

# HC49/US (AT49) LOW PROFILE SMD MICROPROCESSOR CRYSTAL



11.4 x 4.7 x 2.5/2.6mm

**ABLS3**



**RoHS  
Compliant**

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

**FEATURES:**

- Suitable for RoHS compliant reflow
- Low height reduced to 2.5/2.6mm
- Tight stability & extended temperature options

**APPLICATIONS:**

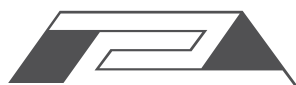
- Computers, Modems, Microprocessors
- Wireless Applications

**STANDARD SPECIFICATIONS:**

Parameters	Minimum	Typical	Maximum	Units	Notes
Frequency Range	3.579545	-----	24.000000	MHz	Fundamental AT (Standard)
	24.000001	-----	50.000000		Fundamental AT or BT (See options)
	24.000001	-----	70.000000		3 <sup>rd</sup> Overtone (Standard)
Operation Mode	Fundamental or 3 <sup>rd</sup> Overtone				
Operating Temperature	0	-----	+70	°C	See options
Storage Temperature	-55	-----	+125	°C	
Frequency Tolerance @+25°C	-50	-----	+50	ppm	See options
Frequency Stability over the Operating Temperature ( ref. to +25°C)	-50	-----	+50	ppm	See options (For BT cut, ±100ppm max.at -10° C to +60° C only)
Equivalent series resistance (R1)	See table 1 below			Ω	
Shunt capacitance (C0)	-----	-----	7	pF	
Load capacitance (CL)	-----	18	-----	pF	Standard (See options if other than STD)
Drive Level	-----	100	1000	μW	
Aging	-5	-----	+5	ppm	@25°C±3°C First year
Insulation Resistance	500	-----	-----	MΩ	@ 100Vdc ± 15V
Drive level dependency (DLD)	Minimum 7 points tested: from 1μW to 500μW. 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.				

**TABLE 1: ESR**

FREQUENCY (MHz)	ESR (Ω)
3.579545 - 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



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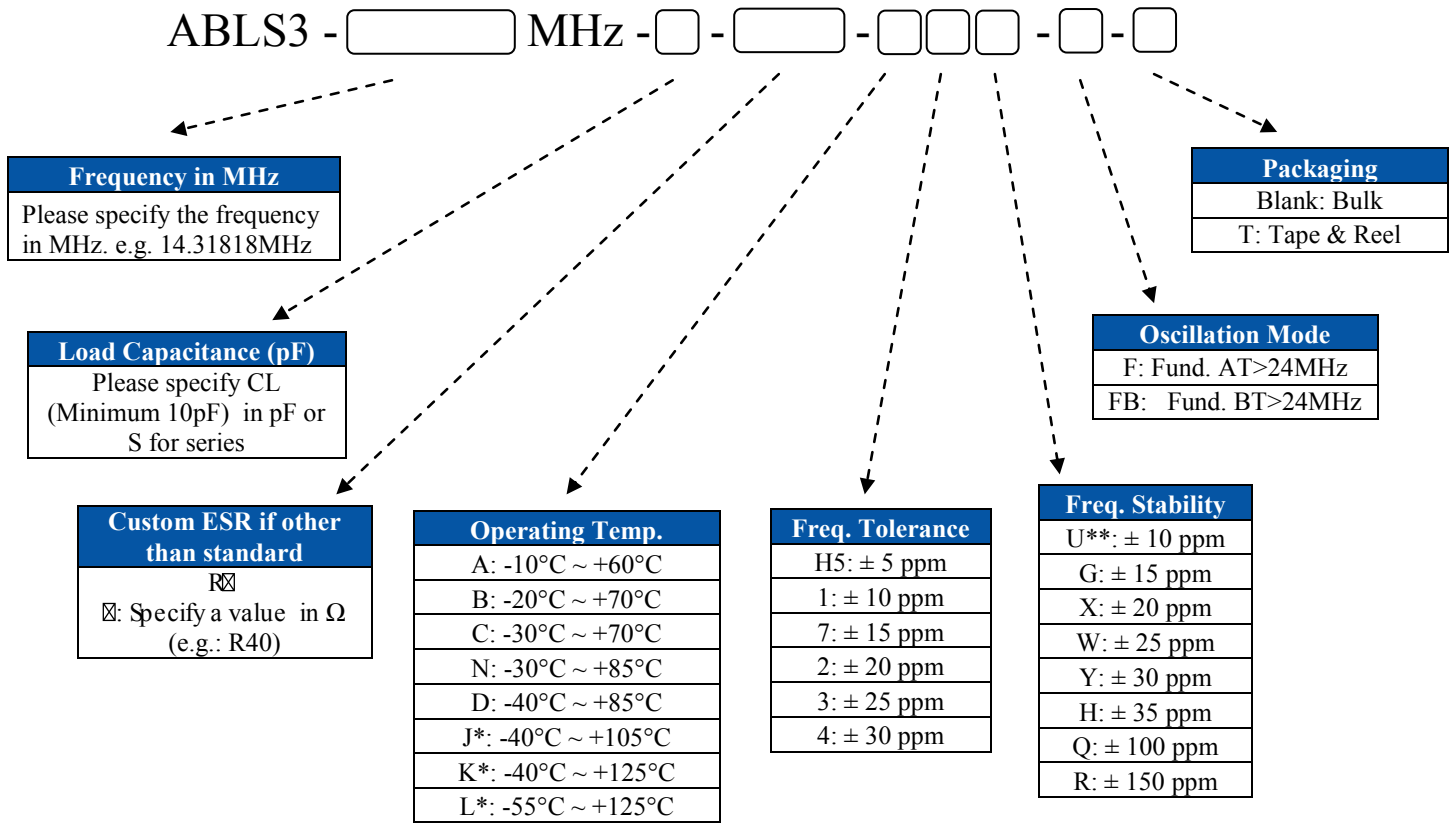
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**RoHS**  
Compliant

## ➤ OPTIONS & PART IDENTIFICATION:

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

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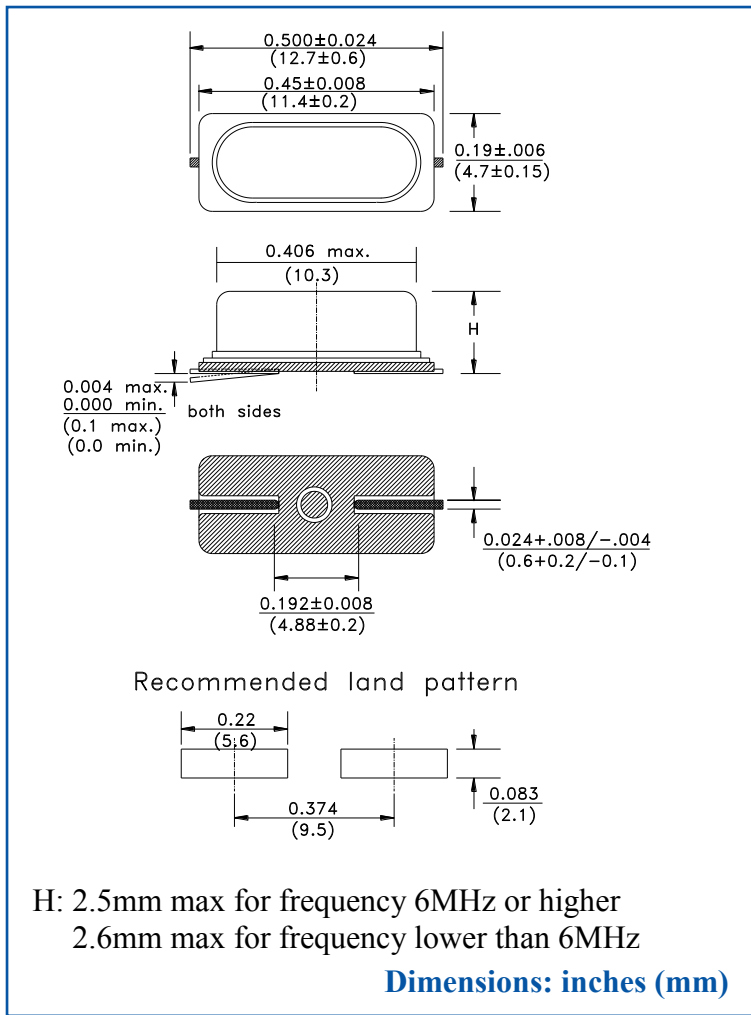


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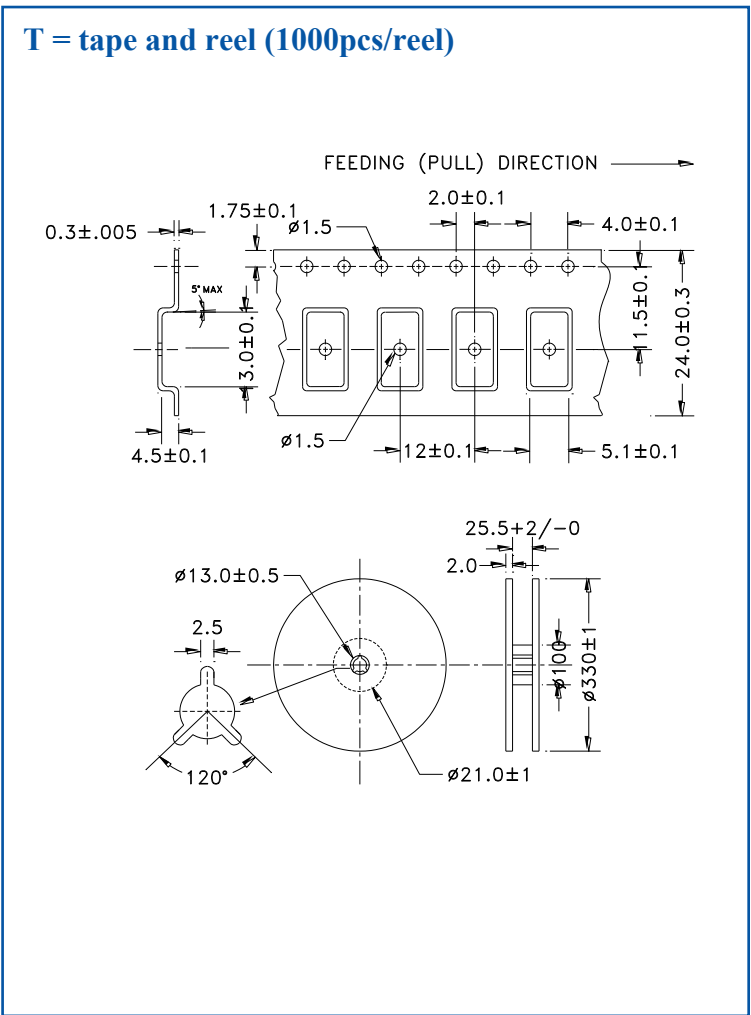
**Pb** **RoHS**  
Compliant

11.4 x 4.7 x 2.5/2.6mm

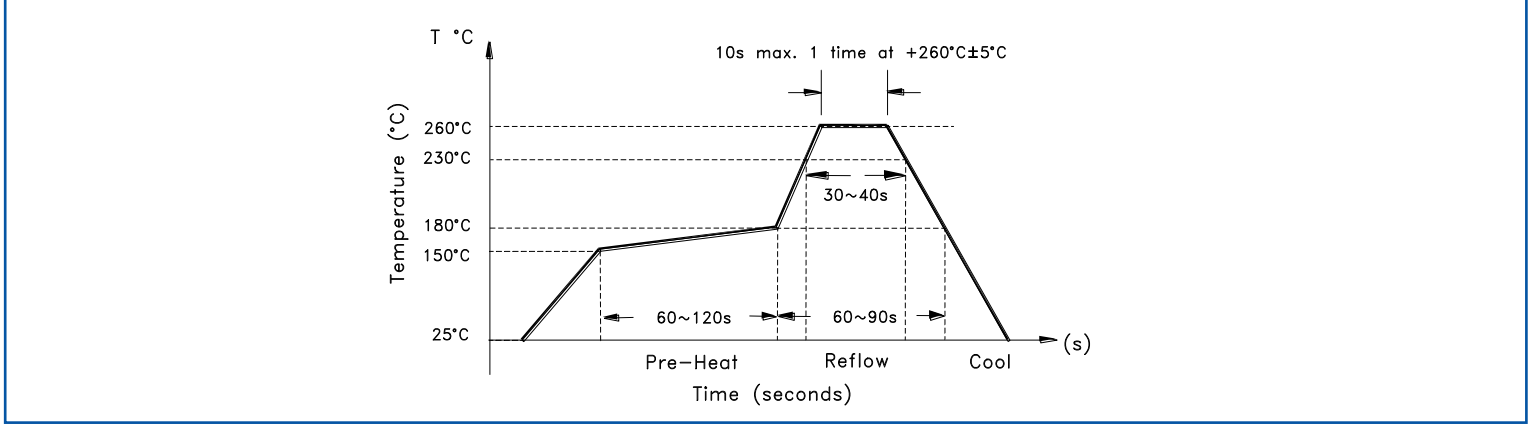
## OUTLINE DRAWING:



## TAPE & REEL:



## REFLOW PROFILE:



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