

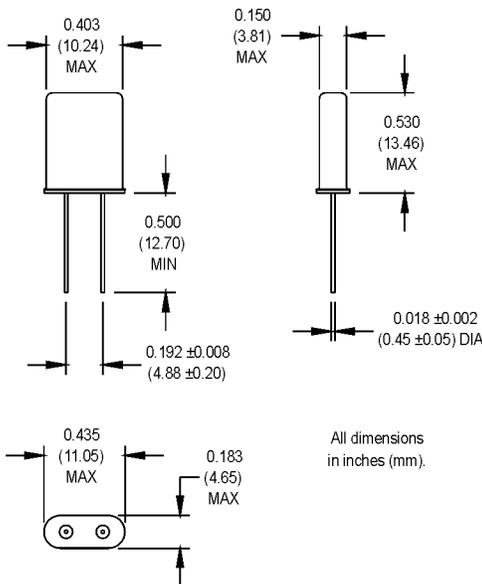
MP-1 and MP-2 Microprocessor Crystals



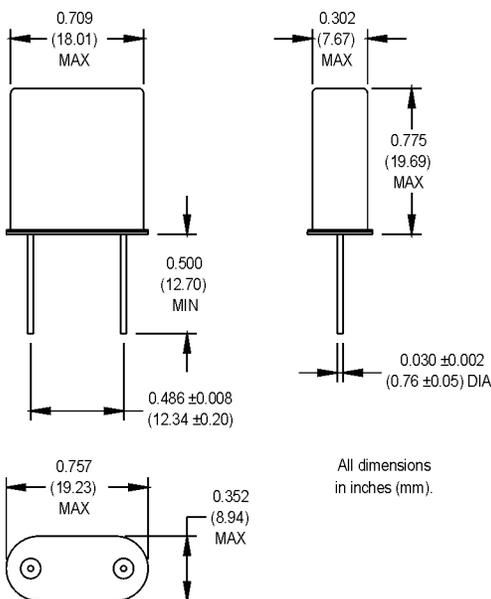
Electrical/Environmental Specifications

PARAMETERS	MP-1*SRMP-1	MP-2*SRMP-2
Frequency Range (MHz)	1.8432 to 200.000	1.8432 to 200.000
Tolerance @ +25°C	±30 ppm	±30 ppm
Stability	±50 ppm	±50 ppm
Aging	±5 ppm/yr. Max.	±5 ppm/yr. Max.
Shunt Capacitance	7 pF Max.	7 pF Max.
Load Capacitance	18 pF Std.	18 pF Std.
Standard Operating Conditions	-10°C to +70°C	-10°C to +70°C
Equivalent Series Resistance (ESR), Max.		
Fundamental (AT-cut)		
1.8432 to 1.999 MHz	700 Ω	300 Ω
2.000 to 2.399 MHz	600 Ω	300 Ω
2.400 to 3.299 MHz	400 Ω	250 Ω
3.300 to 3.569 MHz	140 Ω	100 Ω
3.570 to 3.999 MHz	100 Ω	100 Ω
4.000 to 5.999 MHz	75 Ω	100 Ω
6.000 to 7.999 MHz	50 Ω	60 Ω
8.000 to 10.999 MHz	40 Ω	50 Ω
11.000 to 14.999 MHz	30 Ω	40 Ω
15.000 to 19.999 MHz	25 Ω	30 Ω
20.000 to 34.000 MHz	25 Ω	25 Ω
Third Overtones (AT-cut)		
20.000 to 49.999 MHz	40 Ω	40 Ω
50.000 to 75.000 MHz	50 Ω	50 Ω
Fifth Overtones (AT-cut)		
50.000 to 125.000 MHz	90 Ω	90 Ω
Seventh Overtones (AT-cut)		
125.000 to 200.000 MHz	150 Ω	150 Ω
Drive Level	1 mW Max.	1 mW Max.
Holder	HC-49/U	HC-51/U
Mechanical Shock	MIL-STD-202, Method 213, C	
Vibration	MIL-STD-202, Method 201 & 204	
Solder Conditions ¹	Per MIL-STD-202, Method 210, Condition C	
Thermal Cycle	MIL-STD-883, Method 1010, B	

MP-1 (HC-49/U) 00.0000 MHz (customer specified)



MP-2 (HC-51/U) 00.0000 MHz (customer specified)



* Series resonant designated by "SR" prefix (i.e., SRMP-1).

¹ See page 91 for details.

Refer to page 91 for third lead configuration, base insulator and sleeving options.
See Surface Mount Crystal section for HC-49/U version.

M-tron MP-1 Options (Order by part number listed followed by the desired frequency.)

Part No.	Description
301-010	Fundamental frequencies, base insulator
302-000	3rd overtone frequencies, 20,000 to 34,000 MHz
304-000	Fundamental frequencies, 3rd lead attached
305-000	3rd overtone frequencies, 3rd lead attached
357-000	Fundamental frequencies, 3rd lead attached, base insulator
439-010	3rd overtone frequencies, base insulator
463-000	Fundamental frequencies, 20 pF load capacitance
465-000	Fundamental frequencies, 32 pF load capacitance
490-000	Fundamental frequencies, -20°C to +70°C operating temperature
490-001	Fundamental frequencies, -20°C to +70°C operating temperature, base insulator
490-010	Fundamental frequencies, -40°C to +85°C operating temperature
490-015	Fundamental frequencies, -40°C to +85°C operating temperature, base insulator
490-025	3rd overtone frequencies, -40°C to +85°C operating temperature
490-260	Fundamental frequencies, ±30 ppm tolerance, ±50 ppm stability over -20°C to +70°C

Balance of specifications same as shown in "Electrical Specifications".
Contact the factory for options not listed above.

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