

# Quartz Crystal

## Resistance Welded HC-49S Surface Mount Package



### FEATURE

- Height 4.0mm, or 3.0mm, compact unit for surface mount
- Able to by means of a metal case and completely sealed high solution characteristics
- Copes with high density mounting and is the optimum for mass production



### ELECTRICAL SPECIFICATIONS

Frequency range	3.000MHz ~ 100.000MHz
Oscillation mode	Fundamental
Operating temperature range	-20°C--+70°C (Typical), -10°C--+60°C, -40°C--+85°C, or specify
Storage temperature range	-40°C--+85°C
Frequency tolerance	±30PPM at 25±2°C (Typical), or specify
Frequency stability	±50PPM -20°C--+70°C (Typical), or specify
Load capacitance	Series, 16pF, 20pF, 30pF, or specify
Equivalent series resistance	See below table
Parallel capacitance(Co)	7PF Max
Drive level	100 μW
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
3.000 ~ 5.999	150 Max	Fundamental / AT	24.000 ~ 40.320	30 Max	Fundamental / AT
6.000 ~ 7.999	60 Max	Fundamental / AT	24.000 ~ 29.999	100 Max	Third Overtone / AT
8.000 ~ 15.999	50 Max	Fundamental / AT	30.000 ~ 49.999	80 Max	Third Overtone / AT
16.000 ~ 30.000	30 Max	Fundamental / AT	50.000 ~ 100.000	60 Max	Third Overtone / 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

### 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 <sup>-8</sup> atmcc/sec by helium leak detector
Low drive characteristics	Measured Δ1,C1,3 point at 1.0,,10,100μW

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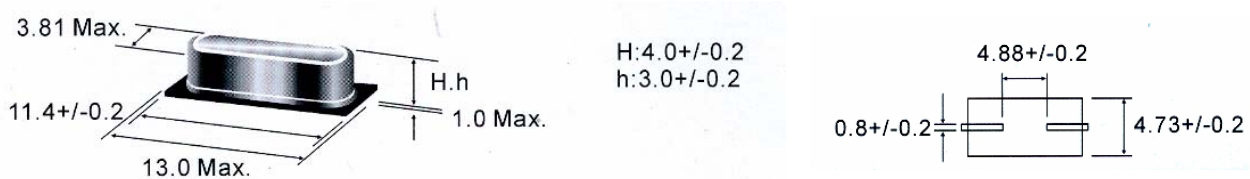
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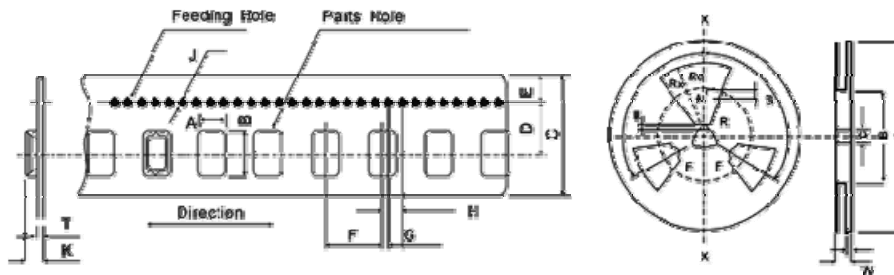
### PART NUMBER

GMK- HC-49SSMD	18.432 Frequency 18.432 MHz	20 Frequency tolerance ±20ppm	20 Load capacitance 20pF 00: series	50 E.S.R.max e.g. 50Ωmax	C operating temperature range A:-10-60℃ B:-20-70℃ C:-40-85℃	H H: Normal (4.0mm) h: Low (3.0mm)
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### DIMENSION



### Tape & Reel



Description		Code	Dimensions	
Flanges	Diameter	A	Φ330±2.0	
	Thickness	T	2.4±0.2	
	Width between Flanges	W	24.4 -0/+2.0	
Flanges	Outline Diameter	B	Φ100±2.0	
	Center Core Slit	Width	F	2.3±1.0
		Depth	V	6.0±1.0
		Position	Q	120°±3.0°
	Spindle Diameter		C	Φ13.0±0.5
	Key Seats	Width	E	2.5
		Depth	U	5.0±0.5
Position		Q	120°±3.0°	
Fenestrate	Outline Radius	Ro	R90±1.0	
	Inline Radius	Ri	R40±1.0	
	Rounded Corners	Rc	R5 -0/+2.0	
	Open Angle	R	40°±2.0°	

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