



ISSUE 15; September 2012 - RoHS 2011/65/EU

Description

- Industry standard leaded package
Resistance welded, hermetically sealed in an inert atmosphere, glass to metal seals on leads
- Variants available include but are not limited to:-
3L = an additional centre mounted leg grounds the can
TW = an additional top mounted leg grounds the can
T = a truncated height of 11.1mm
- Please see our HC49 Gull-Wing for a SMD alternative
- Please contact our sales offices for more options

Frequency Range

- Frequency 1.8432 to 270.0000MHz
- Frequency Stability $\pm 5.00\text{ppm}$
- Frequency Tolerance $\pm 5\text{ppm}$ to $\pm 100\text{ppm}$

General Specification

- Load Capacitance (CL) 10.0pF to 75.0pF or Series
- Drive Level 1mW max
- Ageing $\pm 3\text{ppm}$ typical per year
- Shunt Capacitance (C0) 7pF max

Operating Temperature Ranges

- 0 to 50°C
- -10 to 60°C
- -20 to 70°C
- -30 to 80°C
- -40 to 85°C
- -55 to 105°C
- -55 to 125°C

Environmental Parameters

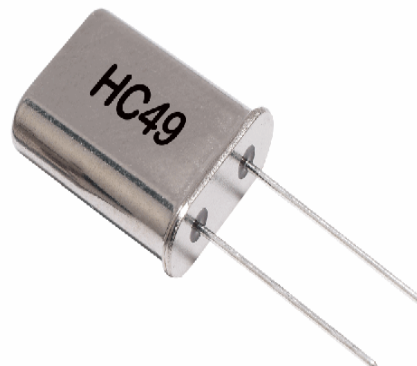
- Shock: 981m/s^2 , 6ms, 3 times in each of 3 mutually perpendicular planes
- Vibration: 10Hz-60Hz, 0.75mm amplitude, 60Hz-500Hz, 98.1m/s^2 , 30mins in 3 mutually perpendicular planes
- Storage Temperature Range: -55 to 125°C

Ordering Information

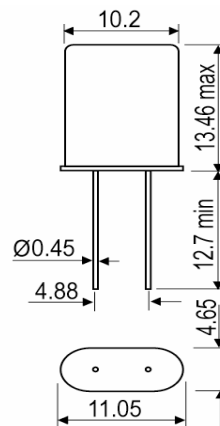
- Frequency*
- Model*
- Frequency Tolerance (@25°C)*
- Frequency Stability (over operating temperature range)*
- Operating Temperature Range*
- Load Capacitance*
- Overtone*
- Example:
10.0MHz HC49
50/50/-40 to 85C/10 FUND

Packing Details

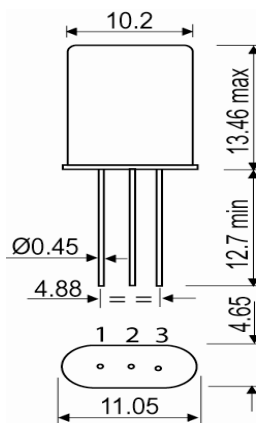
- Pack Style: **Bulk** Loose in bulk pack
Pack Size 100
- Pack Style: **Reel** Tape and reel in accordance with EIA-468-C
Pack Size 1,000
- Alternative packing options available



Outline (mm)



-3L = 3 Lead



Pin Connections
1. Crystal
2. Case & GND
3. Crystal

Sales Office Contact Details:

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Electrical Specification - maximum limiting values

Frequency Range	Frequency Tolerance	Stability		Temperature Range	ESR Max	Vibration Mode
		Min	Max			
1.8432 to <2.0MHz	±5ppm to ±100ppm	±15ppm ±20ppm ±20ppm ±25ppm ±30ppm ±50ppm ±100ppm	±200ppm	0 to 50°C -10 to 60°C -20 to 70°C -30 to 80°C -40 to 85°C -55 to 105°C -55 to 125°C	800Ω	Fundamental
2.0000 to <3.0MHz	±5ppm to ±100ppm	±15ppm ±20ppm ±20ppm ±25ppm ±30ppm ±50ppm ±100ppm	±200ppm	0 to 50°C -10 to 60°C -20 to 70°C -30 to 80°C -40 to 85°C -55 to 105°C -55 to 125°C	600Ω	Fundamental
3.0000 to <4.0MHz	±5ppm to ±100ppm	±15ppm ±20ppm ±20ppm ±25ppm ±30ppm ±50ppm ±100ppm	±200ppm	0 to 50°C -10 to 60°C -20 to 70°C -30 to 80°C -40 to 85°C -55 to 105°C -55 to 125°C	150Ω	Fundamental
4.0000 to <7.0MHz	±5ppm to ±100ppm	±15ppm ±20ppm ±20ppm ±25ppm ±30ppm ±50ppm ±100ppm	±200ppm	0 to 50°C -10 to 60°C -20 to 70°C -30 to 80°C -40 to 85°C -55 to 105°C -55 to 125°C	100Ω	Fundamental
7.0000 to <10.0MHz	±5ppm to ±100ppm	±15ppm ±20ppm ±20ppm ±25ppm ±30ppm ±50ppm ±100ppm	±200ppm	0 to 50°C -10 to 60°C -20 to 70°C -30 to 80°C -40 to 85°C -55 to 105°C -55 to 125°C	50Ω	Fundamental
10.0000 to <36.0MHz	±5ppm to ±100ppm	±15ppm ±20ppm ±20ppm ±25ppm ±30ppm ±50ppm ±100ppm	±200ppm	0 to 50°C -10 to 60°C -20 to 70°C -30 to 80°C -40 to 85°C -55 to 105°C -55 to 125°C	35Ω	Fundamental
21.0000 to <90.0MHz	±5ppm to ±100ppm	±15ppm ±20ppm ±20ppm ±25ppm ±30ppm	±200ppm	0 to 50°C -10 to 60°C -20 to 70°C -30 to 80°C -40 to 85°C	40Ω	3RD Overtone

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Electrical Specification - maximum limiting values

Frequency Range	Frequency Tolerance	Stability		Temperature Range	ESR Max	Vibration Mode
		Min	Max			
		±50ppm ±100ppm		-55 to 105°C -55 to 125°C		
60.0000 to <150.0MHz	±5ppm to ±100ppm	±10ppm ±15ppm ±15ppm ±20ppm ±25ppm ±50ppm ±50ppm	±200ppm	0 to 50°C -10 to 60°C -20 to 70°C -30 to 80°C -40 to 85°C -55 to 105°C -55 to 125°C	70Ω	5TH Overtone
85.0000 to <210.0MHz	±5ppm to ±100ppm	±5ppm ±5ppm ±10ppm ±20ppm ±25ppm ±50ppm ±50ppm	±200ppm	0 to 50°C -10 to 60°C -20 to 70°C -30 to 80°C -40 to 85°C -55 to 105°C -55 to 125°C	100Ω	7TH Overtone
110.0000 to <270.0MHz	±5ppm to ±100ppm	±5ppm ±5ppm ±10ppm ±20ppm ±25ppm ±50ppm ±50ppm	±200ppm	0 to 50°C -10 to 60°C -20 to 70°C -30 to 80°C -40 to 85°C -55 to 105°C -55 to 125°C	150Ω	9TH Overtone

This document was correct at the time of printing; please contact your local sales office for the latest version

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