



THE DATASHEET OF ABLS-25.000MHZ-K4F-T

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:

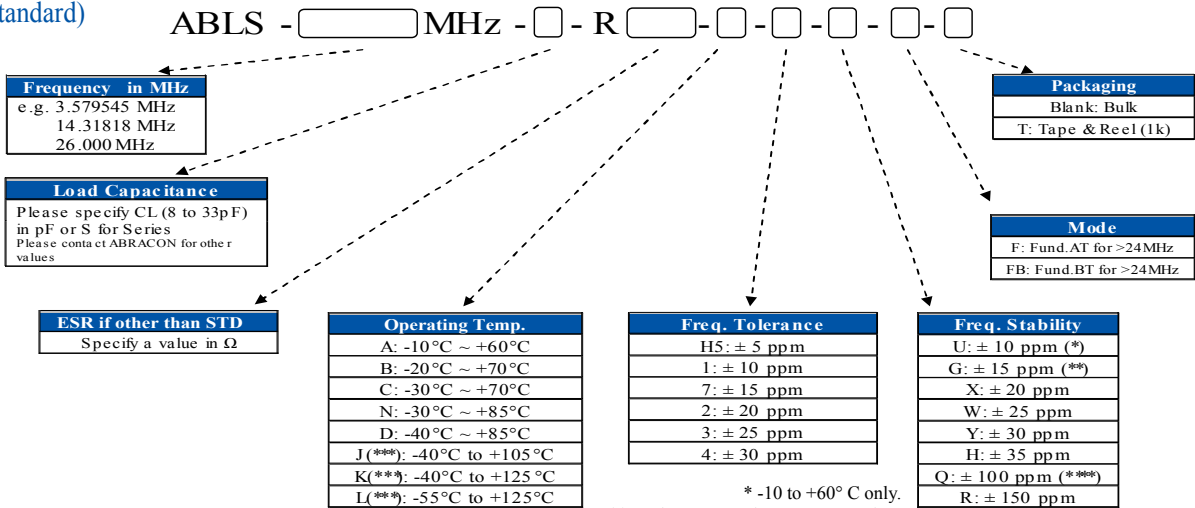
PARAMETERS	
ABRACON P/N	ABLS Series
Frequency	3.579545 MHz to 75 MHz
Operation Mode	AT cut (Fundamental or 3rd OT) or BT cut (See options) 3.579545MHz - 24.0MHz (Fundamental: Standard) 24.01MHz - 75.00MHz (3rd- Overtone: Standard) 24.01MHz - 50.00MHz (Fund. AT or BT: See options)
Operating Temperature	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 ₀	7pF max.
Load Capacitance C _L	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)

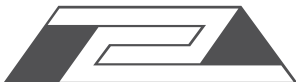


* -10 to +60° C only.
** Option A, B, and 0 to +70° C only.

*** 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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CORPORATION

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Revised: 02.16.2021

11.5 x 4.7 x 4.2 mm



Technical drawing of a mechanical part with dimensions:

- Top width: 0.406 max. (10.3)
- Right height: 0.16 max. (4.2)
- Left height: 0.004 max. (0.1 max.) / 0.000 min. (0.0 min.)
- Text: both sides

Figure 10 illustrates dimensioning a part with a hole. The drawing shows a rectangular part with a central hole. Dimension lines indicate the distance from the left face to the hole center and the hole diameter. Tolerances are given in both fractional and decimal forms.

Dimension 1 (Distance from left face to hole center):

$$\frac{0.192 + 0.008}{(4.88 \pm 0.2)}$$

Dimension 2 (Hole diameter):

$$\frac{0.024 + 0.008}{(0.6 + 0.2)} / \frac{-0.004}{-0.1}$$

Technical drawing of a mechanical part, showing three views: front view, top view, and side view. The drawing includes dimensions and tolerances.

Front View Dimensions:

- Overall length: 24.0 ± 0.3
- Overall width: 4.5 ± 0.1
- Top row of holes: 0.3 ± 0.005 (width), 1.75 ± 0.1 (position), $\phi 1.5$ (diameter)
- Bottom row of holes: 1.5 ± 0.1 (width), 12 ± 0.1 (position), $\phi 1.5$ (diameter)
- Central holes: 4.0 ± 0.1 (width), 5.1 ± 0.1 (position)
- Angle: 5° MAX

Top View Dimensions:

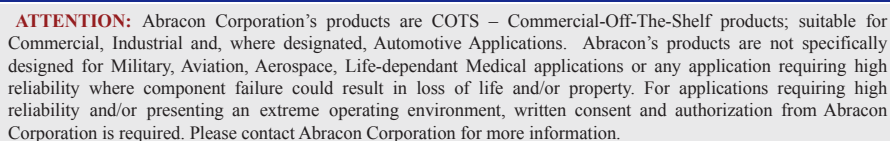
- Overall diameter: $\phi 21.0 \pm 1$
- Central hole diameter: $\phi 13.0 \pm 0.5$
- Angle: 120°

Side View Dimensions:

- Overall height: $25.5 + 2 / - 0$
- Width: 2.0
- Internal hole diameter: $\phi 10$
- Internal hole position: 330 ± 1

The graph illustrates the temperature profile for reflow soldering. The Y-axis represents Temperature in degrees Celsius (°C), ranging from 25°C to 260°C. The X-axis represents Time in seconds, divided into three main phases: Pre-Heat, Reflow, and Cool.

- Pre-Heat:** The temperature rises from 25°C to 150°C. This phase is labeled "Pre-Heat" and has a duration of 60~120s.
- Reflow:** The temperature rises from 150°C to 260°C. This phase is labeled "Reflow" and has a duration of 30~40s. A note indicates a maximum of 1 time at +260°C±5°C for 10s max.
- Cool:** The temperature decreases from 260°C back to 25°C. This phase is labeled "Cool" and has a duration of 60~90s.



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