

HC/49US (AT49) ULTRA LOW ESR SMD LOW PROFILE CRYSTAL



11.5 x 4.8 x 4.2 mm

ABLS-LR



RoHS
Compliant

FEATURES:

- Ultra low ESR as low as 20 ohms for 4MHz, 85% lower than ABL5 4MHz
- Low negative resistance(-R) IC design can ensure high oscillation margin
- Tight stability and automotive grade temperature available
- Hermetically resistance weld sealed

APPLICATIONS:

- Low negative resistance u-controller design for low frequency
- Wide range of automotive applications
- Industrial applications

STANDARD SPECIFICATIONS:

| PARAMETERS | |
|---|---|
| ABRACON P/N | ABLS-LR Series |
| Frequency | 3.5 MHz to 36 MHz |
| Operation Mode | AT cut (Fundamental) |
| 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 (R1) | See Table 1 |
| Shunt Capacitance C ₀ | 7pF max. |
| Load Capacitance C _L | 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

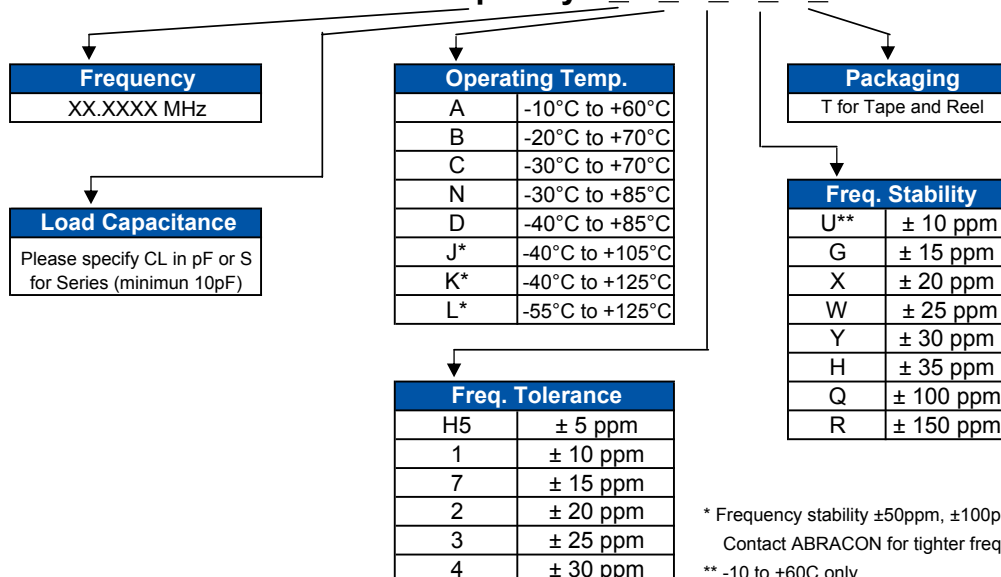
| FREQUENCY (MHz) | ESR (Ω) Max. |
|-----------------------|--------------|
| 3.500000 - 3.999999 | 30 |
| 4.000000 - 4.999999 | 20 |
| 5.000000 - 5.999999 | 20 |
| 6.000000 - 6.999999 | 20 |
| 7.000000 - 8.999999 | 15 |
| 9.000000 - 12.999999 | 15 |
| 13.000000 - 19.999999 | 10 |
| 20.000000 - 36.000000 | 10 |

- Change in frequency (Maximum - Minimum)
- Change in ESR (Maximum - Minimum) over DLD range < 25% of Max ESR value
- Maximum ESR over DLD range < Max ESR value

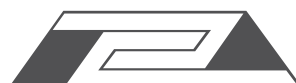
OPTIONS & PART IDENTIFICATION:

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ABLS - LR - Frequency - □ - □ - □ - □ - □



* Frequency stability ±50ppm, ±100ppm, ±150ppm only.
Contact ABRACON for tighter frequency stability.
** -10 to +60C only.



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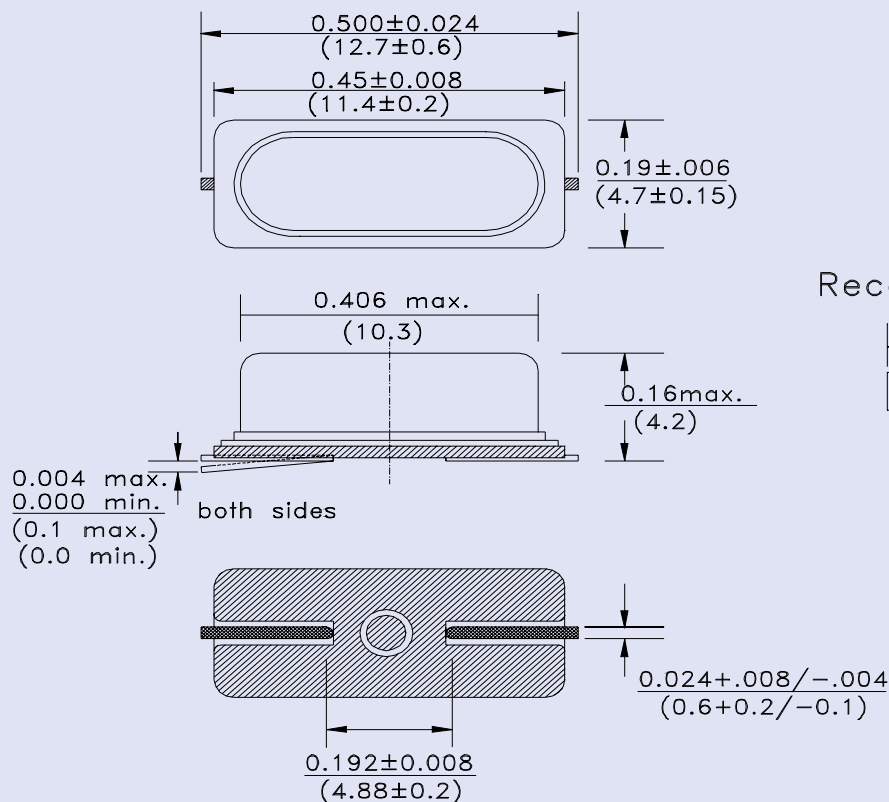


11.5 x 4.8 x 4.2 mm

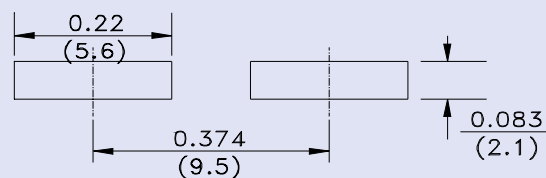
ABL5-LR



OUTLINE DRAWING:



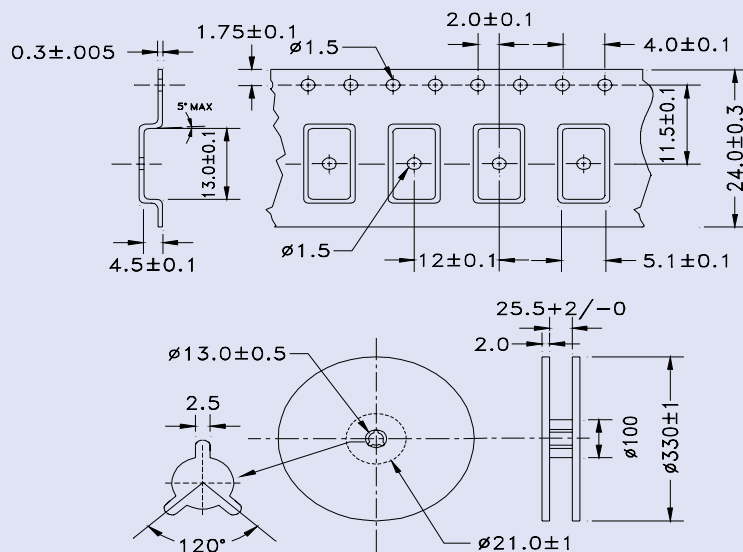
Recommended land pattern



Dimensions: Inches (mm)

TAPE & REEL: T= tape and reel (1,000pcs/reel)

REFLOW PROFILE:



Dimensions: mm

