Ultra-low ESR HC49/US (AT49)SMD MICROPROCESSOR CRYSTAL

ABLS-LR



ABLS-LR

RoHS Compliant

11.5 x 4.8 x 4.2 mm

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

FEATURES:

- Ultra low ESR as low as 20 ohms for 4MHz, 85% lower than typical SMD Low Profile HC49S Crystals
- Low negative resistance(-R) IC design can ensure high oscillation margin
- Tight stability and automotive grade temperature available
- Hermetically resistance weld sealed

APPLICATIONS:

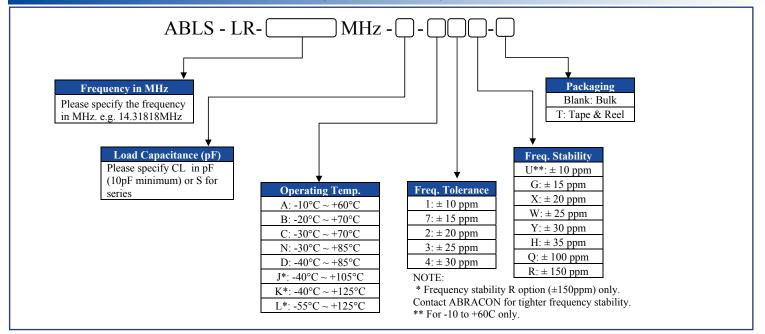
- Low negative resistance u-controller design for low frequency
- Wide range of automotive applications
- Industrial applications

STANDARD SPECIFICATIONS:

Parameters		Minimum	Typical	Maximum	Units	Notes
Frequency Range		3		36	MHz	
Operation Mode		Fundamental				
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)	3.0~3.579545MHz	-100		+100	ppm	Standard only
	3.579545~36MHz	-50		+50		See options
Equivalent series resistance (R1)		See table 1 below			Ω	
Shunt capacitance (C0)				7	pF	
Load capacitance (CL)		18			pF	See options
Drive Level			100	1000	μW	
Aging		-5		+5	ppm	@25°C±3°C First year
Insulation Resistance		500			ΜΩ	@ $100 \text{Vdc} \pm 15 \text{V}$
Spurious Response				-3	dB	
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) Max.						
3.000000	100						
3.072000	100						
3.276800	75						
3.500000 ~ 4.000000MHz	40						
4.000001 ~ 4.500000MHz	30						
4.500001 ~ 5.999999MHz	25						
6.000000 ~ 7.499999MHz	20						
7.500000 ~ 12.999999MHz	15						
13.000000 ~ 36.000000MHz	10						

OPTIONS & PART IDENTIFICATION: (Left blank if standard)



ABRACON IS ISO9001:2008 CERTIFIED



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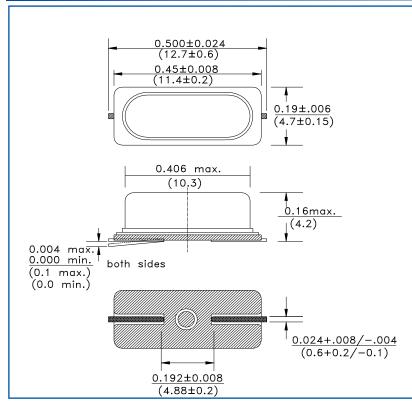




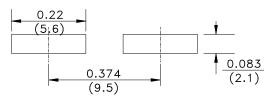


11.5 x 4.8 x 4.2 mm

OUTLINE DRAWING:



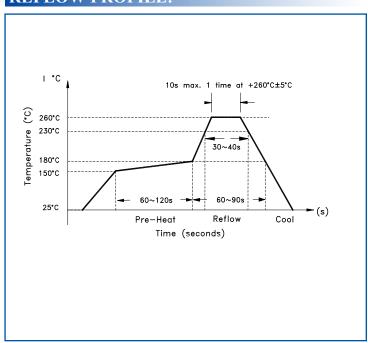
Recommended land pattern



Dimensions: inches (mm)

T = tape and reel (1000pcs/reel) \triangleright REFLOW PROFILE: > TAPE & REEL:

FEEDING (PULL) DIRECTION -2.0±0.1 4.0±0.1 0.3±.005 -12±0.1 -5.1±0.1 4.5±0.1 25.5+2/-0ø13.0±0.5 ø21.0±1 **Dimensions: mm**



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