

# Quartz Crystal Specification *HC49*

#### ISSUE 15; October 2015

#### 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 Parameters**

- Frequency
- Frequency Tolerance
- Frequency Stability ±5.00ppm to ±2
- Ageing

-

±5.00ppm to ±100.00ppm ±5.00ppm to ±200.00ppm ±3ppm typical per year

1.8432MHz to 270.0MHz

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# **Electrical Parameters**

- Load Capacitance
- Shunt CapacitanceDrive Level

10.0pF to 75.0pF 7pF max 1mW 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<sup>2</sup>, 6ms, 3 times in each of 3 mutually perpendicular planes
- Vibration: 10Hz-60Hz, 0.75mm amplitude, 60Hz-500Hz, 98.1m/s<sup>2</sup>, 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

#### Compliance

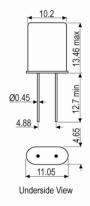
- RoHS Status (2011/65/EU)
- REACh Status
- U) Compliant Compliant

Not Applicable

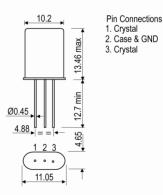
MSL Rating (JDEC-STD-033):



#### Outline (mm) Standard 2 leg HC49 package



#### Outline (mm) -3L = 3 Lead



**Sales Office Contact Details:** UK: +44 (0)1460 270200 Germany: 0800 1808 443

France: 0800 901 383 USA: +1 408.273.4530



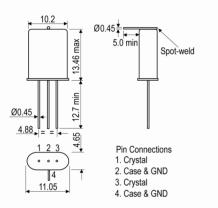
Outline (mm) -SL = Sleeve

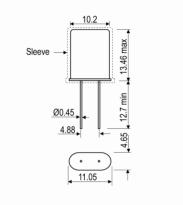
## Packaging Details

Pack Size: 500

	Pack Style: Bulk Pack Size: 100	Loose in bulk pack
•	Pack Style: Ammo Pack Size: 1,000	Tape & ammo in accordance with EIA-468-C
•	Pack Style: Cutt Pack Size: 10	In tape, cut from a reel
•	Pack Style: Reel Pack Size: 1,000	Tape & reel in accordance with EIA-468-C
•	Pack Style: R250 Pack Size: 250	Tape & reel in accordance with EIA-481-D
	Pack Style: R500	Tape & reel in accordance with EIA-468-C

## Outline (mm) -3L/TW = 3 Lead and Top Wire



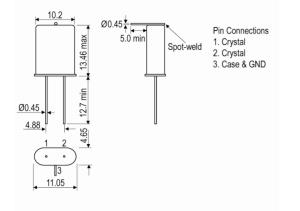


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### Outline (mm) -TW = Top Wire



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# Electrical Specification - maximum limiting values

Frequency Min	Frequency Max	Temperature Range	Stability*	Over Tone Order	ESR
	1	٥°	ppm		Ω
1.8432MHz	1.999999MHz	0 to 50	±15	Fundamental	800
		-10 to 60	±20		
		-20 to 70	±20		
		-30 to 80	±25		
		-40 to 85	±30		
		-55 to 105	±50		
		-55 to 125	±100		
2.0MHz	2.999999MHz	0 to 50	±15	Fundamental	600
		-10 to 60	±20		
		-20 to 70	±20		
		-30 to 80	±25		
		-40 to 85	±30		
		-55 to 105	±50		
		-55 to 125	±100		
3.0MHz	3.999999MHz	0 to 50	±15	Fundamental	150
		-10 to 60	±20		
		-20 to 70	±20		
		-30 to 80	±25		
		-40 to 85	±30		
		-55 to 105	±50		
		-55 to 125	±100		
4.0MHz	6.999999MHz	0 to 50	±15	Fundamental	100
		-10 to 60	±20		
		-20 to 70	±20		
		-30 to 80	±25		
		-40 to 85	±30		
		-55 to 105	±50		
		-55 to 125	±100		
7.0MHz	9.999999MHz	0 to 50	±15	Fundamental	50
		-10 to 60	±20		
		-20 to 70	±20		
		-30 to 80	±25		
		-40 to 85	±30		
		-55 to 105	±50		
		-55 to 125	±100		
10.0MHz	36.0MHz	0 to 50	±15	Fundamental	35
		-10 to 60	±20		
		-20 to 70	±20		
		-30 to 80	±25		
		-40 to 85	±30		
		-55 to 105	±50		
		-55 to 125	±100		
21.0MHz	90.0MHz	0 to 50	±15	3rd Overtone	40
		-10 to 60	±20		
		-20 to 70	±20		

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		°C	ppm		Ω
		-30 to 80	±25		
		-40 to 85	±30		
		-55 to 105	±50		
		-55 to 125	±100		
60.0MHz	150.0MHz	0 to 50	±10	5th Overtone	70
		-10 to 60	±15		
		-20 to 70	±15		
		-30 to 80	±20		
		-40 to 85	±25		
		-55 to 105	±50		
		-55 to 125	±50		
85.0MHz	210.0MHz	0 to 50	±5	7th Overtone	100
		-10 to 60	±5		
		-20 to 70	±10		
		-30 to 80	±20		
		-40 to 85	±25		
		-55 to 105	±50		
		-55 to 125	±50		
110.0MHz	270.0MHz	0 to 50	±5	9th Overtone	150
		-10 to 60	±5		
		-20 to 70	±10		
		-30 to 80	±20		
		-40 to 85	±25		
		-55 to 105	±50		
		-55 to 125	±50		

\*Stability Maximum values ±200ppm

This document was correct at the time of printing; please contact your local sales office for the latest version. <u>Click to view latest version on our website</u>.

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