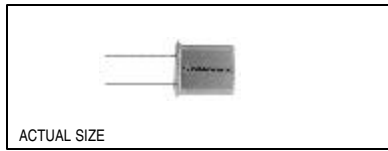


Technical Data

UM-1 Series



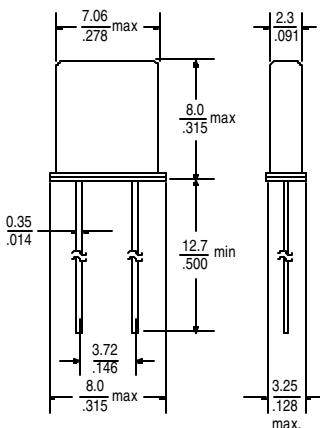
Description

The UM-1 Series is an AT cut crystal housed in an industry standard UM-1 package.

Applications & Features

- Industry standard package
- AT cut performance
- Resistance weld seal

Package Details



Scale: None (Dimensions in $\frac{\text{mm}}{\text{inches}}$)

Frequency Range: 6 MHz to 200 MHz

Temperature Range:

Operating: -20°C to +70°C (extended temperature range available)
Storage: -55°C to +125°C

Temperature

Stability Tolerance: ±50 ppm from -20°C to +70°C

Characteristics at 25°C ±2°C:

Frequency Calibration Tolerance: ±50 ppm (tighter tolerances available)
Load Capacitance: 18pF to 32pF or series resonance
Effective Series Resistance: 150 to 30 ohms (frequency dependent)
Drive Level: 0.5mW correlation, 2.0mW maximum operating
Shunt Capacitance: 7pF maximum

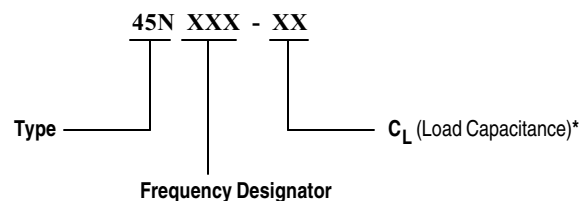
Mechanical:

Shock: MIL-STD-883, Method 2002, Condition B
Solderability: MIL-STD-883, Method 2003
Terminal Strength: MIL-STD-202, Method 211, Conditions A and C
Vibration: MIL-STD-883, Method 2007, Condition A
Solvent Resistance: MIL-STD-202, Method 215
Resistance to Soldering Heat: MIL-STD-202, Method 210, Condition B

Environmental:

Gross Leak Test: MIL-STD-883, Method 1014, Condition C
Fine Leak Test: MIL-STD-883, Method 1014, Condition A
5×10^{-8} ATM cc/sec
Thermal Shock: MIL-STD-883, Method 1011, Condition A
Moisture Resistance: MIL-STD-883, Method 1004

Part Numbering Guide



* If no C_L value specified, crystal is calibrated for series resonance.

Example: 45N120 (Part marked: 120)

If C_L value specified, crystal is calibrated for parallel resonance.

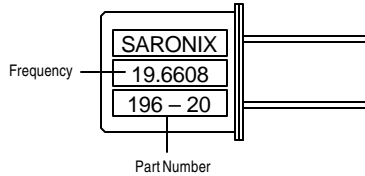
Example: 45N073-20 (Part marked 073-20)

Technical Data

UM-1 Series

Package Details

Standard Marking Format



Common Frequencies:

The following selection chart lists common UM-1 (HC45/U) crystal frequencies. Special frequencies and load calibrations are available upon request.

Frequency MHz	Saronix Part Number	Maximum ESR (Fundamental)	Maximum ESR (Overtone)
6.000000	45N060	120	
6.144000	45N061	120	
6.553600	45N065	120	
7.000000	45N070	100	
7.159090	45N071	100	
7.372800	45N073	100	
8.000000	45N080	80	
9.830400	45N098	80	
10.000000	45N100	60	
10.738635	45N107	60	
11.000000	45N110	50	
11.059200	45N111	50	
12.000000	45N120	40	
14.318180	45N143	30	
14.745600	45N147	30	
15.000000	45N150	30	
16.000000	45N160	30	
18.000000	45N180	30	
18.432000	45N184	30	
19.660800	45N196	30	
20.000000	45N200	30	
20.945000	45N209	30	
22.118400	45N221	30	
24.000000	45N240	30	
25.000000	45N250	30	
32.000000	45N320		70 (3rd OT)
40.000000	45N400		60 (3rd OT)
48.000000	45N480		60 (3rd OT)
60.000000	45N600		50 (3rd OT)
75.000000	45N750		50 (3rd OT)
80.000000	45N800		50 (3rd OT)
100.000000	45N1000		100 (5th OT)
125.000000	45N1250		120 (5th OT)
140.000000	45N1400		130 (7th OT)
160.000000	45N1600		130 (7th OT)

All specifications are subject to change without notice.