

HC49/US (AT49) LOW PROFILE SMD MICROPROCESSOR CRYSTAL

ABLS3

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



**RoHS
Compliant**



11.4 x 4.7 x 2.5mm

FEATURES:

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

APPLICATIONS:

- Computers, Modems, Microprocessors
- Wireless Applications

STANDARD SPECIFICATIONS:

Parameters	Minimum	Typical	Maximum	Units	Notes
Frequency Range	6.000000	-----	24.000000	MHz	Fundamental AT (Standard)
	24.000001	-----	50.000000		Fundamental AT or BT (See options)
	24.000001	-----	70.000000		3 rd Overtone (Standard)
Operation Mode	Fundamental or 3 rd 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)
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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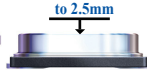
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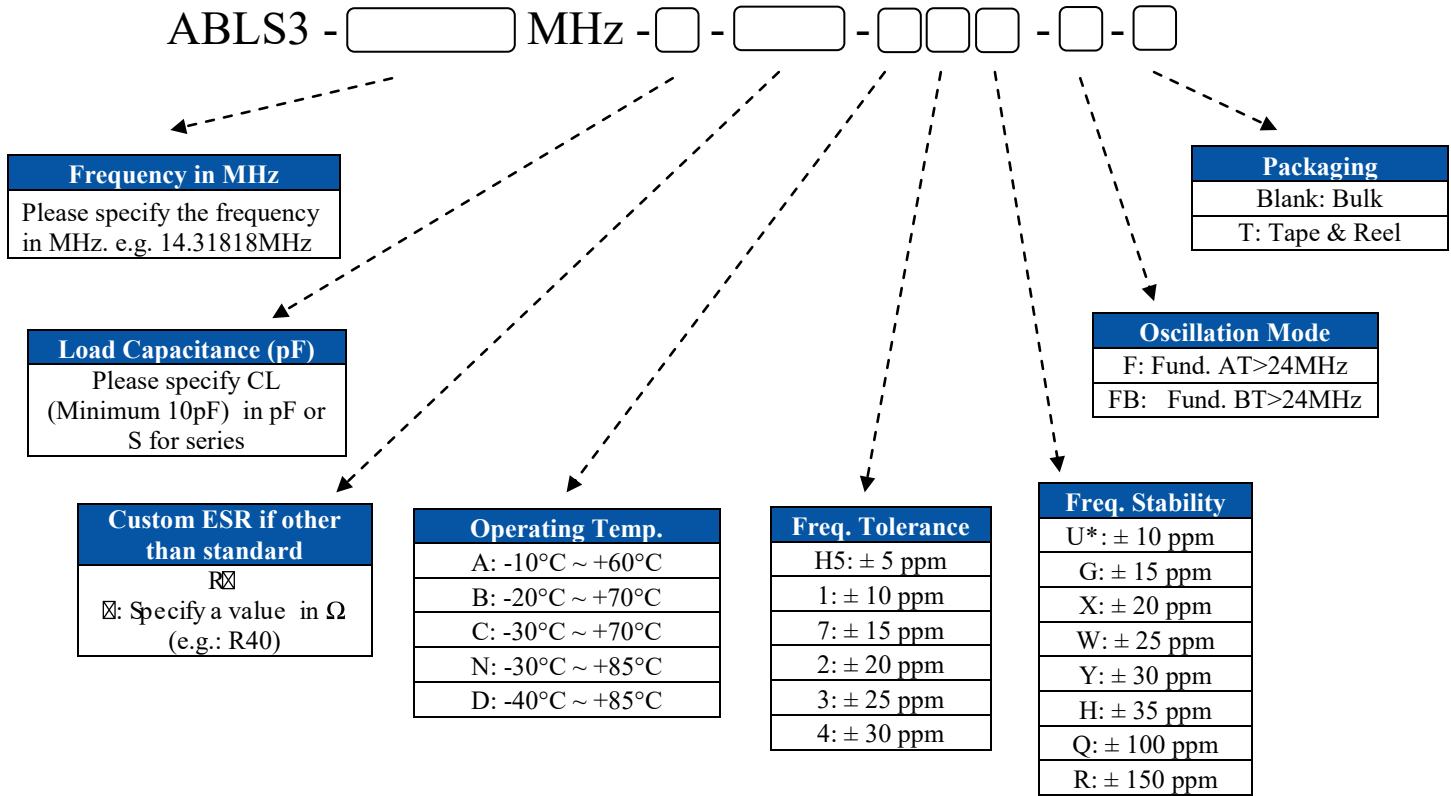
Reduced height
to 2.5mm



11.4 x 4.7 x 2.5mm

➤ OPTIONS & PART IDENTIFICATION:

(Left blank if standard)



NOTE: Fundamental BT frequency stability ± 100ppm max. at -10° C to +60° C only.

* -10 to +60C only.

Contact ABRACON for tighter frequency stability.

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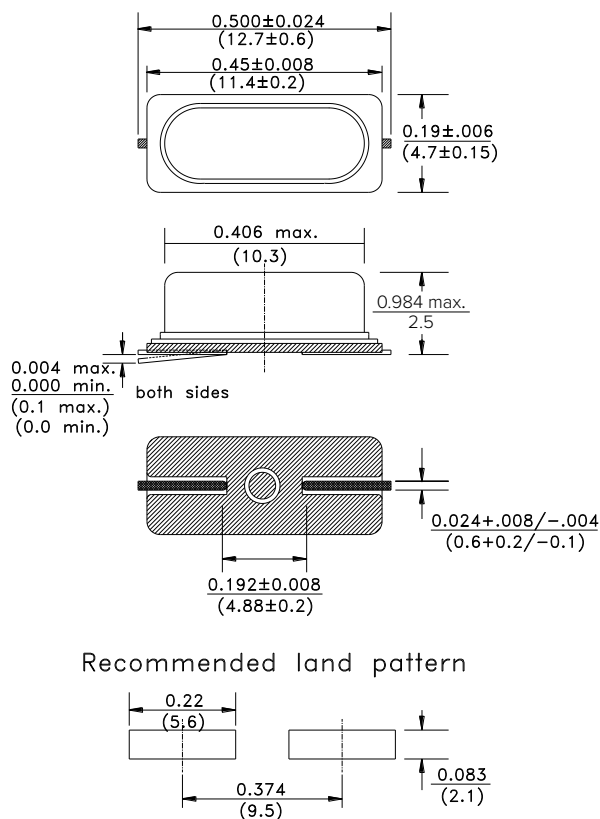
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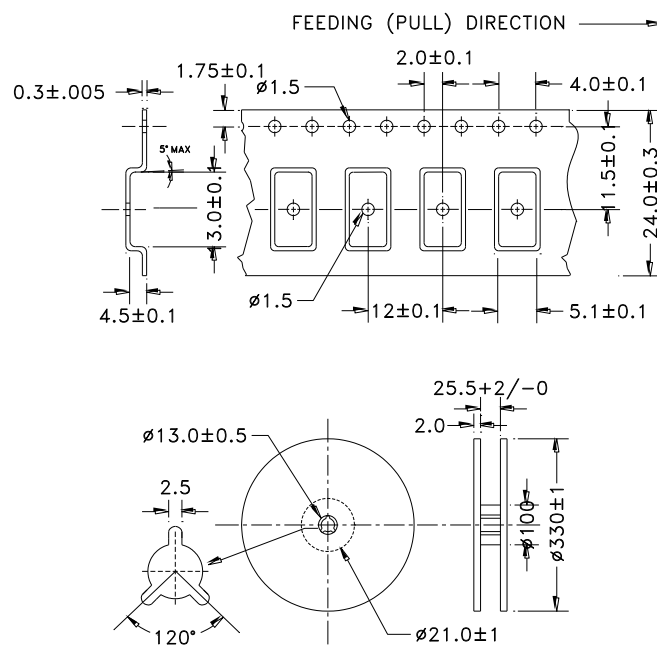
OUTLINE DRAWING:



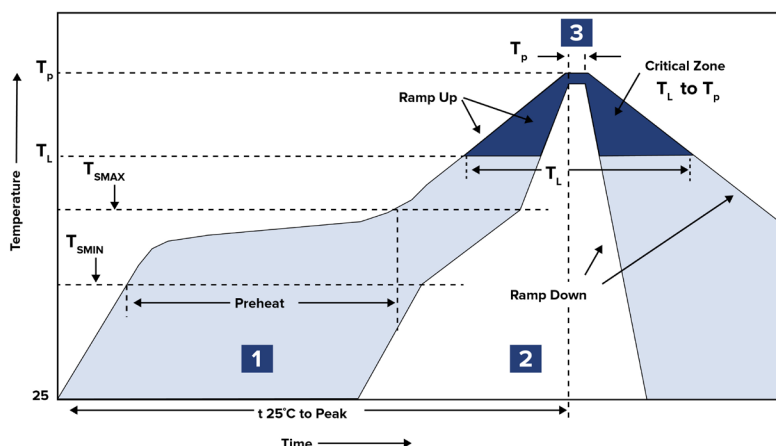
Dimensions: inches (mm)

TAPE & REEL:

T = tape and reel (1000pcs/reel)



REFLOW PROFILE:



Zone	Description	Temperature	Time
1	Preheat	$T_{SMIN} \sim T_{SMAX}$ 150°C ~ 180°C	60 ~ 120 sec.
2	Reflow	T_L 230°C	30 ~ 40 sec.
3	Peak Heat	T_P 260°C±5°C	10 sec. MAX.

ATTENTION: Abracon LLC's products are COTS – Commercial-Off-The-Shelf products; suitable for Commercial, Industrial and, where designated, Automotive Applications. Abracon's products are not specifically designed for Military, Aviation, Aerospace, Life-dependant Medical applications or any application requiring high reliability where component failure could result in loss of life and/or property. For applications requiring high reliability and/or presenting an extreme operating environment, written consent and authorization from Abracon LLC is required. Please contact Abracon LLC for more information.

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