



Features:

- High reliability
- Available in extended temperature range
- Excellent for automotive applications



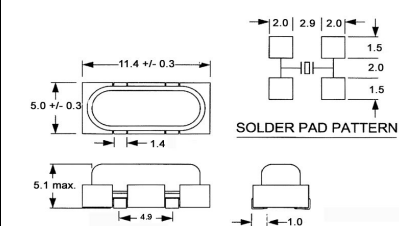
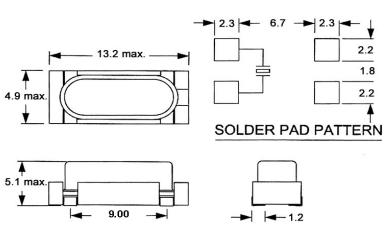
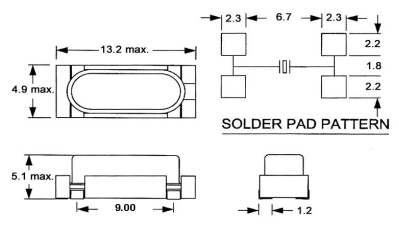
HC49M

HC49J

HC49H

Specifications			
	Symbol	HC49M / HC49J / HC 49 H	Remarks
Frequency range	f	3.500MHz ~ 40.000MHz	Fundamental mode
		30.000MHz ~ 80.000MHz	Overtone mode
Frequency tolerance, Ta=25°C	$\Delta f/f$	$\pm 10\text{ppm} \sim \pm 50\text{ppm}$	Please specify
Load capacitance	CL	10pF ~ 50pF	Please specify
Temperature tolerance	$\Delta f/f$	$\pm 10\text{ppm} \sim \pm 100\text{ppm}$	Please specify
Temperature range	Storage temperature	T _{STG}	-40°C ~ +125°C
	Operating temperature	T _{OPR}	-40°C ~ +125°C
Drive level	Maximum drive level	M _{DL}	1000μW
	Recommended drive level	R _{DL}	10μW ~ 100μW
Series resistance	R ₁	As per table	25°C $\pm 3^\circ\text{C}$
Shunt capacitance	C ₀	7pF	Max
Insulation resistance	I _R	500M Ohm	Min
Aging	Δf_A	$\pm 5\text{ppm/Year}$	Max

Resistance of series resonance (ESR)						
Frequency (MHz)	Mode	Ohm max		Frequency (MHz)	Mode	Ohm max
3.5 <= f < 4.5	Fundamental	120		15 <= f < 18	Fundamental	30
4.5 <= f < 6.0	Fundamental	90		18 <= f < 33	Fundamental	25
6.0 <= f < 8.0	Fundamental	70		30 <= f < 35	3rdO.T	100
8.0 <= f < 10	Fundamental	60		35 <= f < 40	3rdO.T	80
10 <= f < 12	Fundamental	50		40 <= f < 80	3rdO.T	70
12 <= f < 15	Fundamental	40				

Drawing		
HC49M	HC49J	HC49H
 SOLDER PAD PATTERN	 SOLDER PAD PATTERN	 SOLDER PAD PATTERN
5,1mm = standard height, option L1 = 3,7mm height		
Dimensions in mm		

Order key								
Q	- 20.000000M	- HC49M	- F	- 30	- 50	- D	- 30	- TR
Part	Frequency	Package	Mode of oscillation	Frequency tolerance	Temperature tolerance	Temperature range	Load capacitance	Option
Q=Quartz	M=MHz	HC49M HC49J HC49H	F=fund. 3=3.OT	±ppm (25°C)	±ppm (Temp. Range)	A= 0°C ~ +70°C B= -10°C ~ +60°C C= -10°C ~ +70°C D= -20°C ~ +70°C E= -40°C ~ +85°C F= -40°C ~ +105°C G= -40°C ~ +125°C * H= -20°C ~ +80°C I= -10°C ~ +50°C	pF SR=series	TR=Tape and reel X=Special options L1=3,7mm height