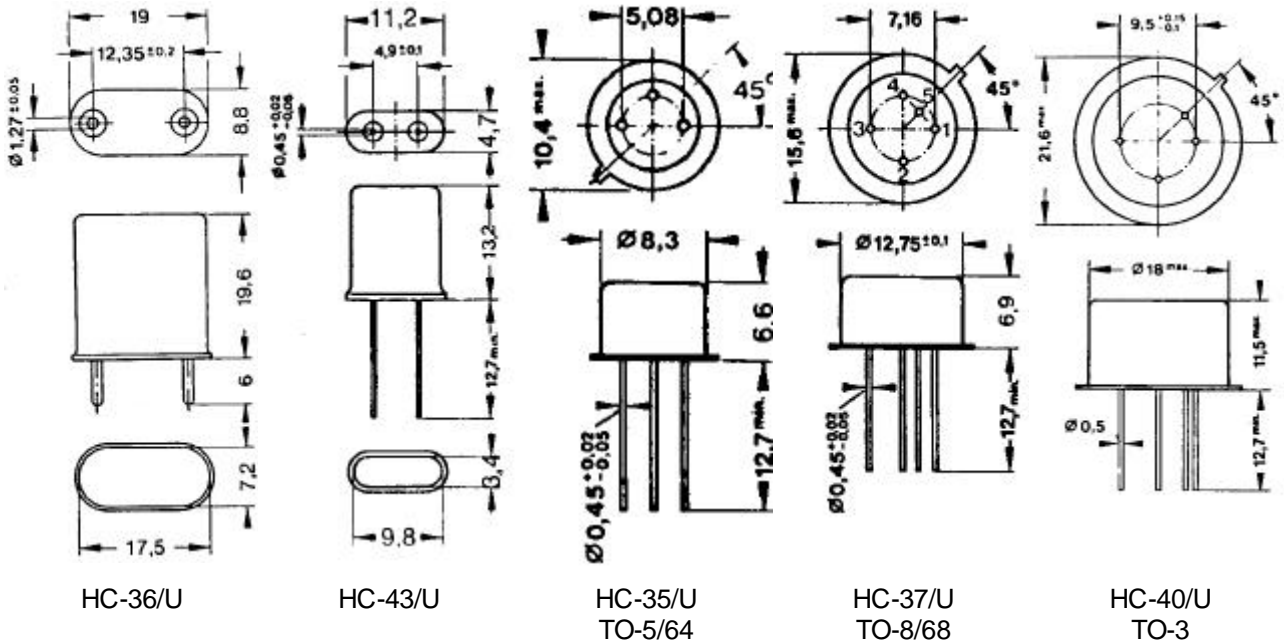




# High Precision Crystals Pb

We produce high precision crystals in AT-cut and SC-cut for ovenized applications in evacuated resistance welded and cold welded metal enclosures. These crystals exhibit very high Q, ultra low aging and a superior phase noise.



### Typical High Precision SC-Cut Specification:

Range for turnov. point: +55°C to + 75°C  
Turnover point tolerance: ± 5°C

Frequency [MHz]	Overtone	Adjustment tol. at turnov. point	Aging / year after 30 days	Aging / day after 90 days	Quality factor Q
5	3.	± 1.5 ppm	$1.5 \times 10^{-8}$	$5 \times 10^{-11}$	$2 \times 10^6$
10	5.	± 1 ppm	$5 \times 10^{-8}$	$2 \times 10^{-10}$	$1.3 \times 10^6$

### Typical High Precision AT-Cut Specification:

Frequency [MHz]	Overtone	Adjustment Tolerance	Aging / year after 30 days	Short term Stability	Quality factor Q
5	3.	± 3 ppm	$2 \times 10^{-7}$	$5 \times 10^{-10} / 10 \text{ s}$	$1 \times 10^6$
13	3.	± 2 ppm	$5 \times 10^{-8}$	$3 \times 10^{-10} / 10 \text{ s}$	$0.6 \times 10^6$

### Standard AT-Cut crystals in evacuated cold welded metal enclosures:

Adjustment tolerance @ 25°C ± 2°C: ± 10ppm  
Overtone crystals in series resonance  
Load capacitance for fundamental crystals: CL = 30pF

Further data and information upon request.

**Crystals for space applications and military applications are available upon customer requests.**

Enclosure	Overtone	Frequ.range [MHz]
HC-36/U	1	1 - 20
	3	10 - 70
	5	60 -130
HC-43/U	1	3 - 30
	3	16 - 90
	5	50 - 130
	7, 9, 11	130 - 300
HC-40/U	1	1 - 10
HC-37/U	1	3 - 20
TO-8/68	3	20 - 60
HC-35/U TO-5/64	1	10 - 35
	3	20 - 90
	5	50 - 130
	7,9,11	130 - 300

### KVG Quartz Crystal Technology

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