

# HC/49US (AT49) 3RD LEAD CASE-GROUNDED SMD LOW PROFILE CRYSTAL



11.4 x 4.7 x 4.2mm

**ABLSG**



**RoHS**  
Compliant

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

## FEATURES:

- 3rd Lead is Grounded, Ideal for EMI Sensitive Applications
- IR-reflow capable
- Low height reduced to 4.2mm
- Tight stability & extended temperature available

## APPLICATIONS:

- EMI sensitive applications
- Computers, Modems, Microprocessors
- Medical Electronics
- Wireless Applications

## STANDARD SPECIFICATIONS:

### PARAMETERS

ABRACON P/N	ABLSG Series
Frequency	3.579545 MHz to 75 MHz
Operation Mode	AT cut (Fundamental or 3rd OT) or BT cut 3.579545MHz - 24.0MHz (Fundamental: Standard) 24.01 - 75.00MHz (3rd- Overtone: Standard) 24.01MHz - 50.00MHz (Fund. AT or BT: Please specify. See options)
Operating Temperature	0°C to + 70°C (see options)
Storage Temperature	- 55°C to + 125°C
Frequency Tolerance	± 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., 100µW typical
Aging at 25°C Per Year	± 5ppm max.
Insulation Resistance	500 MΩ min at 100Vdc ± 15V
Spurious Responses:	-3dB max.
Drive level dependency (DLD)	From 1µW to 500µW (minimum 7 points tested)

**TABLE 1: ESR**

FREQUENCY (MHz)	ESR (Ω)
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 - 70.00 (3rd O/T)	80

## OPTIONS & PART IDENTIFICATION:

(Left blank if standard)

ABLSG -  MHz -  - R -  -  -  -  -  -  -

**Frequency in MHz**  
e.g. 3.579545MHz  
14.31818MHz  
26.000MHz

**Load Capacitance**  
Please specify CL in pF or S for Series (8 to 33pF)  
Please contact ABRACON for other values

**ESR**  
Specify a value in Ω

**Operating Temp.**  
A: -10°C ~ +60°C  
B: -20°C ~ +70°C  
C: -30°C ~ +70°C  
N: -30°C ~ +85°C  
D: -40°C ~ +85°C  
J(\*\*): -40°C to +105°C  
K(\*\*): -40°C to +125°C  
L(\*\*): -55°C to +125°C

**Freq. Tolerance**  
H5: ± 5 ppm  
1: ± 10 ppm  
7: ± 15 ppm  
2: ± 20 ppm  
3: ± 25 ppm  
4: ± 30 ppm

**Freq. Stability**  
U: ± 10 ppm (\*)  
G: ± 15 ppm (\*\*)  
X: ± 20 ppm  
W: ± 25 ppm  
Y: ± 30 ppm  
H: ± 35 ppm  
Q: ± 100 ppm (\*\*\*\*)  
R: ± 150 ppm

**Packaging**  
Blank: Bulk  
T: Tape & Reel

**Mode**  
F: Fund.AT for >24MHz  
FB: Fund.BT for >24MHz

- \* 10 to +60C only.
- \*\* Option A, E, B, and 0 to +70C only.
- \*\*\* Frequency stability ±50ppm, ±100ppm, ±150ppm only.  
Contact ABRACON for tighter frequency or stability requirement.
- \*\*\*\* For Fundamental BT, frequency stability ±100ppm max. at 10°C to +60°C only.

ABRACON IS  
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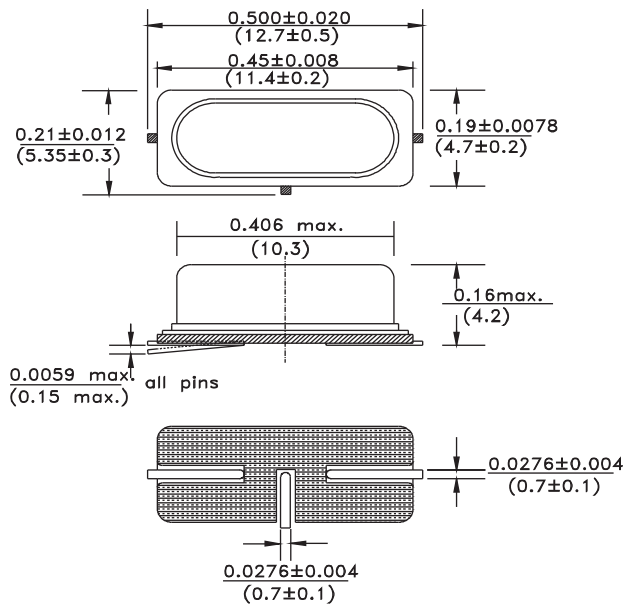
11.4 x 4.7 x 4.2mm

ABLSG

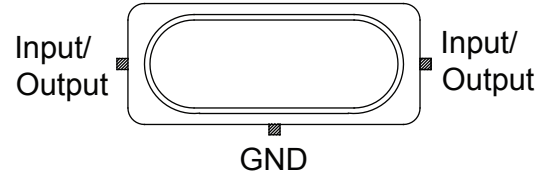


RoHS  
Compliant

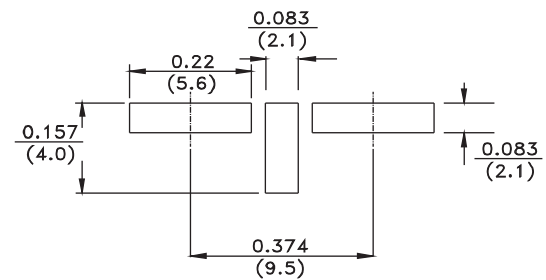
## OUTLINE DRAWING:



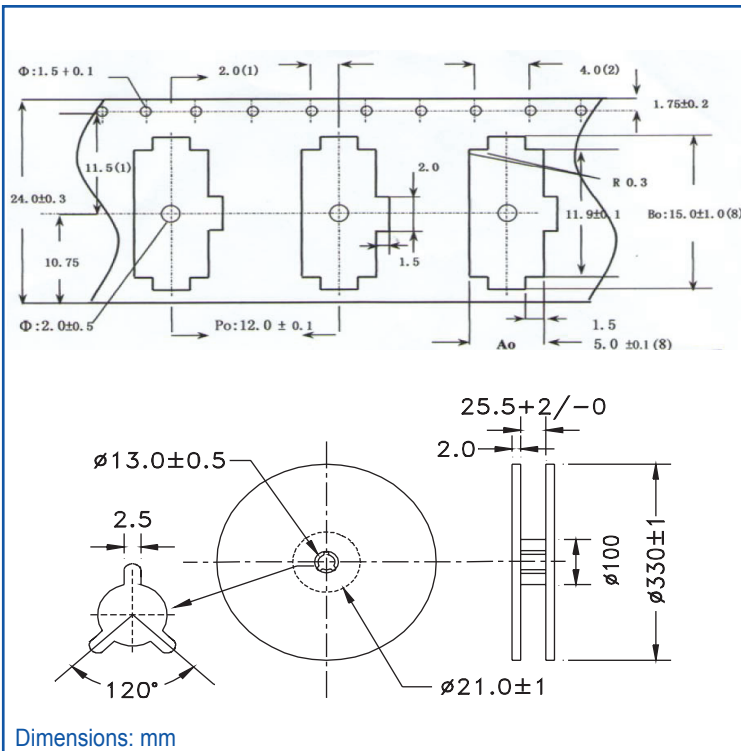
## Pin Configuration



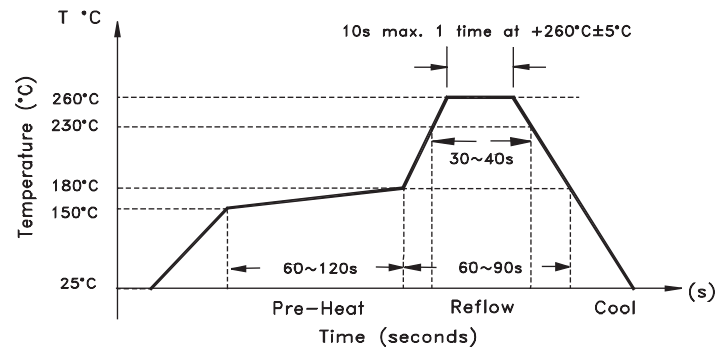
## Recommended land pattern



## TAPE & REEL:



## REFLOW PROFILE:



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