



## QUARTZ CRYSTAL - HC49S SERIES LOW PROFILE PACKAGE - RESISTANCE WELDED

### FEATURES

- Standard height 3.5mm, the part is compact at about one-quarter of the HC-49/U package
- A resistance weld completely sealed type
- Good stability and high reliability
- Copes with high density mounting and is the optimum for mass production



### ELECTRICAL SPECIFICATIONS

Nominal frequency	3.000MHz to 100MHz
Operating temperature	-10 to 60°C -20 to 70°C ( Std ) -40 to 85°C
Storage temperature	-40 to 85°C
Frequency tolerance	Typical: ±30PPM at 25±2°C (or specify)
Frequency Stability over operating temperature range	Typical: ±50PPM -20 to +70°C (or specify )
Load Capacitance	Series, 16pF,20pF,30pF,or specify
Equivalent series resistance (ESR)	See Table
Parallel capacitance(Co)	7PF Max
Drive Level	100µW
Insulation resistance	More than 500MΩ at DC100V

### ESR and OPERATING MODE

Frequency Range MHz	E.S.R (Ω Max)	Mode
3.000~5.999	150	Fundamental AT
6.000~7.999	60	Fundamental AT
8.000~15.999	50	Fundamental AT
16.000~30.000	30	Fundamental AT
24.000~40.320	30	Fundamental AT
24.000~29.999	80	Third Overtone/AT
30.000~49.999	100	Third Overtone/AT
50.000~100.000	60	Third Overtone/AT

### Mechanical Characteristics

Resistance to shock:	±3PPM Max, ±3ΩMax, Drop test 3 times on a hard wood plate from 100cm height
Resistance to vibration:	±3PPM Max, ±3Ω Max

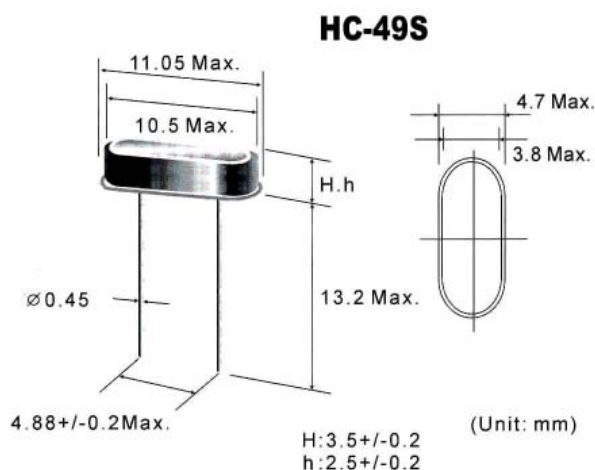


## QUARTZ CRYSTAL - HC49S SERIES LOW PROFILE PACKAGE - RESISTANCE WELDED

### Reliability

Aging		±3PPM Max/Year
Air tightness	(1)Gross leak	should be immersed in hot water (90±5°C)for5minutes
	(2)Fine leak	should be less than 5x10 <sup>-8</sup> atmcc/sec by helium leak detector
Low drive characteristics		Measured Δ1,C1,3point at 1.0,,10,100μW

### Dimensions



### Ordering

HC49S -	20.000	- 20	- 30	- 40	- F	- B	- 50	- H
Series	Frequency in MHz	Load Capacitance (pf)	Frequency Tolerance in ppm	E.S.R. Ω Max	oscillate mode	operating temperature range	tempera- ture stability in ppm	Height
	Please specify frequency required.	Options: 12,16,18, 20 (std ), 30 s = series Please specify	30 = std	40 = std	F=Fundamental 3=3 <sup>rd</sup> overtone 5=5 <sup>th</sup> overtone	A=-10to60°C B=-20to70°C std C=-40to85°C	50 = std	H= 3.2mm std h= 2.5mm