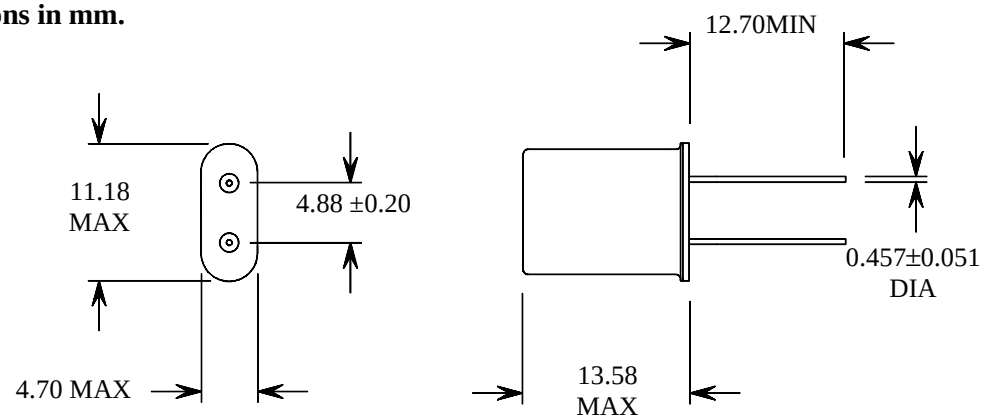
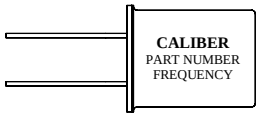
All Dimensions in mm.





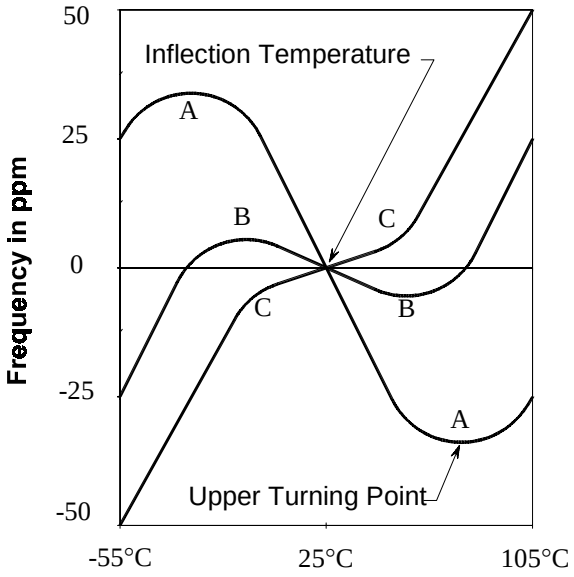
Marking Guide

Line 1: Caliber
Line 2: Complete Part Number
Line 3: Frequency in MHz

Electrical Specifications	
Frequency Range	1.000MHz to 200.000MHz
Frequency Tolerance/Stability "A" Option "B" Option "C" Option "D" Option "E" Option "F" Option "G" Option "H" Option "J" Option	Other Combinations Available. Contact Factory for Custom Specs. ±50/100ppm Max. ±30/50ppm Max. ±15/30ppm Max. ±15/20ppm Max. ±25/30ppm Max. ±25/50ppm Max. ±10/30ppm Max. ±20/20ppm Max. ±5/10ppm Max.
Operating Temperature Range "C" Option "E" Option "F" Option	 0°C to 70°C -20°C to 70°C -40°C to 85°C
Storage Temperature Range	-55°C to 125°C
Load Capacitance "S" Option "XX" Option	 Series 10pF to 50pF
Mode of Operation Fundamental "1" Option Third Overtone "3" Option Fifth Overtone "5" Option Seventh Overtone "7" Option	 1.000MHz to 25.00MHz (up to 30.000MHz) 25.001MHz to 75.000MHz 50.0000MHz to 125.000MHz 125.000MHz to 175.000MHz
Drive Level	2mWatts Maximum, 100uWatts Correlation

A Series
HC-49/U Microprocessor Crystal

AT-Cut Temperature Performance Curves



The shape of the frequency stability curve of a crystal resonator over temperature is directly related to the angle at which the original bar of quartz was cut. For example: Curve A represents a high angle cut yielding a wide frequency span. Curve B represents a medium angle cut yielding a normal frequency span. Curve C represents a low angle cut yielding a narrow frequency span.

Part Numbering Guide

A A 32 C 3 - 30.000MHz

HC-49/U

Frequency Tolerance/Stability
- A = +/-50/100ppm
- B = +/-30/50ppm
- C = +/-15/30ppm
- D = +/-15/50ppm
- E = +/-25/30ppm
- F = +/-25/50ppm
- G = +/-10/30ppm
- H = +/-20/20ppm
- J = +/-5-10ppm

Mode of Operation
- 1 = Fundamental
- 3 = Third Overtone
- 5 = Fifth Overtone

Operating Temperature Range
- C = 0°C to 70°C
- E = -20°C to 70°C
- F = -40°C to 85°C

Load Capacitance
- S = Series
- XX = XXpF (pico Farads)

Environmental and Mechanical Specifications

Shock:	MIL-STD-883C, Method 2002, Condition B
Solderability:	MIL-STD-883C, Method 2003.3
Vibration:	MIL-STD-883C, Method 2007, Condition A
Fine Leak:	MIL-STD-883C, Method 1014.5, Condition A2, $<5x10^{-8}$ ATM cc/sec
Gross Leak:	MIL-STD-883C, Method 1014.5, Condition C
Resistance to Solvents:	MIL-STD-202F, Method 215B

Equivalent Series Resistance Versus Frequency

Frequency in MHZ	Maximum ESR	Frequency in MHZ	Maximum ESR
1.0000	2000	4.0960	100
1.8432	650	4.194304 to 4.9152	80
2.0000	550	5.0000 to 5.0688	75
2.4576	350	6.0000 to 6.4000	50
3.0000	250	7.15909 to 7.3728	40
3.2768	200	8.0640 to 9.8304	35
3.579545	180	10.0000 to 12.2880	30
3.6864	150	12.9600 to 30.000 Fundamental	25
3.93216 to 4.0000	120	24.0000 to 50.000 Third Overtone	40

Configuration Options Available for HC-49/U Crystals

I	=	Insulator Tab
R	=	Tape And Reel
L	=	Third Lead on Top of Can
V	=	Vinyl Insulation Sleeving
AT	=	AT Cut Crystal Blank

Options are designated at the end of the part number on your invoice, for example:

AD20C1-29.4912MHz-I-AT