

HC49 SERIES CRYSTALS

DESCRIPTION

HC49 crystals are a long-established industry-standard part. Basic specification HC49 crystals provide the lowest cost crystal available but these crystals can also be manufactured to very close tolerances and low ESR values. Holder variants are HC49/T (truncated), providing a lower height version, 3-wire versions where the crystal base and body can be earthed by a centre earth wire and HC50 which has larger diameter leads specifically for socket mounting.

FEATURES

- · Very low cost crystal
- Available with close tolerances
- Fully customisable specification
- Comprehensive Euroquartz stockholding
- · Industry-standard package with options
- Very wide frequency range

GENERAL SPECIFICATION

Frequency Range:	1.0MHz to 250.0MHz			
Calibration Tolerance at 25°C:	from ± 3 ppm to ± 50 ppm			
Frequency stability over temp:	from ± 3 ppm to ± 100 ppm			
Load Capacitance:	8pF to 50pF, or Series			
Ageing:	±3ppm max 1st year,			
	±1ppm max per year after			
Drive level:	1mW max			
Static capacitance (CO):	7pF max			
Holder:	Resistance-weld, hermetic seal			

Part Numbers for Holder Variants *

Holder Type Holder Designation

Standard 2 lead: HC49

Low height versions: HC49/T (from 4.0MHz)

Centre Earth Lead: HC49/3W

Centre Earth Lead (Low): HC49/T/3W (from 4.0MHz)

'Plug-in' for use in socket: HC-50

OSCILLATION MODE & ESR

Frequency (MHz)	Crystal Cut/ Oscillation Mode	ESR (max) (Ohms)	
1.0 ~ 1.3	SL Fund.	5000	
2.01 ~ 3.0	AT Fund.	400	
3.01 ~ 3.2	AT Fund.	200	
3.21 ~ 3.5	AT Fund.	150	
3.51 ~ 3.9	AT Fund	120	
3.91 ~ 5.0	AT Fund.	100	
5.01 ~ 7.0	AT Fund.	50	
7.01 ~ 10.0	AT Fund.	35	
10.0 ~ 30.0	AT Fund.	25	
30.1 ~ 45	AT Fund.	20	
24.0 ~ 100	AT 3 rd OT	40	
80.0 ~ 160	AT 5th OT	70	
110 ~ 250	AT 7th OT	120	

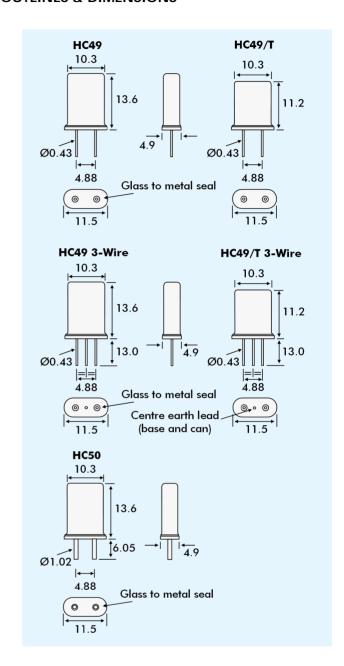
PART NUMBER GENERATION

HC49 crystal part numbers are derived as follows:

Example: 16.000MHz HC49/30/50/10/30pF/ATF

Frequency/Holder/Calibration/Temp. Stability/ Temp. Range/Circuit

OUTLINES & DIMENSIONS



FREQUENCY STABILITY OVER TEMPERATURE

Operating	Temperature Stability (ppm)						
Temp. °C	±3	±5	±7.5	±10	±15	±20	±30
0° to +50°	ü	ü	ü	ü	ü	ü	ü
-10° to +60°	ü	ü	ü	ü	ü	ü	ü
-20° to +70°	Χ	ü	ü	ü	ü	ü	ü
-30° to +80°	Χ	Χ	Χ	ü	ü	ü	ü
-40° to +90°	Χ	Χ	Χ	Χ	ü	ü	ü
-55° to +105°	Х	Χ	Х	Χ	Х	ü	ü

ü Indicates this stability is available over the stated operating temp. range

^{*} HC49 crystals are also available for surface-mount applications with formed leads and fitted with a clip. See '49MJ' in the surface-mount crystal section on Euroquartz website; www.euroquartz.co.uk