

HC49/4H SMX Crystals

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Delivery Options

- Please contact our sales office for current leadtimes

Holder Style

- HC49/4H SMX crystals are resistance welded, hermetically sealed in an inert atmosphere with glass to metal seals securing the lead wires. The lead wires are formed into a gull wing and mounted on a plastic former
- Lower profiles available, please contact our sales office

General Specifications

- Load Capacitance (C_L): 10pF to 75pF or Series
- Drive Level: 0.5mW max
- Static Capacitance (C_0): 7pF max
- Ageing: ± 5 ppm per year standard, ± 1 ppm available on request

Standard Frequency Tolerances and Stabilities

- ± 30 ppm, ± 50 ppm, ± 100 ppm, tighter tolerances and stabilities available on request.

Operating Temperature Ranges

- 0 to 50°C -20 to 70°C
- 10 to 60°C -30 to 80°C
- Other temperature ranges available on request

Storage Temperature Range

- -40 to 85°C

Environmental Specification

- Shock: 981m/s² for 6ms, three shocks in each direction along three mutually perpendicular planes,
- Vibration: 10 to 60Hz 0.75mm displacement, 60 to 500Hz 98.1m/s² acceleration, 30 minute in each of three mutually perpendicular planes

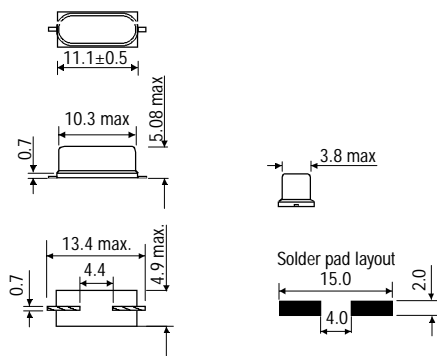
Marking

- Frequency only

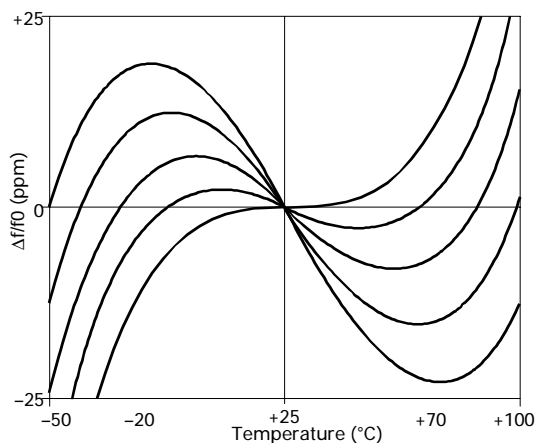
Minimum Order Information Required

- Frequency + Holder + Frequency Tolerance @ 25°C
+ Frequency Stability + Operating Temperature Range +
Circuit Condition + Overtone Order

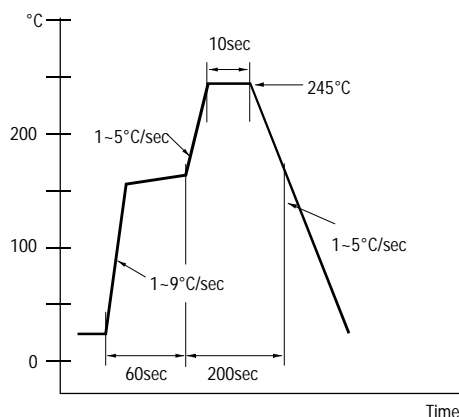
Outline in mm



Typical Frequency vs Temperature Curves for various angles of AT-cut crystals



Typical Solder Condition - Infrared Reflow



Electrical Specification - maximum limiting values

Frequency Range	Frequency Tolerance @ 25°C ±2°C	Operating Temperature Range	Frequency Stability Available Over Operating Temperature		ESR max.	Vibration Mode
			Minimum	Maximum		
3.0 to <4.0MHz	±10ppm to ±100ppm	0 to 50°C	±15ppm	±100ppm	300Ω	Fundamental AT cut
		-10 to 60°C	±20ppm	±100ppm		
		-20 to 70°C	±20ppm	±100ppm		
		-30 to 80°C	±25ppm	±100ppm		
4.0 to <5.5MHz	±10ppm to ±100ppm	0 to 50°C	±15ppm	±100ppm	130Ω	Fundamental AT cut
		-10 to 60°C	±20ppm	±100ppm		
		-20 to 70°C	±20ppm	±100ppm		
		-30 to 80°C	±25ppm	±100ppm		
5.5 to <6.0MHz	±10ppm to ±100ppm	0 to 50°C	±15ppm	±100ppm	100Ω	Fundamental AT cut
		-10 to 60°C	±20ppm	±100ppm		
		-20 to 70°C	±20ppm	±100ppm		
		-30 to 80°C	±25ppm	±100ppm		
6.0 to <9.0MHz	±10ppm to ±100ppm	0 to 50°C	±15ppm	±100ppm	80Ω	Fundamental AT cut
		-10 to 60°C	±20ppm	±100ppm		
		-20 to 70°C	±20ppm	±100ppm		
		-30 to 80°C	±25ppm	±100ppm		
9.0 to <13.0MHz	±10ppm to ±100ppm	0 to 50°C	±15ppm	±100ppm	60Ω	Fundamental AT cut
		-10 to 60°C	±20ppm	±100ppm		
		-20 to 70°C	±20ppm	±100ppm		
		-30 to 80°C	±25ppm	±100ppm		
13.0 to <20.0MHz	±10ppm to ±100ppm	0 to 50°C	±10ppm	±100ppm	40Ω	Fundamental AT cut
		-10 to 60°C	±15ppm	±100ppm		
		-20 to 70°C	±15ppm	±100ppm		
		-30 to 80°C	±20ppm	±100ppm		
20.0 to <30.0MHz	±10ppm to ±100ppm	0 to 50°C	±5ppm	±100ppm	30Ω	Fundamental AT cut
		-10 to 60°C	±15ppm	±100ppm		
		-20 to 70°C	±15ppm	±100ppm		
		-30 to 80°C	±20ppm	±100ppm		
27.5 to 50.0MHz	Inclusive with Frequency Stability	0 to 50°C	±50ppm	±100ppm	40Ω	Fundamental BT cut
		-10 to 60°C	±70ppm	±100ppm		
		-20 to 70°C	±100ppm	±100ppm		
26.0 to 100.0MHz	±15ppm to ±100ppm	0 to 50°C	±15ppm	±100ppm	100Ω	3rd Overtone AT cut
		-10 to 60°C	±20ppm	±100ppm		
		-20 to 70°C	±20ppm	±100ppm		
		-30 to 80°C	±25ppm	±100ppm		

SURFACE MOUNT
QUARTZ CRYSTALS

Technical drawing of a circular part with three radial slots. The top view shows a circle with a central hole of diameter $\varnothing 23.0$, three radial slots with a width of 2.5, and a 120-degree angle between the slots. The side view shows a total thickness of 25.5, an outer diameter of $\varnothing 80$, an inner diameter of $\varnothing 13.0$, and a slot depth of 2.0.