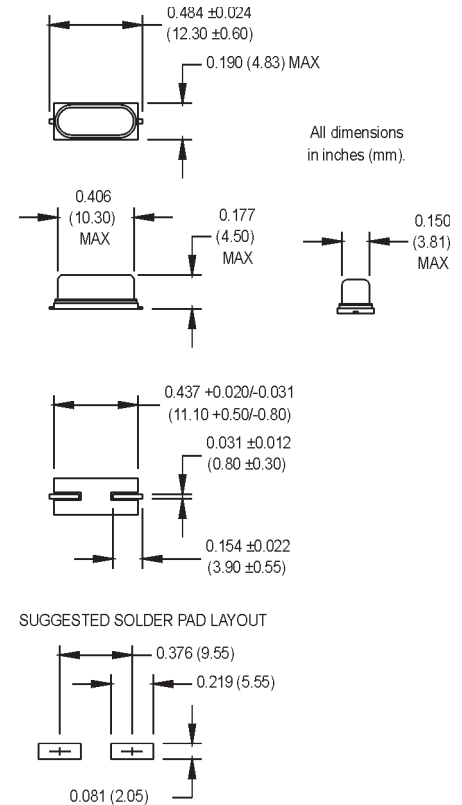


ATSM-49-R Surface Mount Crystals



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



Order by:

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

For Custom P/N:

M1001Sxxx - Contact factory for datasheet

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	3 rd overtone frequencies, 18 pF load capacitance
520-930-R	3 rd overtone frequencies, 20pF load capacitance
520-960-R	3 rd overtone frequencies, 32pF load capacitance
522-210-R	Fundamental frequencies, -40°C to +85°C operating temperature
522-215-R	3 rd 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.	

Electrical Specification	PARAMETER	Symbol	Min.	Typ.	Max.	Units	Condition/Notes
	Frequency Range	F	3.579545		72	MHz	
	Frequency Tolerance	F/F			\pm 30	ppm	
	Frequency Stability	Δ F/F			\pm 50	ppm	
	Operating Temperature	T _A	-10		+70	°C	
	Storage Temperature	T _S	-55		+125	°C	
	Aging 1 st Year Thereafter (per year)				+3 +5	ppm ppm	Up to 3 rd 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	μ W	
Environmental	Insulation Resistance	I _R	500			M Ω	
	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 \pm 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

