



# M1002S209 HC-49U Crystal Resonator

## FEATURES

Resistance Weld (HC49U)  
AT-Cut Fundamental  
Rugged Design to support harsh environments

## APPLICATIONS

Avionics and Aerospace  
Communication and Navigation  
Military Radios  
Instrumentation and Industrial  
Test and Measurement Equipment

## ELECTRICAL SPECIFICATIONS

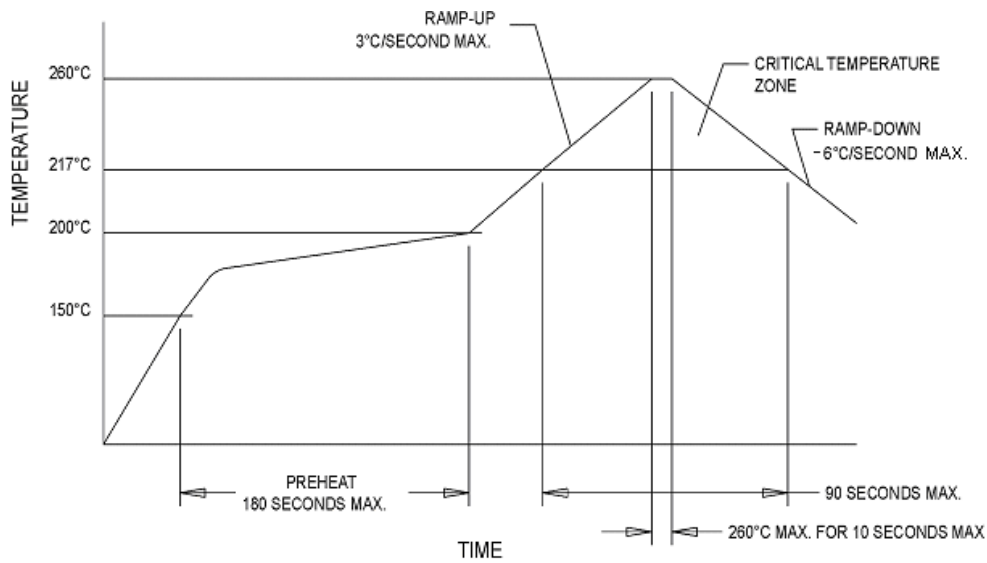
Parameter	Symbol	Min.	Typ.	Max.	Units	Conditions
Mode of Oscillation		Fundamental (AT-cut)				
Frequency Range	F <sub>0</sub>		4.000000		MHz	
Frequency Tolerance	F/F	-20		+20	ppm	@ +25°C
Frequency Stability	ΔF/F	-50		+50	ppm	Over the operating temperature range
Aging		-5		+5	ppm	Per year
Load Capacitance	C <sub>L</sub>	29.5	30	30.5	pF	
Shunt Capacitance	C <sub>0</sub>			7	pF	
ESR				75	Ω	@ +25°C
Drive Level	D <sub>L</sub>	25	100	10000	μW	

## ENVIRONMENTAL CONDITIONS

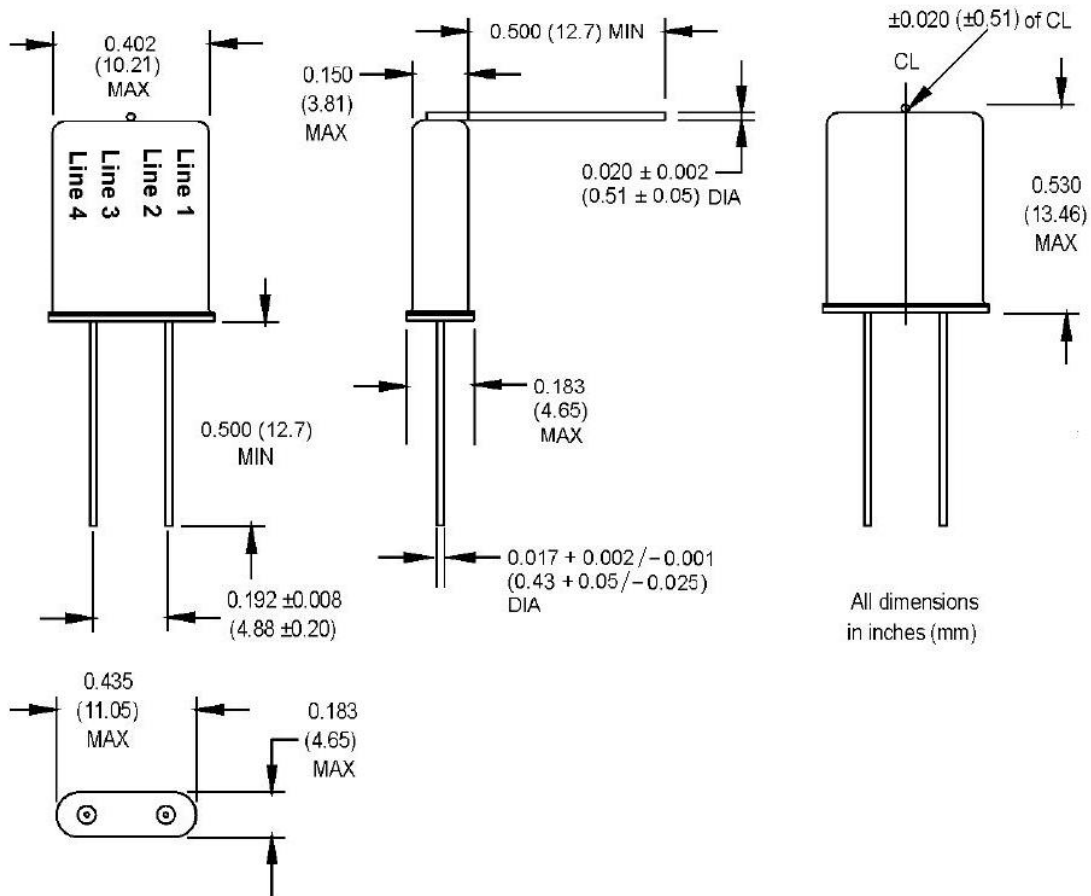
Operating Temperature	T <sub>A</sub>	-55		+105	°C	
Storage Temperature	T <sub>s</sub>	-55		+125	°C	
Mechanical Shock	Per MIL-STD-202, Method 213, Condition C (100 g's, 6 ms duration, ½ sinewave)					
Mechanical Vibration	Per MIL-STD-202, Method 201 & 204 (10 g's from 10-2000 Hz)					
Hermeticity	MIL-STD-202, Method 112 (1 x 10 <sup>-8</sup> atm cc/sec min)					
Solderability	Per MIL-STD-202, Method 208C					
Package	HC-49U resistance weld with 3 <sup>rd</sup> lead - Sn-Pb tinned leads.					
Maximum Wave Soldering Conditions	+260°C for 10 seconds					

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**LEAD FREE SOLDER PROFILE**



**MECHANICAL AND PIN OUT INFORMATION**



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