED



**ABRACON**  
CORPORATION

Visit [www.abracon.com](http://www.abracon.com) for Terms & Conditions of Sale **Revised: 11.04.08**  
30332 Esperanza, Rancho Santa Margarita, California 92688  
tel 949-546-8000 | fax 949-546-8001 | [www.abracon.com](http://www.abracon.com)

# HC/49US (AT49) SMD LOW PROFILE CRYSTAL

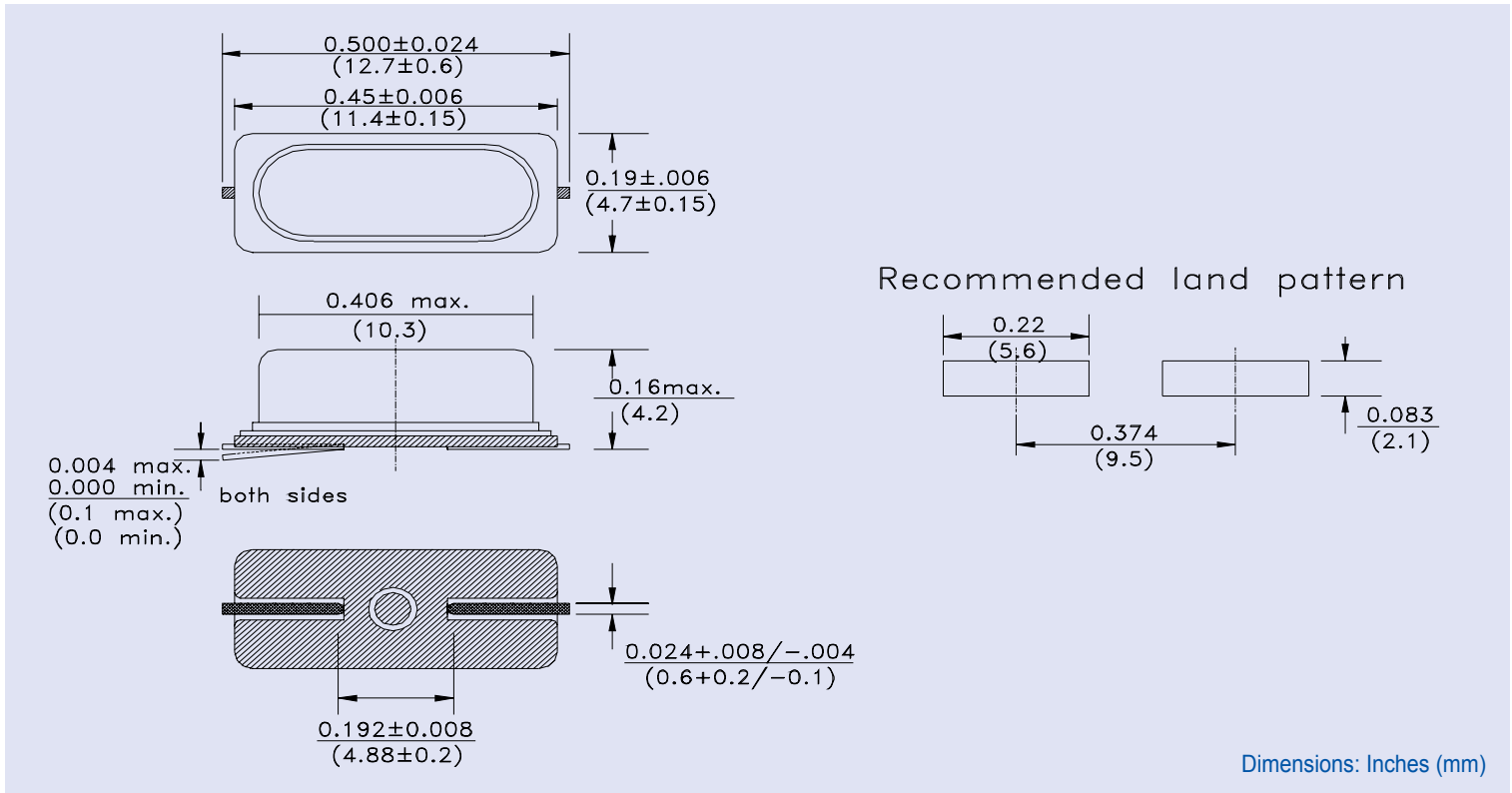


11.5 x 4.8 x 4.2 mm

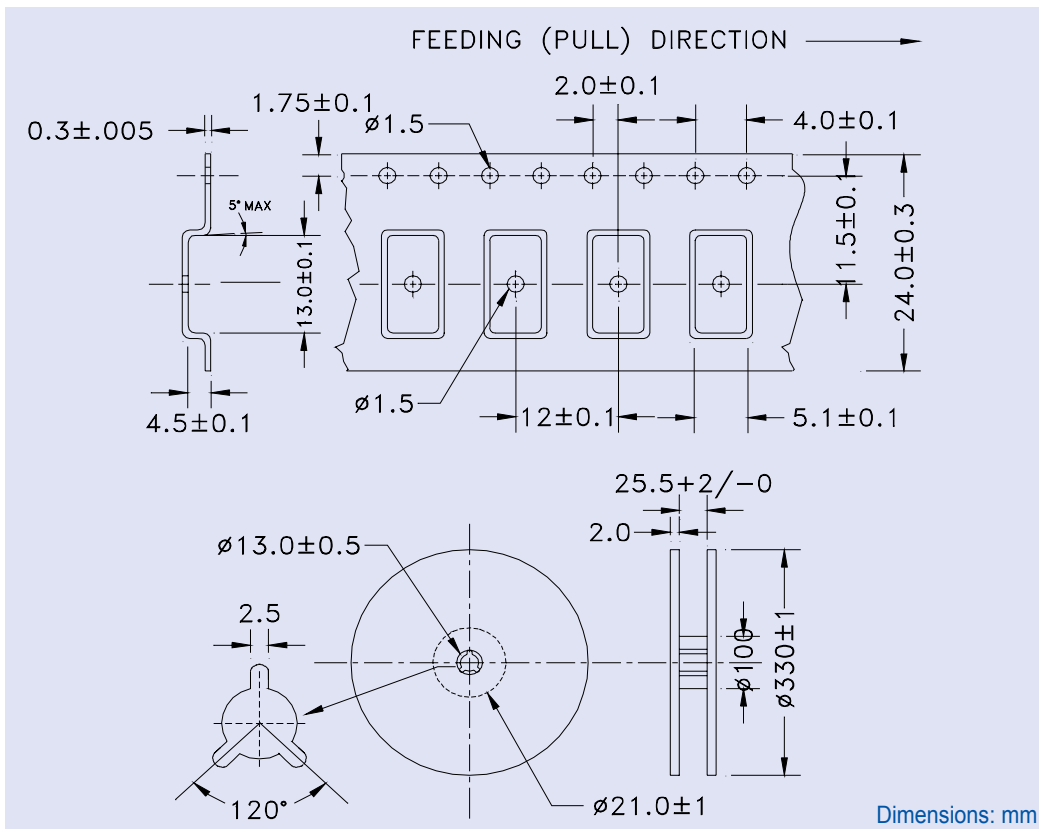
ABLS

**Pb** RoHS Compliant

## OUTLINE DRAWING:



## TAPE & REEL:



ABRACON IS ISO 9001 / QS 9000 CERTIFIED



Visit [www.abracon.com](http://www.abracon.com) for Terms & Conditions of Sale **Revised: 11.04.08**  
30332 Esperanza, Rancho Santa Margarita, California 92688  
tel 949-546-8000 | fax 949-546-8001 | [www.abracon.com](http://www.abracon.com)