

# Quartz Crystal

*Resistance Welded HC-49/S Surface Mount Package*

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## **SPECIFICATION**

**P/N: HC49SM-xxxxx MHz-20pF**

xxxxx MHz - frequency, MHz; e.g. 8.000 MHz, 12.000 MHz

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## Resistance Welded HC-49/S Surface Mount Package

### FEATURE

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

### ELECTRICAL SPECIFICATIONS

Nominal frequency	1MHz - 100.000MHz
Oscillation mode	Fundamental
Operating temperature range	-40°C--+85°C
Storage temperature range	-40°C--+85°C
Frequency tolerance	± 20ppm at 25±2°C
Freq. Temp characteristics	± 30ppm over -40°C--+85°C
Load capacitance	20pF
Equivalent series resistance	50 Ω max
Parallel capacitance(Co)	7PF Max
Drive level	100 μW
Insulation resistance	More than 500M Ω AT DC100V

### Mechanical characteristics

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

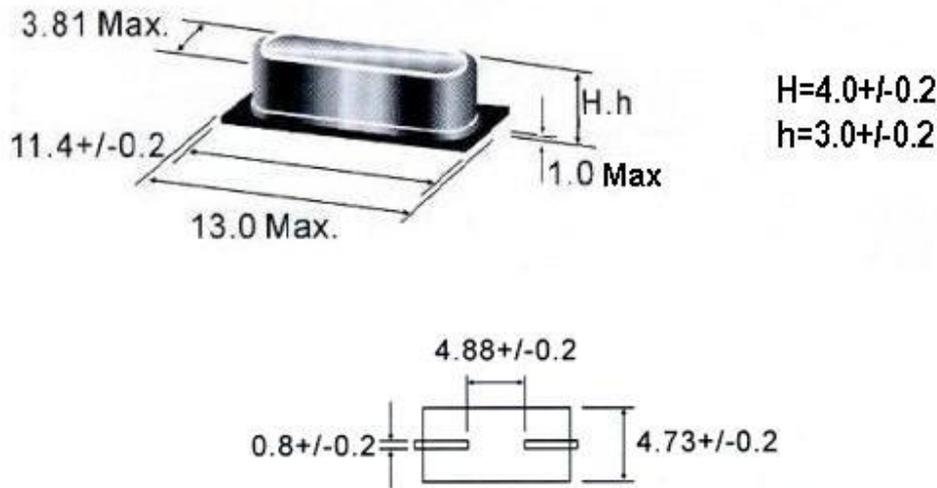
### Reliability

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 5 × 10 <sup>-8</sup> atmcc/sec by helium leak detector
Low drive characteristics	Measured Δ 1,C1,3 point at 1.0,,10,100μW

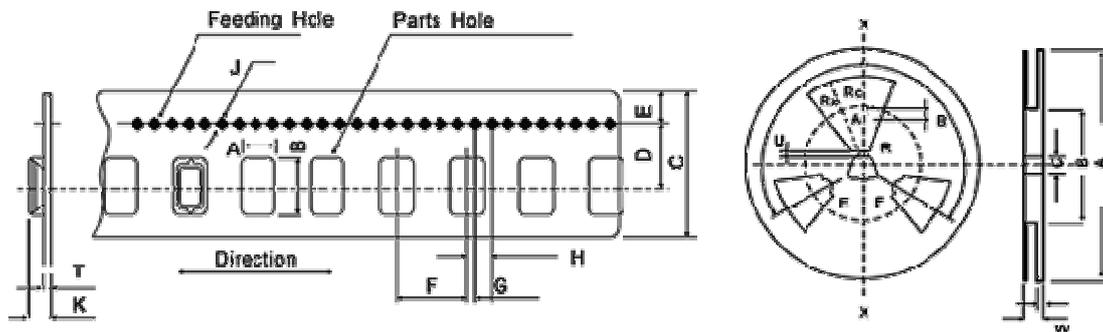
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Dimension (unit: mm)



### Tape & Reel



### See Tables / Reel Dimension

Description		Code	Dimensions	
Flanges	Diameter	A	$\phi 330 \pm 2.0$	
	Thickness	t	$2.4 \pm 0.2$	
	Width between Flanges	W	+2.0 24.4-0	
Flanges	Outline Diameter	B	$\phi 100 \pm 2.0$	
	Center Coreslit	Width	F	$2.3 \pm 1.0$
		Depth	V	$6.0 \pm 1.0$
		Position	Q	$120^\circ \pm 3.0^\circ$
	Spindle Diameter	C	$\phi 13.0 \pm 0.5$	
	Key Seats	Width	E	2.5
		Depth	U	$5.0 \pm 0.5$
Position		Q	$120^\circ \pm 3^\circ$	
Fenestrate	Outline Radius	Ro	$R90 \pm 1.0$	

The design, manufacturing process, and specifications of this device are subject to change without notice.

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	InlineRadius	Ri	R40+/-1.0
	RoundedComers	Rc	+2.0 R5-0
	OpenAngle	R	40°+/-2°

Code	Dimension	Code	Dimension	Code	Dimension
A	5.0+/-0.1	E	1.75+/-0.1	J	φ1.5(+0.1,-0)
B	15.0+/-0.2	F	8.0+/-0.1 / 12.0+/-0.1	K	5.0+/-0.1
C	24.0+/-0.3	G	2.0+/-0.1	T	0.5+/-0.1
D	11.05+/-0.1	H	4.0+/-0.1		

**Notice:** These parts do not contain any hazardous substances as specified in the RoHS ( The Restriction of Hazardous Substances )  
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