

Typical Parameters of Precision Military and Space Crystals
Double rotated Crystals

SC-cut/ SC modified 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 25.0	+/-5	15 to 60	3.5	+/-50	-55 to +125	-80 to -115	HC-35 (TO-5), HC-43

Third Overtone

Frequency Range, MHz	Calibration Tolerance, ppm	Resistance, Rs, ohms	Co, pF	Lower Turnover Temperature, °C	Q-factor, 10 ³	Phase Noise @ 100 Hz offset, dBc/Hz	Holder
5.0 to 9.0	+/-1.5	80 to 140	3.0	+10 to +95	900 to 2200	-130 to -150	HC-37 (TO-8), HC-36, HC-47 HC-37 (TO-8)- low profile
9 to 25	+/-1.5	50 to 120	3.2	+10 to +95	800 to 1400	-130 to -150	HC-43, HC-37 (TO-8), HC-36, HC-47, HC-37(TO-8)- LP
25 to 120	+/-5	40 to 90	4.0	+10 to +95	360 to 90	-120 to -150	HC-35 (TO-5), HC-45, HC-43,

Fifth Overtone

Frequency Range, MHz	Calibration Tolerance, ppm	Resistance, Rs, ohms	Co, pF	Lower Turnover Temperature, °C	Q-factor, 10 ³	Phase Noise @ 100 Hz offset, dBc/Hz	Holder
50 to 150	+/-5	50 to 120	3.0	+10 to +95	80 to 200	-120 to -140	HC-35 (TO-5), HC-45, HC-43

IT-cut
Fundamental Mode

Frequency Range, MHz	Calibration Tolerance, ppm	Resistance, Rs, ohms	Co, pF	Upper Turnover Temperature, °C	Q-factor, 10 ³	Phase Noise @ 100 Hz offset, dBc/Hz	Holder
8.0 to 25.0	+/-5	15 to 70	4.0	+85 to +155	50 to 200	-80 to -115	HC-35 (TO-5), HC-43

Third Overtone

Frequency Range, MHz	Calibration Tolerance, ppm	Resistance, Rs, ohms	Co, pF	Upper Turnover Temperature, °C	Q-factor, 10 ³	Phase Noise @ 100 Hz offset, dBc/Hz	Holder
9 to 25	+/-1.5	40 to 120	3.5	+85 to +155	600 to 1200	-120 to -145	HC-43, HC-37 (TO-8), HC-36, HC-47, HC-37(TO-8)- LP
25 to 120	+/-5	25 to 130	4.5	+85 to +155	80 to 250	-115 to -135	HC-35 (TO-5), HC-45, HC-43,

Fifth Overtone

Frequency Range, MHz	Calibration Tolerance, ppm	Resistance, Rs, ohms	Co, pF	Upper Turnover Temperature, °C	Q-factor, 10 ³	Phase Noise @ 100 Hz offset, dBc/Hz	Holder
50 to 150	+/-5	30 to 120	5.0	+85 to +155	60 to 200	-115 to -135	HC-35 (TO-5), HC-45, HC-43

FC-cut
Fundamental Mode

Frequency Range, MHz	Calibration Tolerance, ppm	Resistance, Rs, ohms	Co, pF	Upper Turnover Temperature, °C	Q-factor, 10 ³	Phase Noise @ 100 Hz offset, dBc/Hz	Holder
8.0 to 25.0	+/-5	15 to 60	3.5	+55 to +115	50 to 200	-80 to -115	HC-35 (TO-5), HC-43

Third Overtone

Frequency Range, MHz	Calibration Tolerance, ppm	Resistance, Rs, ohms	Co, pF	Upper Turnover Temperature, °C	Q-factor, 10 ³	Phase Noise @ 100 Hz offset, dBc/Hz	Holder
5.0 to 9.0	+/-1.5	50 to 120	3.0	+55 to +115	500 to 1000	-120 to -145	HC-37 (TO-8), HC-36, HC-47 HC-37 (TO-8)- low profile
9 to 25	+/-1.5	30 to 120	3.2	+55 to +115	300 to 800	-115 to -145	HC-43, HC-37 (TO-8), HC-36, HC-47, HC-37(TO-8)- LP
25 to 120	+/-5	25 to 90	3.5	+55 to +115	90 to 200	-110 to -135	HC-35 (TO-5), HC-45, HC-43,

Fifth Overtone

Frequency Range, MHz	Calibration Tolerance, ppm	Resistance, Rs, ohms	Co, pF	Upper Turnover Temperature, °C	Q-factor, 10 ³	Phase Noise @ 100 Hz offset, dBc/Hz	Holder
15 to 50	+/-1.5	30 to 90	4.0	+55 to +75	250 to 500	-120 to -145	HC-37 (TO-8), HC-36, HC-47 HC-37 (TO-8)- low profile
50 to 150	+/-5	50 to 120	4.0	+55 to +75	70 to 250	-110 to -135	HC-35 (TO-5), HC-45, HC-43

- All crystals are available as series resonance and as parallel resonance with load capacity from 5 pF to 100 pF.
- FC-cut crystals also available with temperature stability +/-1 ppm over +25°C to +65°C
- For your specific requirement please contact our engineering staff