



# Quartz Crystal HC49



## Pin Type Crystal - 11.35 x 4.65 mm

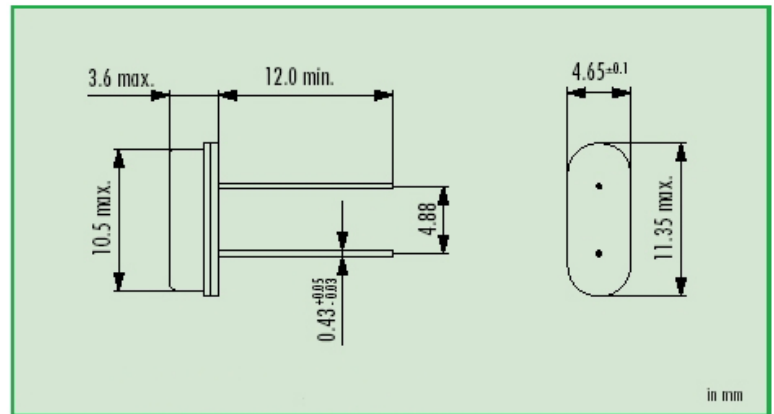
- Military Industry Standard Package
- wave soldering temperature: 260 °C max.
- package height 3.6 mm max.



### General Data

type	HC49
frequency range	3.2768 ~ 33.0 MHz (fund. AT-cut) 27.0 ~ 70.0 MHz (3rd OT, AT-cut)
frequency tolerance	± 20 ppm / ± 30 ppm / ± 50 ppm
load capacitance CL	6 pF ~ 50 pF or series
shunt capacitance C <sub>0</sub>	< 7 pF
storage temperature	-55 °C ~ +125 °C
drive level max.	0.01 mW - 1 mW
aging	< ± 3 ppm first year

### Dimensions



Operating Temp. Ranges	Frequency Stability						
	1 ±5 ppm	2 ±10 ppm	3 ±15 ppm	4 ±20 ppm	5 ±25 ppm	6 ±50 ppm	7 ±100 ppm
A 0 to 50°C	Y	Y	Y	Y	Y	Y	Y
B -10 to 60°C	Y	Y	Y	Y	Y	Y	Y
C -20 to 70°C	Y	Y	Y	Y	Y	Y	Y
D -30 to 80°C	N	N	Y	Y	Y	Y	Y
E -40 to 85°C	N	N	N	Y	Y	Y	Y
F -55 to 105°C	N	N	N	N	Y	Y	Y
G -55 to 125°C	N	N	N	N	N	Y	Y

### ESR (series resistance R<sub>s</sub>)

frequency in MHz	vibration mode	ESR max. in Ω	ESR typ. in Ω
3.276 ~ 3.499	fund.- AT	200	100
3.579 ~ 3.999	fund.- AT	120	80
4.000 ~ 5.999	fund.- AT	80	60
6.000 ~ 6.999	fund.- AT	70	35
7.000 ~ 8.999	fund.- AT	50	25
9.000 ~ 13.99	fund.- AT	35	15
14.00 ~ 33.00	fund.- AT	30	10
27.00 ~ 70.00	3rd OT - AT	100	60

Environmental And Mechanical	
Mechanical Shock	Per MIL-STD-202 ,Method 213 ,Cond.E
Thermal Shock	Per MIL-STD-883 ,Method 1011 ,Cond.A
Vibration	Per MIL-STD-883 ,Method 2007 ,Cond.A
Seal	Per MIL-STD-883, Method 1014, Cond.B
Solderability	Per MIL-STD-883 ,Method 2003 ,Cond.A

### Part Numbering Guide

