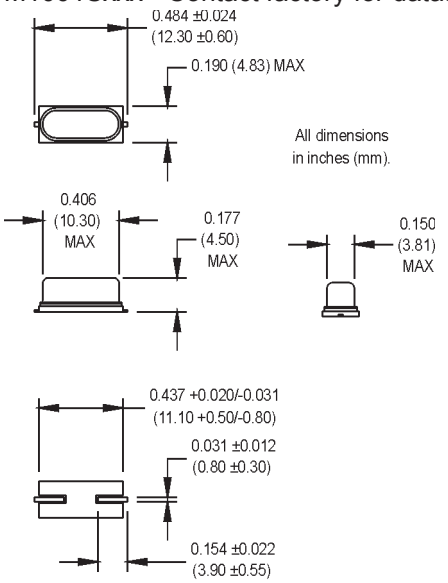
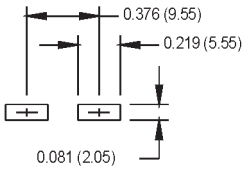
ATSM-49 and SX2050 Surface Mount Crystals

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

M1001Sxxx - Contact factory for datasheet



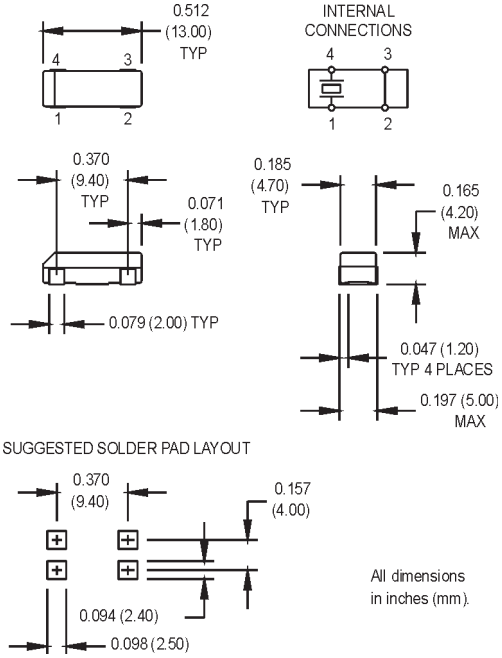
SUGGESTED SOLDER PAD LAYOUT



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)	
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

***SX2050-R 00.0000 MHz** (customer specified)
-R signifies RoHS compliant part

M1011Sxxx - Contact factory for datasheet



SUGGESTED SOLDER PAD LAYOUT

All dimensions
in inches (mm).

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
520-930-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.	
520-330-R-24.000 datasheet – Consult Factory	

	PARAMETER	Symbol	Min.	Typ.	Max.	Units	Condition/Notes
Electrical Specification	Frequency Range	F	3.579545 3.579545		72 60	MHz MHz	ATSM-49 SX2050
	Frequency Tolerance	F/F			±30 ±50	ppm ppm	ATSM-49 SX2050
	Frequency Stability	ΔF/F			±50 ±100	ppm ppm	ATSM-49 (See Note 1) SX2050 (See Note 1)
	Operating Temperature	T_A	-10 -20		+70 +70	°C °C	ATSM-49 SX2050
	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 5	pF pF	ATSM-49 SX2050
	ESR		See ESR Table				
	Drive Level	D_L	25 25	100 50	500 100	µW µW	ATSM-49 SX2050
	Insulation Resistance	IR	500			MΩ	
Environmental	Mechanical Shock		MIL-STD-202, Method 213, C (100 g's)				
	Vibration		MIL-STD-202, Method 201 & 204 (10 g's from 10-2000 Hz)				
	Thermal Cycle		MIL-STD-883, Method 1010, B (-55°C to 125°C, 15 min dwell, 10 cycles)				
	Hermeticity		MIL-STD-202, Method 112 (must meet 1 x 10-8)				
	Solderability		Per EIAJ-STD-002				
	Max Soldering Conditions		See solder profile, Figure 1				

Note 1: BT Cut fundamentals from 24.000 to 40.000 MHz have a stability of ±100 ppm
Note 2: Series resonant designated by "SR" prefix (ie., SRATSM-49 or SRSX2050

MtronPTI Lead Free Solder Profile