

## 49MJ CRYSTALS Surface-mount HC49

### DESCRIPTION

49MJ crystals are standard HC49 crystals with formed leads, fitted with a clip to enable surface-mount PCB assembly. The crystal therefore offers the ease of surface-mount assembly with the technical benefit of close-tolerance crystal parameters achievable by the use of circular AT-Cut crystal blanks in the HC49 crystal.

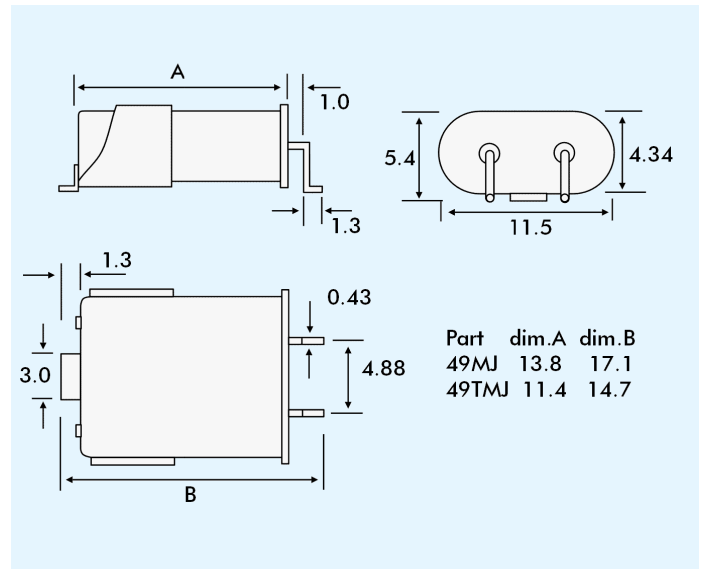
### FEATURES

- Surface mount version of HC49
- Available with close tolerances
- Fully customisable for application requirements
- Customised parts readily available
- Industry-standard package
- Low installed cost

### GENERAL SPECIFICATION

<b>Frequency Range:</b>	1.0MHz to 200MHz
<b>Oscillation Mode:</b>	See table
<b>Calibration Tolerance at 25°C</b>	
SL-Cut (< 1.3MHz):	from ±50ppm
AT-Cut (> 1.3MHz):	from ±3ppm
<b>Frequency stability over temp</b>	
SL-Cut (< 1.3MHz):	from ±100ppm -10° to +60°C
AT-Cut (> 1.3MHz):	from ±3ppm 0° to +50°C
	See table for details
<b>Shunt Capacitance (C0):</b>	4pF typical, 7pF maximum
<b>Load Capacitance (CL):</b>	Series or from 8pF to 32pF <b>(Customer to specify CL)</b>
<b>Ageing:</b>	±3ppm max 1st year, ±1ppm max per year after
<b>Drive level:</b>	1mW maximum
<b>Holder:</b>	Resistance-weld, hermetic seal
<b>Holder Variants:</b>	H49MJ or 49TMJ (See outline drawing)
<b>Supply format:</b>	Bulk pack (standard) or tape (Ammo-Pak)

### OUTLINES AND DIMENSIONS



### FREQUENCY STABILITY OVER TEMPERATURE

Operating Temp. °C	Temperature Stability (ppm)						
	±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°	X	ü	ü	ü	ü	ü	ü
-30° to +80°	X	X	X	ü	ü	ü	ü
-40° to +90°	X	X	X	X	ü	ü	ü
-55° to +105°	X	X	X	X	X	ü	ü

### OSCILLATION MODE & ESR

Frequency (MHz)	Crystal Cut Oscillation Mode	ESR (max) (Ohms)
1.0 ~ 1.3	SL	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
30.01 ~ 45.0	AT Fund.	20
24.0 ~ 100	AT 3rd OT	40
80.0 ~ 160	AT 5th OT	70
110 ~ 200	AT 7th OT	120

### PART NUMBER GENERATION

49MJ crystals part numbers are derived as follows:

Example: **16.000MHz 49MJ/10/20/10/30pF/ATF**

