



THE DATASHEET OF ABLS-20.000MHZ-B2-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

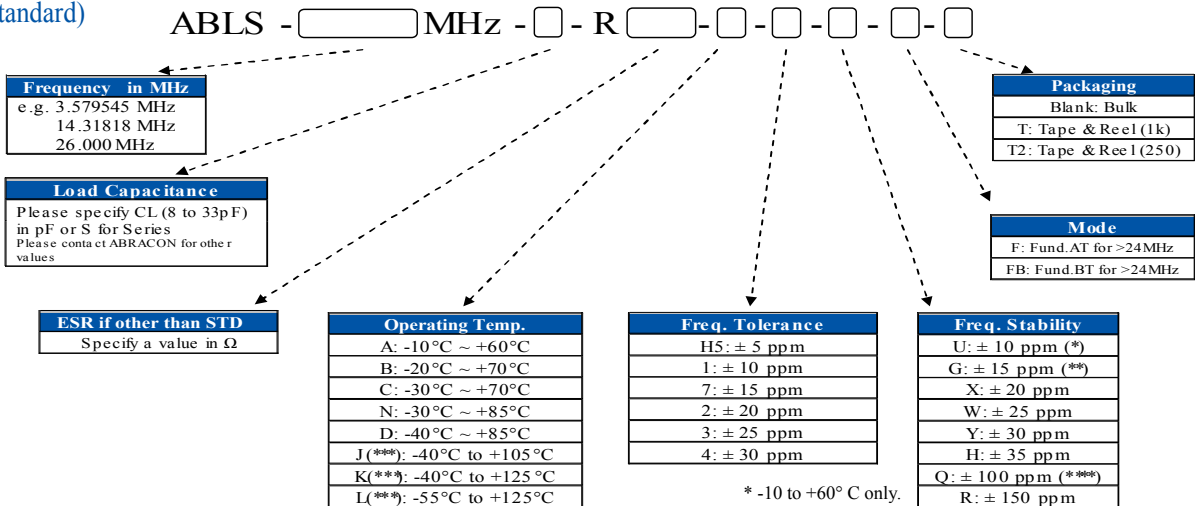
ABRACON P/N	ABLS Series
Frequency	3.579545 MHz to 75 MHz
Operation Mode	AT cut (Fundamental or 3rd OT) or BT cut (See options) 3.579545MHz - 24.0MHz (Fundamental: Standard) 24.01MHz - 75.00MHz (3rd- Overtone: Standard) 24.01MHz - 50.00MHz (Fund. AT or BT: See options)
Operating Temperature	0°C to + 70°C (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.

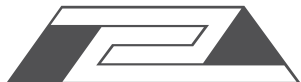
** Option A, B, and 0 to +70° C only.

*** 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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Revised: 04.07.11

11.5 x 4.7 x 4.2 mm



11.5 x 4.7 x 4.2 mm

Dimensions: Inches (mm)

Technical drawing of a mechanical part with dimensions in mm. The drawing includes a top view, a side view, and a detail view of a corner.

Top View Dimensions:

- Overall width: 24.0 ± 0.3
- Overall height: 1.5 ± 0.1
- Central hole diameter: $\phi 13.0 \pm 0.5$
- Four smaller holes diameter: $\phi 1.5$
- Central slot width: 12 ± 0.1
- Slot offset from center: 5.1 ± 0.1
- Distance from top edge to first hole: 1.75 ± 0.1
- Distance between holes: 2.0 ± 0.1
- Distance from right edge to last hole: 4.0 ± 0.1
- Distance from left edge to first hole: 0.3 ± 0.005
- Distance from left edge to slot: 4.5 ± 0.1
- Distance from slot to first hole: 13.0 ± 0.1
- Distance from slot to last hole: 12 ± 0.1

Side View Dimensions:

- Overall width: $25.5 + 2/-0$
- Overall height: $\phi 330 \pm 1$
- Distance from top edge to first hole: 2.0
- Distance between holes: 100

Detail View Dimensions:

- Corner radius: 2.5
- Angle: 120°

FEEDING (PULL) DIRECTION →

Dimensions: mm

Dimensions: mm

The graph illustrates the temperature profile for the reflow soldering process. The Y-axis represents Temperature (°C) with markings at 25°C, 150°C, 180°C, 230°C, and 260°C. The X-axis represents Time (seconds) with markings for Pre-Heat, Reflow, and Cool. The profile starts at 25°C, rises to 150°C (Pre-Heat), then to 260°C (Reflow), and finally cools down. Key time intervals are indicated: 60~120s for Pre-Heat, 30~40s for Reflow, and 60~90s for Cool. A note specifies '10s max. 1 time at +260°C±5°C' during the Reflow phase.



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