

## Typical Parameters of Precision Military and Space Crystals

### *AT-cut*

#### Fundamental Mode

Frequency Range, MHz	Calibration Tolerance, ppm	Resistance, Rs, ohms	Co, pF	Temperature Stability, ppm	Temperature range, °C	Phase Noise @ 100 Hz offset, dBc/Hz	Holder
8.0 to 11.0	+/-5	10 to 50	3.0	+/-10 +/-20 +/-35	-20 to +70 -40 to +85 -55 to +125	-80 to -115	HC-35 (TO-5), HC-43, HC-49
11 to 30	+/-5	5 to 50	3.0	+/-5 +/-10 +/-30	-20 to +70 -40 to +85 -55 to +125	-80 to -115	HC-35 (TO-5), HC-43, HC-49 UM1, HC-45
30 to 50	+/-10	5 to 25	4.0	+/-10 +/-20 +/-40	-20 to +70 -40 to +85 -55 to +125	-	UM1, HC-45
50 to 200	+/-20	5 to 20	4.0	+/-15 +/-25 +/-50	-20 to +70 -40 to +85 -55 to +125	-	UM1, HC-45

#### Third Overtone

Frequency Range, MHz	Calibration Tolerance, ppm	Resistance, Rs, ohms	Co, pF	Temperature Stability, ppm	Temperature range, °C	Phase Noise @ 100 Hz offset, dBc/Hz	Holder
5.0 to 17.0	+/-1.5	15 to 80	4.0	+/-5 +/-10 +/-30	-20 to +70 -40 to +85 -55 to +125	-90 to -135	HC-37 (TO-8), HC-37 (TO-8)- low profile HC-36, HC-47
17 to 30	+/-3	25 to 50	4.0	+/-5 +/-10 +/-30	-20 to +70 -40 to +85 -55 to +125	-90 to -135	HC-37 (TO-8), HC-37(TO-8)- LP HC-36, HC-47, HC-43
30 to 120	+/-10	20 to 40	4.0	+/-7 +/-12 +/-35	-20 to +70 -40 to +85 -55 to +125	-80 to -135	HC-35 (TO-5), UM1, HC-45, HC-43, HC-37 (TO-8), HC-37(TO-8)- LP HC-36, HC-47

### Fifth Overtone

Frequency Range, MHz	Calibration Tolerance, ppm	Resistance, Rs, ohms	Co, pF	Temperature Stability, ppm	Temperature range, °C	Phase Noise @ 100 Hz offset, dBc/Hz	Holder
10.0 to 32.0	+/-5	50 to 350	3.0	+/-10 +/-15 +/-35	-20 to +70 -40 to +85 -55 to +125	-120 to -140	HC-37 (TO-8), HC-37 (TO-8)- low profile HC-36, HC-47
32.0 to 45.0	+/-5	40 to 120	3.0	+/-5 +/-10 +/-30	-20 to +70 -40 to +85 -55 to +125	-120 to -135	HC-43, HC-49 HC-37 (TO-8), HC-37(TO-8)- LP
45.0 to 55.0	+/-5	35 to 90	3.0	+/-5 +/-10 +/-30	-20 to +70 -40 to +85 -55 to +125	-120 to -135	HC-35 (TO-5), HC-43
55 to 125	+/-5	25 to 80	3.0	+/-5 +/-10 +/-30	-20 to +70 -40 to +85 -55 to +125	-115 to -135	HC-35 (TO-5), HC-43, UM1, HC-45
125 to 250	+/-10	35 to 80	3.0	+/-7 +/-12 +/-35	-20 to +70 -40 to +85 -55 to +125	-90 to -125	HC-35 (TO-5), HC-43, UM1, HC-45

### Seventh Overtone

Frequency Range, MHz	Calibration Tolerance, ppm	Resistance, Rs, ohms	Co, pF	Temperature Stability, ppm	Temperature range, °C	Phase Noise @ 100 Hz offset, dBc/Hz	Holder
85 to 250	+/-10	60 to 95	3.7	+/-10 +/-15 +/-35	-20 to +70 -40 to +85 -55 to +125	-80 to -110	HC-35 (TO-5), HC-43, UM1, HC-45

- All crystals are available as series resonance, fundamental, 3<sup>rd</sup> and 5<sup>th</sup> overtone crystals also available as parallel resonance with load capacity from 5 pf to 100 pF.
- For your specific requirement please contact our engineering staff