

HC35 (TO5) CRYSTALS

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Delivery Options

- 3 day Express Manufacturing Service, subject to piece part stock availability

Holder Style

- HC35 (TO5) crystals are resistance welded, hermetically sealed in an inert atmosphere with glass to metal seals securing the lead wires

General Specifications

- Load Capacitance (C_L): 10pF to 75pF or Series
- Drive Level: 1.0mW max.
- Static Capacitance (C_0): 7pF max.
- Ageing: ± 3 ppm typical per year

Standard Frequency Tolerances and Stabilities

- ± 5 ppm, ± 10 ppm, ± 15 ppm, ± 20 ppm, ± 30 ppm, ± 50 ppm, ± 100 ppm

Operating Temperature Ranges

- 0 to 50°C -40 to 90°C
- 10 to 60°C -55 to 105°C
- 20 to 70°C -55 to 125°C
- 30 to 80°C

Storage Temperature Range

- 55 to 125°C

Environmental Specification

- Shock: 981m/s^2 for 6ms, three shocks in each direction along three mutually perpendicular planes
- Vibration: 10 to 60Hz 0.75mm displacement, 60 to 2000Hz 98.1m/s^2 acceleration, 30 minutes in each of three mutually perpendicular planes

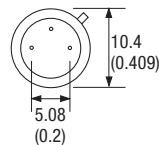
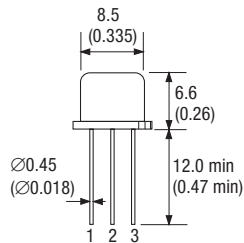
Marking

- Includes Frequency

Minimum Order Information Required

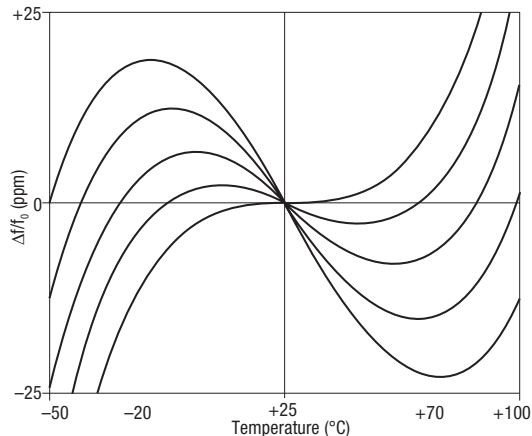
- Frequency + Holder + Frequency Tolerance @ 25°C
+ Frequency Stability + Operating Temperature Range + Circuit Condition + Overtone Order

Outline in mm (inches)



Pin connections
1. Crystal
2. Case & ground
3. Crystal

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



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		
6.0 to < 8.0MHz	±5ppm to ±100ppm	0 to 50°C	±10ppm	±100ppm	60Ω	Fundamental AT cut
		-10 to 60°C	±15ppm	±100ppm		
		-20 to 70°C	±15ppm	±100ppm		
		-30 to 80°C	±20ppm	±100ppm		
		-40 to 90°C	±25ppm	±100ppm		
		-55 to 105°C	±50ppm	±100ppm		
		-55 to 125°C	±50ppm	±100ppm		
8.0 to < 15.0MHz	±5ppm to ±100ppm	0 to 50°C	±10ppm	±100ppm	30Ω	Fundamental AT cut
		-10 to 60°C	±15ppm	±100ppm		
		-20 to 70°C	±15ppm	±100ppm		
		-30 to 80°C	±20ppm	±100ppm		
		-40 to 90°C	±25ppm	±100ppm		
		-55 to 105°C	±50ppm	±100ppm		
		-55 to 125°C	±50ppm	±100ppm		
15.0 to 30.0MHz	±5ppm to ±100ppm	0 to 50°C	±5ppm	±100ppm	20Ω	Fundamental AT cut
		-10 to 60°C	±5ppm	±100ppm		
		-20 to 70°C	±10ppm	±100ppm		
		-30 to 80°C	±20ppm	±100ppm		
		-40 to 90°C	±25ppm	±100ppm		
		-55 to 105°C	±50ppm	±100ppm		
		-55 to 125°C	±50ppm	±100ppm		
25.0 to 90.0MHz	±5ppm to ±100ppm	0 to 50°C	±5ppm	±100ppm	40Ω	3rd Overtone AT cut
		-10 to 60°C	±5ppm	±100ppm		
		-20 to 70°C	±10ppm	±100ppm		
		-30 to 80°C	±20ppm	±100ppm		
		-40 to 90°C	±25ppm	±100ppm		
		-55 to 105°C	±50ppm	±100ppm		
		-55 to 125°C	±50ppm	±100ppm		
60.0 to 150.0MHz	±5ppm to ±100ppm	0 to 50°C	±5ppm	±100ppm	60Ω	5th Overtone AT cut
		-10 to 60°C	±5ppm	±100ppm		
		-20 to 70°C	±10ppm	±100ppm		
		-30 to 80°C	±20ppm	±100ppm		
		-40 to 90°C	±25ppm	±100ppm		
		-55 to 105°C	±50ppm	±100ppm		
		-55 to 125°C	±50ppm	±100ppm		
125.0 to 175.0MHz	±5ppm to ±100ppm	0 to 50°C	±5ppm	±100ppm	100Ω	7th Overtone AT cut
		-10 to 60°C	±5ppm	±100ppm		
		-20 to 70°C	±10ppm	±100ppm		
		-30 to 80°C	±20ppm	±100ppm		
		-40 to 90°C	±25ppm	±100ppm		
		-55 to 105°C	±50ppm	±100ppm		
		-55 to 125°C	±50ppm	±100ppm		
170.0 to 210.0MHz	±5ppm to ±100ppm	0 to 50°C	±5ppm	±100ppm	200Ω	9th Overtone AT cut
		-10 to 60°C	±5ppm	±100ppm		
		-20 to 70°C	±10ppm	±100ppm		
		-30 to 80°C	±20ppm	±100ppm		
		-40 to 90°C	±25ppm	±100ppm		
		-55 to 105°C	±50ppm	±100ppm		
		-55 to 125°C	±50ppm	±100ppm		