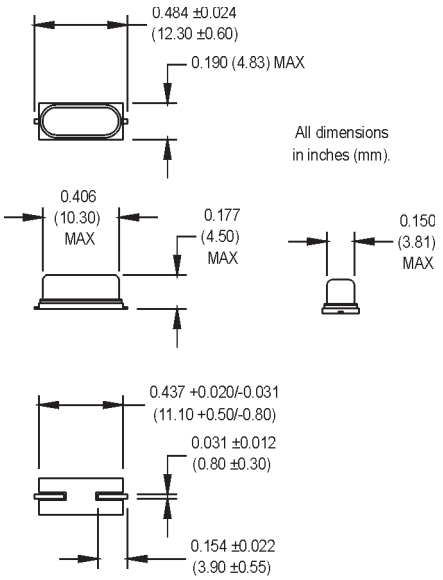
ATSM-49-R Surface Mount Crystals

Order by:

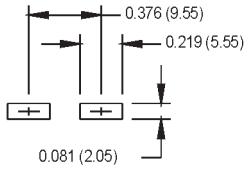
***ATSM-49-R 00.0000 MHz** (Frequency)
-R signifies RoHS compliant part

For Custom P/N:
M1001Sxxx - Contact factory for datasheet

Equivalent Series Resistance (ESR), Max.	
Fundamental (AT-cut)	
3.579 to 3.999 MHz	200 Ω
4.000 to 4.999 MHz	150 Ω
5.000 to 5.999 MHz	120 Ω
6.000 to 9.999 MHz	100 Ω
10.000 to 13.999 MHz	80 Ω
14.000 to 40.000 MHz	50 Ω
Fundamental (BT-cut)	Note 1
24.000 to 50.000 MHz	100 Ω
Third Overtones (AT-cut)	
25.000 to 39.999 MHz	100 Ω
40.000 to 72.000 MHz	80 Ω



SUGGESTED SOLDER PAD LAYOUT



MtronPTI ATSM-49 Options	
Order by part number listed followed by the desired frequency.	
Part No.	**Description**
520-010-R	Fundamental frequencies, -20°C to +70°C operating temperature
520-230-R	Fundamental frequencies, 20pF load capacitance
520-260-R	Fundamental frequencies, 32pF load capacitance
520-910-R	3rd overtone frequencies, 18 pF load capacitance
520-930-R	3rd overtone frequencies, 20pF load capacitance
520-960-R	3rd overtone frequencies, 32pF load capacitance
522-210-R	Fundamental frequencies, -40°C to +85°C operating temperature
522-215-R	3rd overtone frequencies, -40°C to +85°C operating temperature
Balance of specifications same as shown in "Electrical Specifications"	
Contact the factory for options not listed above.	

	PARAMETER	Symbol	Min.	Typ.	Max.	Units	Condition/Notes
Electrical Specification	**Frequency Range**	F	3.579545		72	MHz	
	Frequency Tolerance	F/F			±30	ppm	
	Frequency Stability	ΔF/F			±50	ppm	
	Operating Temperature	T_A	-10		+70	°C	
	Storage Temperature	T_S	-55		+125	°C	
	Aging **1st Year** **Thereafter (per year)**				 +3 +5	 ppm ppm	 Up to 3rd year
	Load Capacitance	C_L		18		pF	See Note 2
	Shunt Capacitance	C_O			7	pF	
	ESR		See ESR Table				
	Drive Level	D_L	25	100	500	µW	
	Insulation Resistance	I_R	500			MΩ	

Environmental	**Aging**	Internal Specification, 168 hrs. at +55°C
	Physical Dimensions	MIL-STD-883, Method 2016
	Shock	MIL-STD-202, Method 213 Condition C, 100 g
	Vibration	MIL-STD-202, Methods 201 & 204, 10 g from 10-2000 Hz
	Thermal Cycle	MIL-STD-883, Method 1010, Condition B, -55°C to +125°C
	Gross Leak	MIL-STD-202, Method 112, 30 sec. Immersion
	Fine Leak	MIL-STD-202, Method 112, 1 x 10^{-8} atmcc/sec. min.
	Resistance to Solvents	MIL-STD-883, Method 2015, Three 1 minute soaks
	Max Soldering Conditions	See solder profile

Note 1: BT Cut fundamentals from 24.000 to 40.000 MHz have a tolerance of ±50 ppm and 100 ppm stability. Order by P/N 471-010-R-Frequency.
Note 2: Series resonant designated by "SR" prefix (ie., SRATSM-49-R).

MtronPTI Lead Free Solder Profile