ATS-49-R Crystals

FEATURES

Resistance Weld (HC-49S)
AT-Cut Fundamental and Overtone Modes
Swept Quartz Options Available
Rugged Design to support harsh environments

APPLICATIONS

Avionics and Aerospace
Communication and Navigation
Military Radios
Instrumentation and Industrial
Test and Measurement Equipment

ORDERING INFORMATION

ATS-49	-R	00.0000 MHz

Product

ATS-49: Fundamental (AT-cut)

397-030: Fundamental (AT-Cut), 20pF load Capacitance, ±30 ppm tolerance, ±50 ppm stability, -10°C to +70°C operating temperature

397-040: Fundamental (AT-Cut), series resonant, -10°C to +70°C operating temperature

397-310: Fundamental (AT-Cut), 18pF load, -40°C to +85°C operating temperature

482-010: Third Overtone (AT-Cut), base insulator

482-040: Third Overtone (AT-Cut), series resonant, base insulator

482-740: Third Overtone (AT-Cut), series resonant, -40°C to +85°C operating temperature

483-240: Fundamental (AT-Cut), series resonant, ±30 ppm tolerance, ±50 ppm stability, -40°C to +85°C operating temperature

493-040: Third Overtone (AT-Cut), series resonant

RoHS Compliance

-R: RoHS Compliant

-V: non-RoHS

Example of parallel resonant part Number: ATS-49-R 16 .0000 MHz
Example of series resonant part Number: SRATS-49-R 16 .0000 MHz

http://www.mtronpti.com 407-298-2000 MtronPTI 2525 Shader Road Orlando, FL 32804

Notes	
Note 1	Series resonant designated “SR” prefix (i.e., SRATS-49-R)
Note 2	24.000 to 40.000 MHz have a tolerance of ±50 ppm and 100 ppm stability

ELECTRICAL SPECIFICATIONS

Parameter	Symbol	Min.	Typ.	Max.	Units	Conditions
Frequency Range	F_0	3.579545		72	MHz	
Frequency Tolerance	F/F	-30		+30	ppm	@ +25°C, see ordering information.
Frequency Stability	$\Delta F/F$	-50		+50	ppm	Over the operating temperature range
Aging		-3		+3	ppm	1st year
		-5		+5	ppm	Thereafter per year (up to 3rd year)
Load Capacitance			18		pF	See Note 1
Shunt Capacitance				7	pF	
ESR		See ESR Table				
Drive Level	D_L	25	100	500	µW	
Insulation Resistance	I_R	500			MΩ	

Temperature						
Operating Temperature	T_A	-10		+70	°C	
Storage Temperature	T_S	-55		+125	°C	

ESR Table

Frequency Range	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 2	
24.000 to 50.000 MHz	100 Ω
Third Overtone (AT-cut)	
25.000 to 39.999 MHz	100 Ω
40.000 to 72.000 MHz	80 Ω

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ENVIRONMENTAL CONDITIONS

Mechanical 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
Hermeticity	MIL-STD-202, Method 112 (must meet 1 x 10-8)
Solderability	Per EIAJ-STD-002 Environmental
Max Soldering Conditions	Conditions +260°C for 10 secs. Max

MECHANICAL AND PIN OUT INFORMATION