

# 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 75 MHz                                                                                                                                                                                            |
| Operation Mode                                              | AT cut (Fundamental or 3rd OT) or BT cut (See options)<br>3.579545MHz - 24.0MHz (Fundamental) (Standard)<br>24.01 - 75.00MHz (3rd- Overtone) (Standard)<br>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

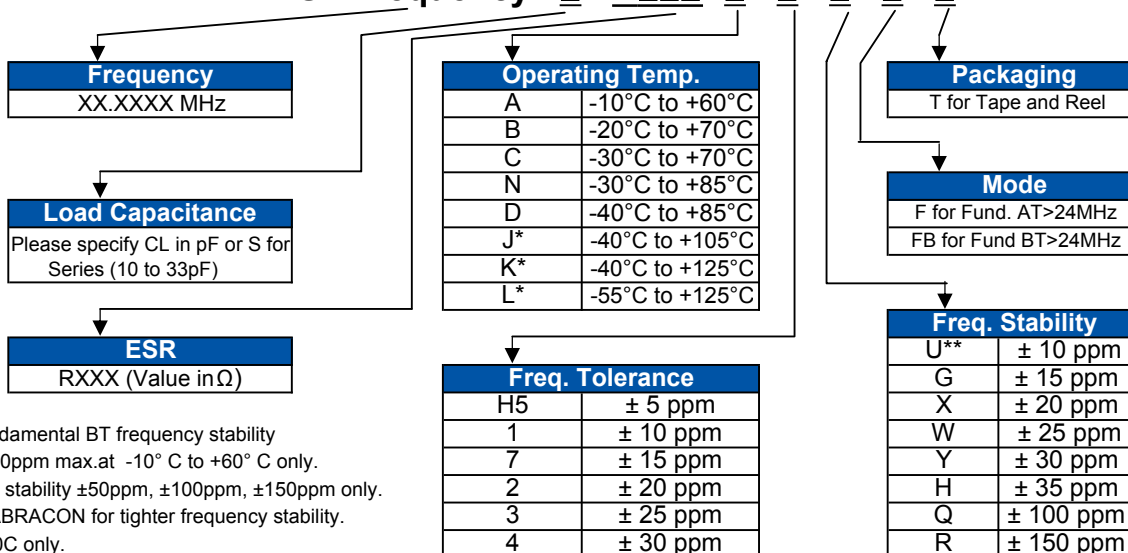
| FREQUENCY (MHz)          | ESR (Ω) |
|--------------------------|---------|
| 3.579 - 4.999 (Fund.)    | 180     |
| 5.000 - 5.999 (Fund.)    | 120     |
| 6.000 - 7.999 (Fund.)    | 100     |
| 8.000 - 8.999 (Fund.)    | 80      |
| 9.000 - 9.999 (Fund.)    | 60      |
| 10.000 - 15.999 (Fund.)  | 50      |
| 16.000 - 50.000 (Fund.)  | 40      |
| 24.01 - 31.999 (3rd O/T) | 100     |
| 32.000 - 75.00 (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.



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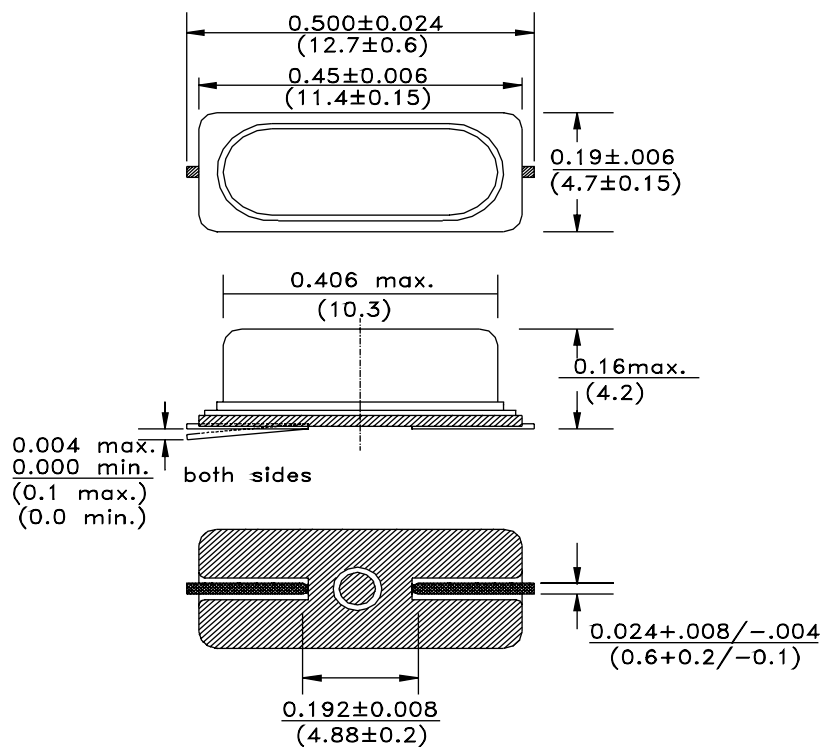
11.5 x 4.8 x 4.2 mm

ABLS

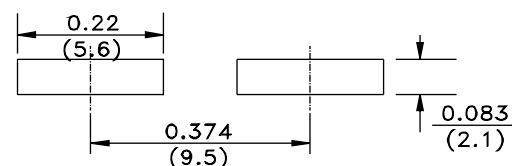


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## OUTLINE DRAWING:

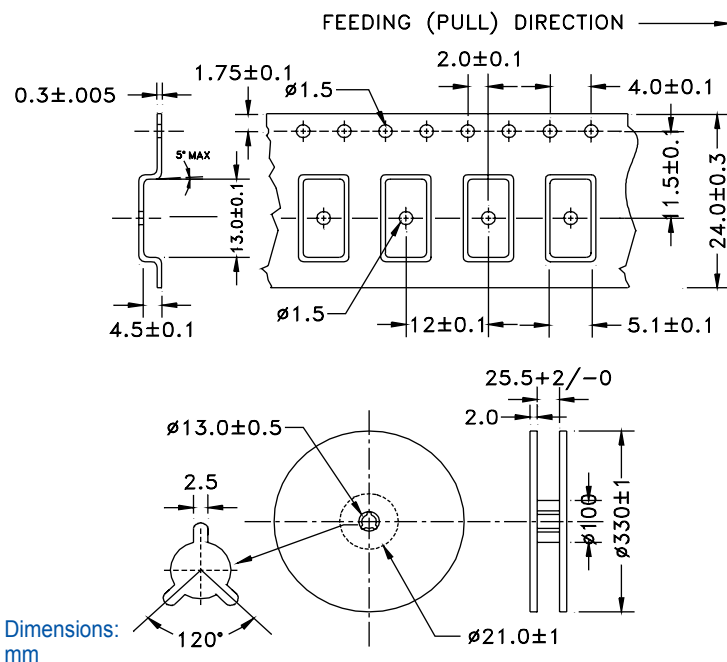


## Recommended land pattern



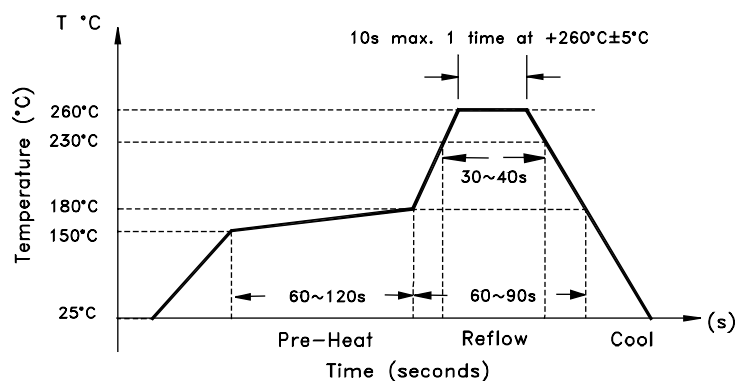
Dimensions: Inches (mm)

## TAPE & REEL:



Dimensions:  
mm

## REFLOW PROFILE:



Need a test socket for the ABLS series? To view compatible **PRECISION TEST & BURN-IN SOCKETS** for these parts, click here. **P/N: AXS-1147-02-02**

**\* NOTE:** Abracon manufactured products are intended for general commercial and industrial use. For applications requiring high reliability and/or presenting extreme operating environment, written consent & authorization from Abracon is required.

ABRACON IS  
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