

Features:



- Low profile available
- Wide frequency range
- Tight tolerance and stability over temperature
- Tape & reel packaging
- 3 pin-version available



HC49USSMD

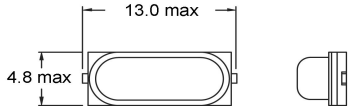
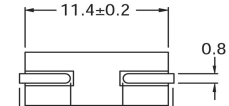
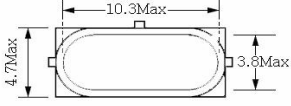
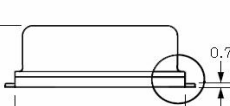

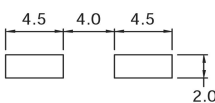
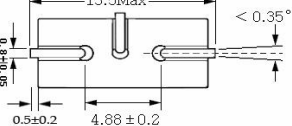

Option: 3 Pin

Specifications				
		Symbol	HC49USSMD	Remarks
Frequency range		f	3.500MHz ~ 40.000MHz	Fund. mode
			30.000MHz ~ 90.000MHz	Overtone mode
Frequency tolerance, Ta=25°C		f/f	±3ppm ~ ±50ppm	Please specify
Load capacitance		C _L	5pF ~ 50pF	Please specify
Temperature tolerance		f/f	±3ppm ~ ±50ppm	Please specify
Temperature range	Storage temperature	T _{STG}	-40°C ~ +105°C	Others are offered
	Operating temperature	T _{OPR}	0°C ~ +70°C / -40°C ~ +105°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 ±3°C
Shunt capacitance		C ₀	7pF	Max
Insulation resistance		I _R	500M Ohm	Min
Aging		f _A	±5ppm/Year	Please specify

Resistance of series resonance (ESR)

Frequency (MHz)	Mode	Ohm max	Frequency (MHz)	Mode	Ohm max
3.5 ≤ f < 4.5	Fundamental	130	12.0 ≤ f < 15.0	Fundamental	40
4.5 ≤ f < 6.0	Fundamental	90	15.0 ≤ f < 18.0	Fundamental	30
6.0 ≤ f < 8.0	Fundamental	70	18.0 ≤ f < 33.0	Fundamental	25
8.0 ≤ f < 10.0	Fundamental	60	30.0 ≤ f < 40.0	3rd OT	80
10.0 ≤ f < 12.0	Fundamental	50	40.0 ≤ f < 90.0	3rd OT	60

Drawing

HC49USSMD		Option 3P	
 <p>13.0 max</p> <p>4.8 max</p>	 <p>11.4±0.2</p> <p>0.8</p>	 <p>10.3Max</p> <p>4.7Max</p>	 <p>12.0Max</p> <p>0.7</p>
 <p>4.5mm max. = standard 3.2mm max. = option "L" 3.0mm max. = option "L1" 2.6mm max. = option "L2"</p>	 <p>4.5 4.0 4.5 2.0</p> <p>RECOMMENDED SOLDERING PATTERN</p>	 <p>13.5Max</p> <p>0.5±0.2 4.88±0.2 < 0.35°</p>	 <p>12.0Max 0.7 12.0Max</p>
Dimensions in mm			

Order key

Q	- 20.000000M	- HC49USSMD	- 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	HC49USSMD	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	3P=3 Pin version L=3.2mm height L1=3.0mm height L2=2.6mm height TR=Tape and reel X=Special options