

# A Series Crystal



- HC-49/U Thru-Hole Crystal
- RoHS Compliant Available
- Wide Frequency Range
- AT Cut
- Resistance Weld



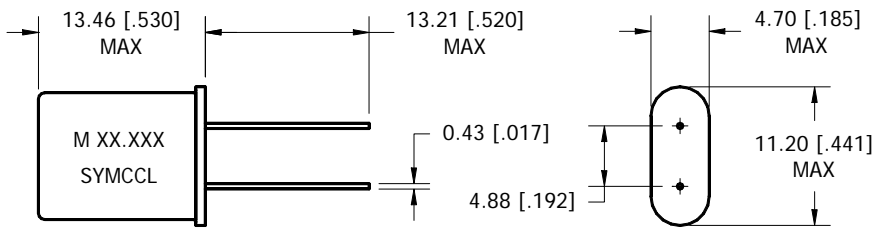
## ELECTRICAL SPECIFICATIONS:

Frequency Range	1.8432MHz to 200.000MHz
Frequency Tolerance / Stability	(See Part Number Guide for Options)
Operating Temperature Range	(See Part Number Guide for Options)
Storage Temperature	-55°C to +125°C
Aging	±5ppm / first year Max
Shunt Capacitance	7pF Max
Load Capacitance	20pF Standard (See Part Number Guide for Options)
Equivalent Series Resistance	See ESR Chart
Mode of Operation	Fundamental, 3 <sup>rd</sup> OT or 5 <sup>th</sup> OT
Drive Level	2mW Max
Shock	MIL-STD-883, Meth 2002, Cond B
Solderability	MIL-STD-883, Meth 2003
Solvent Resistance	MIL-STD-202, Meth 215
Vibration	MIL-STD-883, Meth 2007, Cond A
Gross Leak Test	MIL-STD-883, Meth 1014, Cond C
Fine Leak Test	MIL-STD-883, Meth 1014, Cond A

## ESR CHART:

Frequency Range	ESR (Ohms)	Mode / Cut
1.8432MHz to 1.999MHz	800 Max	Fund / AT
2.000MHz to 2.399MHz	550 Max	Fund / AT
2.400MHz to 2.999MHz	350 Max	Fund / AT
3.000MHz to 3.199MHz	250 Max	Fund / AT
3.200MHz to 3.499MHz	200 Max	Fund / AT
3.500MHz to 3.599MHz	150 Max	Fund / AT
3.600MHz to 3.999MHz	120 Max	Fund / AT
4.000MHz to 4.999MHz	100 Max	Fund / AT
5.000MHz to 5.999MHz	70 Max	Fund / AT
6.000MHz to 40.000MHz	40 Max	Fund / AT
24.000MHz to 75.000MHz	40 Max	3 <sup>rd</sup> OT / AT
75.001MHz to 200.000MHz	100 Max	5 <sup>th</sup> OT / AT

## MECHANICAL DETAIL:



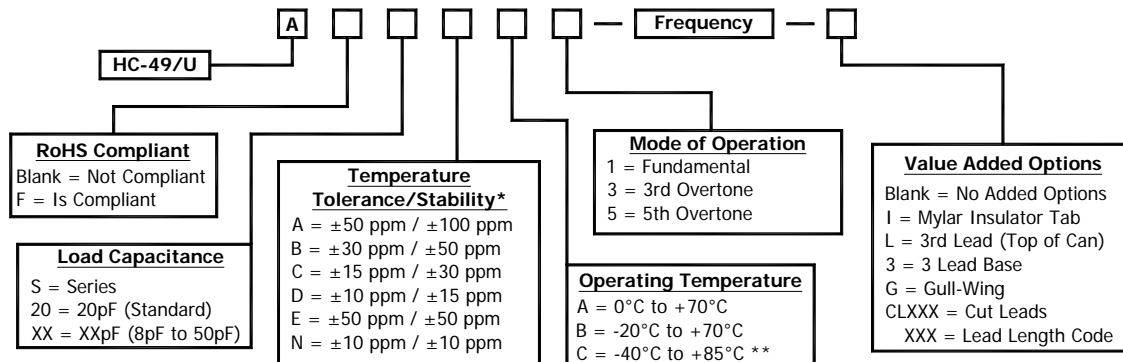
DIMENSIONS IN BRACKETS ARE IN INCHES

## MARKING:

Line 1: MXX.XXX  
XX.XXX = Frequency in MHz

Line 2: SYMCCL  
S = Internal Code  
YM = Date Code (Year/Month)  
CC = Crystal Parameters Code  
L = Denotes RoHS Compliant

## PART NUMBER GUIDE:



\* Please consult with MMD sales department for any other parameters or options.  
\*\* Not all Frequency Tolerance/Stability options available at this temperature range.

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