

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



11.5 x 4.7 x 4.2 mm

ABLS



RoHS  
Compliant

Moisture Sensitivity Level (MSL) – This product is Hermetically Sealed and not Moisture Sensitive - MSL = N/A: Not Applicable

## FEATURES:

- Suitable for RoHS reflow
- Available for tight stability & extended temperature range

## APPLICATIONS:

- Computers, Modems, Microprocessors
- Wireless Applications

## STANDARD SPECIFICATIONS:

### PARAMETERS

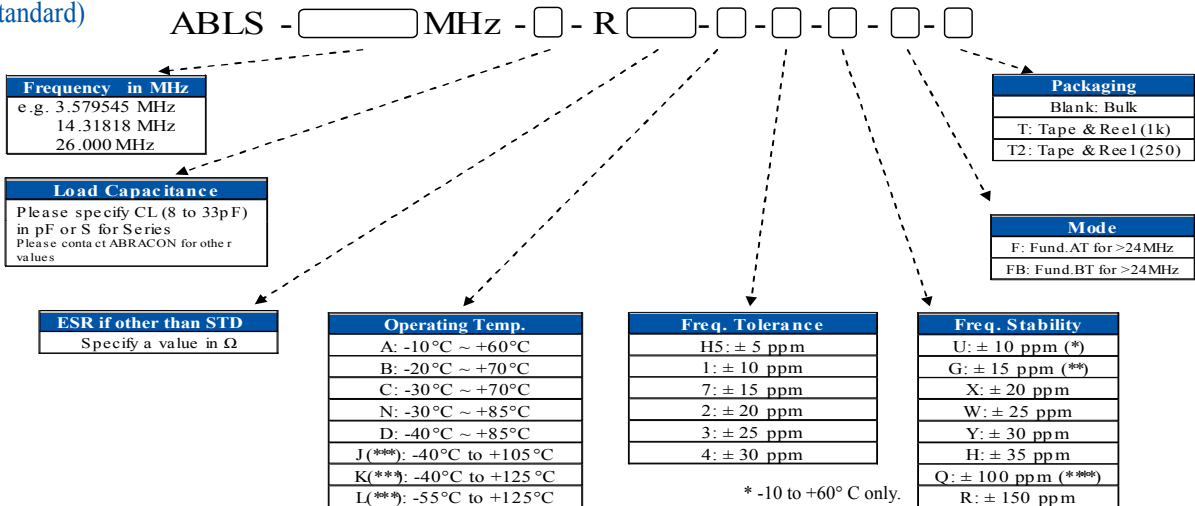
ABRACON P/N	ABLS Series
Frequency	3.579545 MHz to 75 MHz
Operation Mode	AT cut (Fundamental or 3rd OT) or BT cut (See options) 3.579545MHz - 24.0MHz (Fundamental: Standard) 24.01MHz - 75.00MHz (3rd- Overtone: Standard) 24.01MHz - 50.00MHz (Fund. AT or BT: See options)
Operating Temperature	0°C to + 70°C (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., 100 µW typical
Aging at 25°C (first year)	± 5ppm max.
Insulation Resistance	500 MΩ min at 100Vdc ± 15V
Spurious Responses	-3dB max.
Drive level dependency (DLD)	from 1 µW to 500 µW (minimum 7 points tested)

TABLE 1: STANDARD ESR

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 - 75.00 (3rd O/T)	80

## OPTIONS & PART IDENTIFICATION:

(Left blank if standard)



\* -10 to +60° C only.

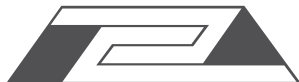
\*\* Option A, B, and 0 to +70° C only.

\*\*\* Frequency stability ±50ppm, ±100ppm, or ±150ppm only.

Contact ABRACON for tighter frequency stability.

\*\*\*\* For Fundamental BT, frequency stability  
± 100ppm max. at -10° C to +60° C only.

ABRACON IS  
ISO9001:2008  
CERTIFIED



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Revised: 04.07.11

## 11.5 x 4.7 x 4.2 mm



Technical drawing of a mechanical part showing dimensions for width, height, and thickness.

Width dimensions:

- Overall width: 0.406 max. (10.3)

Height dimensions:

- Overall height: 0.16 max. (4.2)

Thickness dimensions (both sides):

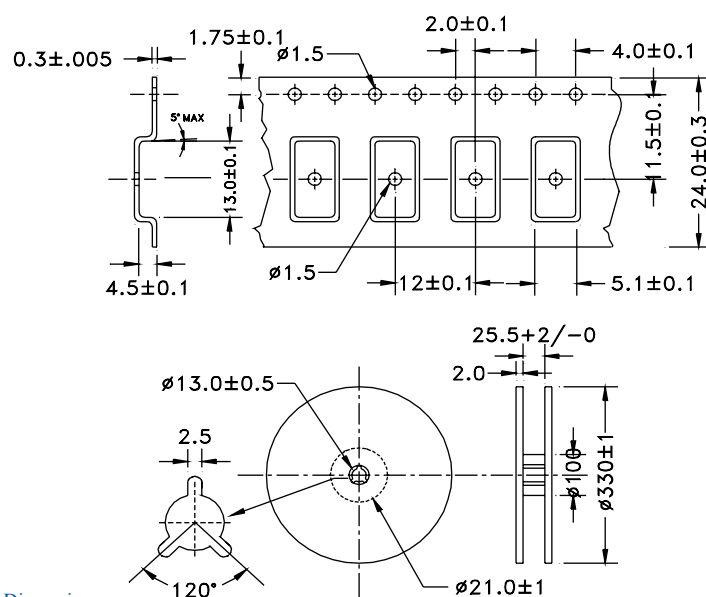
- Maximum thickness: 0.004 max. (0.1 max.)
- Minimum thickness: 0.000 min. (0.0 min.)

Figure 10-10 illustrates dimensioning a hole and its location. The diagram shows a cross-section of a rectangular part with a central hole and two slots on either side. Dimension lines indicate the hole diameter and the distance from the hole center to the part edges. Tolerances are shown in parentheses.

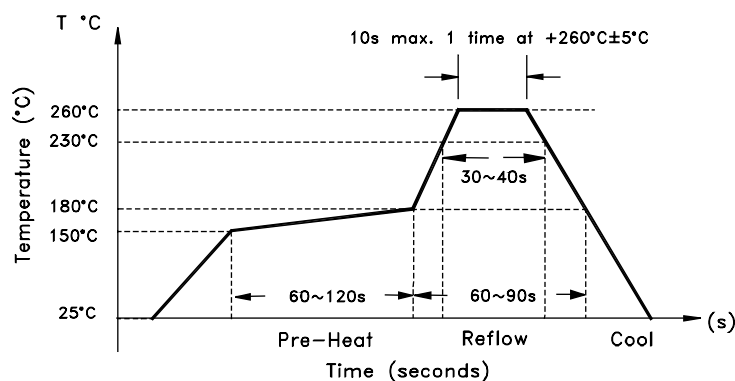
The hole diameter is dimensioned as  $0.192 \pm 0.008$  (4.88  $\pm$  0.2).

The distance from the hole center to the part edge is dimensioned as  $0.024 + 0.008 / -0.004$  (0.6 + 0.2 / -0.1).

FEEDING (PULL) DIRECTION



Dimensions: mm



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