

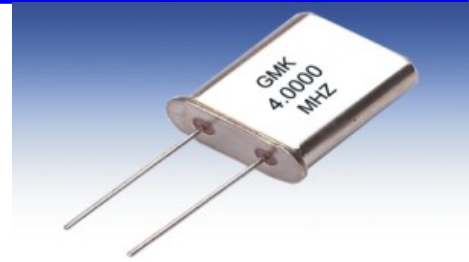
Quartz Crystal

Resistance Welded HC-49U Package



FEATURE

- Height 13.46mm
- A resistance weld completely sealed type
- The tight frequency stability
- Copes with high density mounting and is the optimum for mass production



ELECTRICAL SPECIFICATIONS

Frequency Range	1.843MHz to 150.000MHz
Oscillation mode	See below table.
Load capacitance	Series, 16pF, 18pF, 20pF, 30pF, or specify
Frequency tolerance	±30PPM at 25±2°C (Typical), or specify
Equivalent series resistance	See below table
Storage temperature range	-40°C--+85°C
Operating temperature range	-20°C--+70°C (typical), -10°C--+60°C, -40°C--+85°C, or specify
Frequency Stability	±50PPM -20°C--+70°C (typical), or specify
Parallel capacitance(Co)	7PF Max
Drive level	100 μW typical
Insulation resistance	More than 500MΩ AT DC100V

EQUIVALENT SERIES RESISTANCE (ESR) AND OSCILLATION MODE

Frequency(MHz)	E.S.R. (Ω)	Mode	Frequency(MHz)	E.S.R. (Ω)	Mode
1.843 ~ 1.999	350 Max	Fundamental / AT	6.000 ~ 6.999	50 Max	Fundamental / AT
2.000 ~ 2.399	300 Max	Fundamental / AT	7.000 ~ 9.999	30 Max	Fundamental / AT
2.400 ~ 2.999	200 Max	Fundamental / AT	10.000 ~ 12.999	20 Max	Fundamental / AT
3.000 ~ 3.199	150 Max	Fundamental / AT	13.000 ~ 30.000	20 Max	Fundamental / AT
3.200 ~ 3.499	100 Max	Fundamental / AT	24.000 ~ 29.999	50 Max	Third Overtone / AT
3.500 ~ 3.899	90 Max	Fundamental / AT	30.000 ~ 65.000	40 Max	Third Overtone / AT
3.900 ~ 4.099	70 Max	Fundamental / AT	60.000 ~ 99.999	90 Max	Third Overtone / AT
4.100 ~ 5.999	60 Max	Fundamental / AT	100.000 ~ 150.000	60 Max	Fundamental / AT

Mechanical characteristics

Resistance to shock:	±3PPM Max ±3Ω Max, Naturally drop it 3 times on a hard wood plate from 100cm height
Resistance to vibration:	±3PPM Max ±3Ω Max

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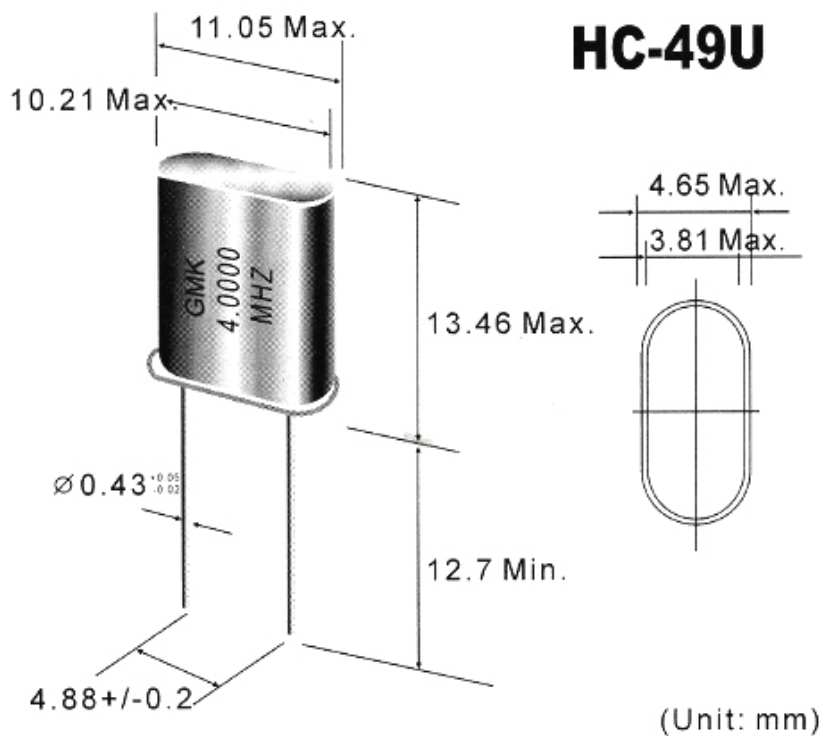
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Reliability

Aging	±3PPM Max/Year
Air tightness	
(1) Gross leak	should be immersed in hot water(90±5°C) for 5 minutes
(2) Fine leak	should be less than 5x10 ⁻⁸ atmcc/sec by helium leak detector
Low drive characteristics	Measured Δ1,C1,3 point at 1.0,,10,100μW

Dimension



PART NUMBER

GMK- HC-49U-	8.000 Frequency 8.000MHz	20 Frequency tolerance ±20ppm	20 Load capacitance 20pF 00: series	40 E.S.R.max e.g. 40Ωmax	B operating temperature range A:-10-60°C B:-20-70°C C:-40-85°C
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