

# HC49-4H and HC49-4HL Crystals

- Low-cost, industry-standard crystal unit
- AT-Cut strip crystal with hermetically sealed can
- Frequency range 1.0MHz to 70MHz
- Package height options available

## **DESCRIPTION**

HC49-4H crystals share the same base outline as the industrystandard HC49 crystal. The crystal uses at AT-cut strip crystal with an hermetically sealed can. HC49-4H crystals provide a low cost source of system clock frequency.

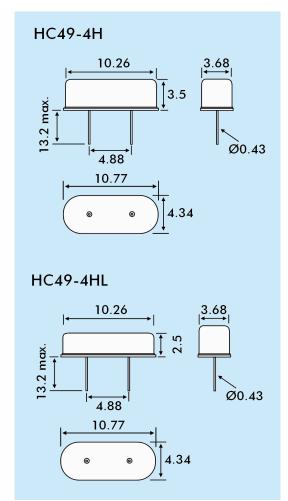
#### **SPECIFICATION**

Frequency Range:	3.2MHz to 70.0MHz	
Oscillation Mode		
AT-Cut Fundamental:	3.2MHz to 30.0MHz	
BT-Cut Fundamental:	24.0MHz to 48.0MHz	
AT-Cut 3rd Overtone:	27.0MHz to 70.0MHz	
Calibration Tolerance at 25°C	27.0/4/12 10 70.0/4/12	
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AT-Cut:	±30ppm (tolerance to ±10ppm	
	is available.)	
BT-Cut:	±30ppm	
Frequency Stability		
AT-Cut:	±30ppm over -10° to +60°C	
	(Stability to $\pm 10$ ppm is available)	
BT-Cut:	±100ppm pver -10 to +60°C	
Load Capacitance (CL):	Series or from 8pF to 32pF	
Ageing at 25°C:	±3ppm maximum, 1st year,	
	±1ppm per year thereafter.	
Drive Level:	100μWatts typ., 500μWatts max.	
Storage Temperature Range:	-50° to +105°C	
Crystal Holder:	Resistance-weld hermetic seal	
RoHS Status:	Compliant	
Supply format:	Bulk pack (Radial tape and reel	
	is available)	
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## **ESR and OSCILLATION MODE**

Frequency Range MHz	Crystal Cut Osc. Mode	ESR Ohms Max.
3.2 ~ 3.4	AT-Fund	300
$3.5 \sim 6.0$	AT-Fund	120
6.1 ~ 10.0	AT-Fund	60
10.1 ~ 30.0	AT-Fund	40
24.0 ~ 48.0	BT-Fund	40
$27.0 \sim 30.0$	AT-3rd OT	150
30.1 ~ 50.0	AT-3rd OT	100
50.1 ~ 70.0	AT-3rd OT	80





## PART NUMBER GENERATION

Part numbers for HC49-4H crystals are generated as follows:

Example

8.000MHz HC49-4H/30/50/-20+70/30pF/30R

Frequency / holder /calibration tolerance /stability over op. temp. /op. temp. range / circuit condition /ESR or operating mode