

A Series Crystal



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



Frequency Range	1.8432MHz to 160.000MHz max
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 rd OT or 5 th OT
Drive Level	2mW Max

Environmental & Mechanical Detail

Shock	MIL-STD-883, Method 2002 Cond B
Solderability	MIL-STD-883, Method 2003
Solvent Resistance	MIL-STD-202, Method 215
Vibration	MIL-STD-883, Method 2007, Cond A
Gross Leak Test	MIL-STD-883, Method 1014, Cond C
Fine Leak Test	MIL-STD-883, Method 1014, Cond A2
MSL	Level 1 per IPC/JEDEC J-STD 20

Marking Detail

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



MMD Monitor/Quartztek
 30400 Esperanza, Rancho Santa Margarita, CA, 92688
 Phone: (949) 709-5075, Fax: (949) 709-3536, www.mmdcomp.com
 Sales@mmdcomp.com

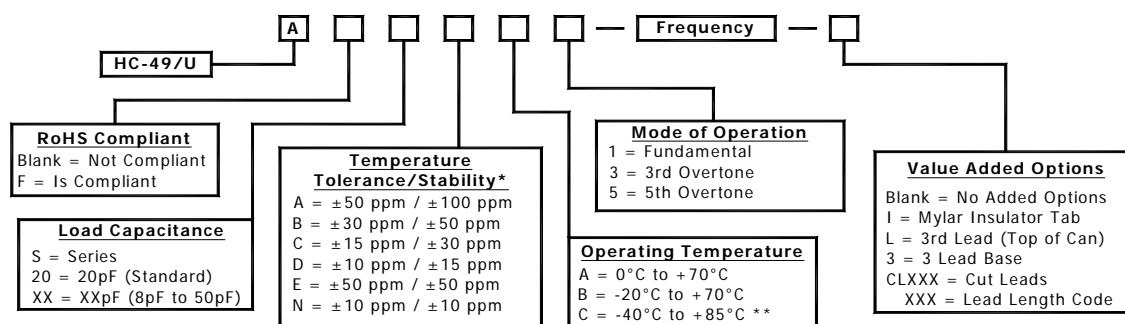


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ESR Chart

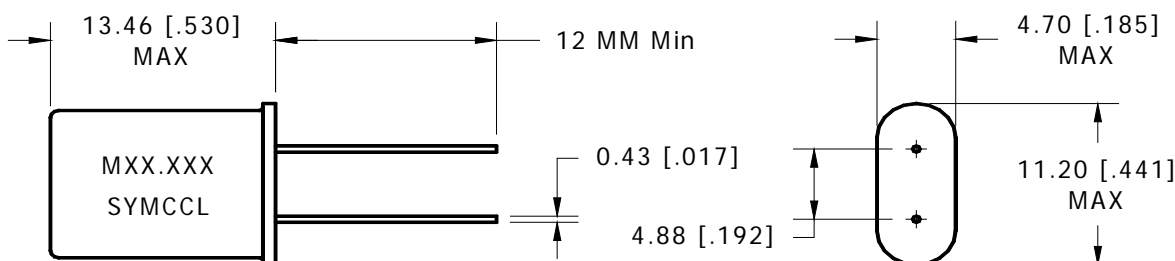
Frequency Range	ESR (Ohms)	Mode / Cut
1.8432MHz to 1.999MHz	800 Max	Fund / AT
2.000MHz to 2.399MHz	550 Max	Fund / AT
2.400MHz to 2.999MHz	350 Max	Fund / AT
3.000MHz to 3.199MHz	250 Max	Fund / AT
3.200MHz to 3.499MHz	200 Max	Fund / AT
3.500MHz to 3.599MHz	150 Max	Fund / AT
3.600MHz to 3.999MHz	120 Max	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 rd OT / AT
75.001MHz to 160.000MHz max	100 Max	5 th OT / AT

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.

Mechanical Details



DIMENSIONS IN BRACKETS ARE IN INCHES

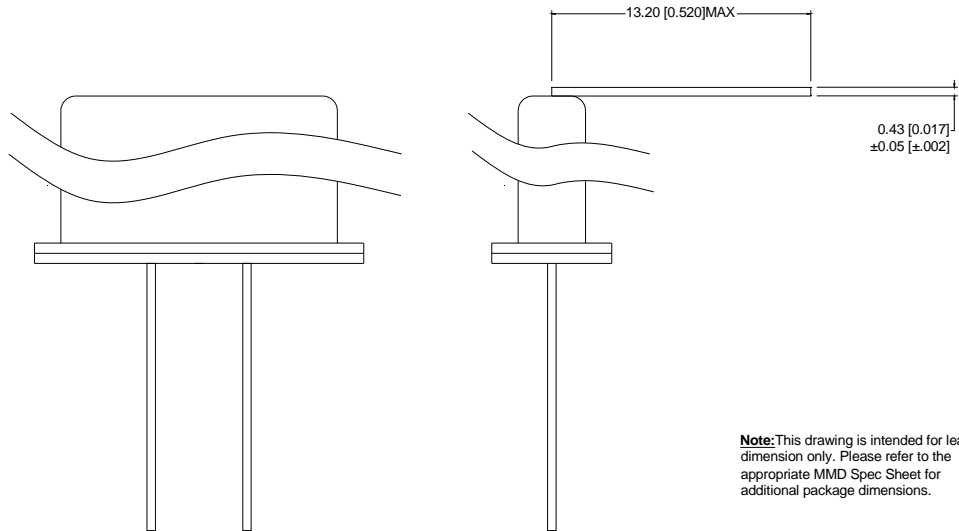


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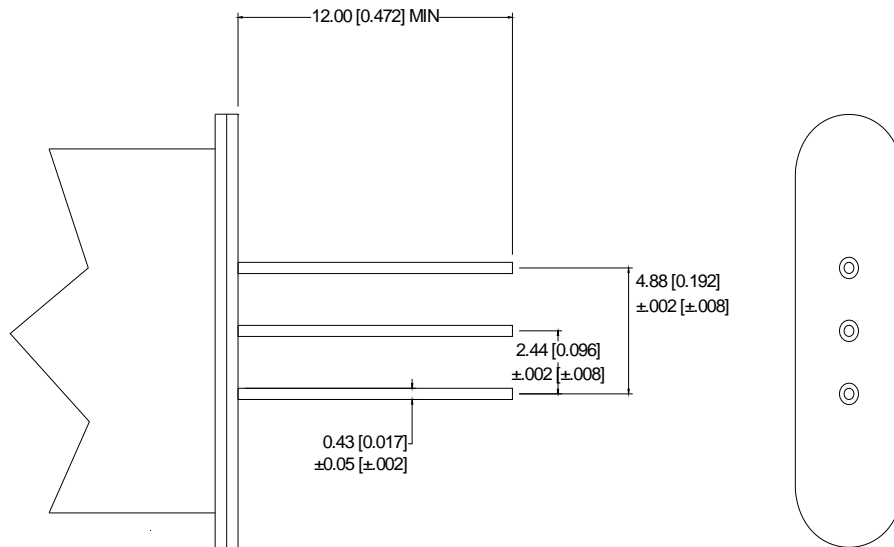
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3rd Lead (Top of Can)



Note: This drawing is intended for lead dimension only. Please refer to the appropriate MMD Spec Sheet for additional package dimensions.

3 Lead Base



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