

The **H49/U** and **H50/U** series are the resistance-weld version of the old solder seal type HC-18/U and HC-25/U respectively. They are physically interchangeable.

No solder or flux involved in the sealing process. Low aging.

HC-49/U is wire lead type and HC-50/U is plug-in type.

Two different holder heights to choose from: 13.6mm and 11.2mm.

H49 U

**SPECIFICATIONS**

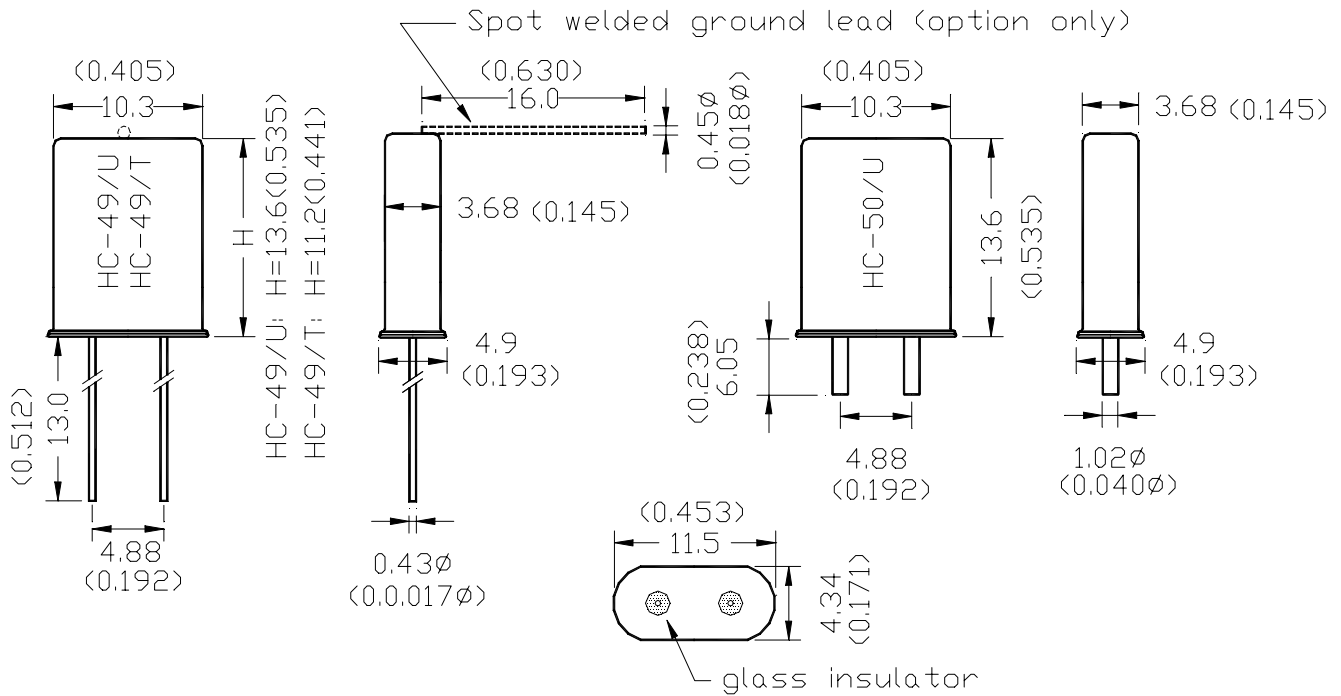
	Thru-hole types:			Surface Mount Types:		
Crystal Holder Prefix:	H49, H50 Straight leads 49T, 50T Straight leads			H49MJ Gull wing with metal jacket 49TMJ Gull wing with metal jacket		
Mode of Oscillation:	See E.S.R. table below					
Frequency Tolerance: At +25°C	SL-cut: ±50ppm (±0.005%) at 25°C; AT-cut: ±30ppm (±0.003%) at 25°C Tolerance as tight as ±3 ppm is also available.					
Frequency Stability:	SL-cut: ±100ppm (±0.01%) over -10 to +60°C AT-cut: ±50ppm (±0.005%) over -10 to +60°C. Stability as tight as ±3 ppm over 0 to +50°C or ±7 ppm over -20 to +70°C is also available.					
Shunt Capacitance (Co):	7pF maximum					
Load Capacitance (CL):	<b>Series (S) or Parallel</b> (If parallel, please specify exact CL value, 8 to 32 pF range is common)					
Equivalent Series Resistance (E.S.R.)	<b>Frequency</b>	<b>Osc. Mode</b>	<b>E.S.R. max.</b>	<b>Frequency</b>	<b>Osc. Mode</b>	<b>E.S.R. max.</b>
	1.0~1.3	SL cut	5000	7.01 ~ 10.0	AT cut funda.	35
	2.01 ~ 3.0	AT cut funda.	400	10.0 ~ 30.0	AT cut funda.	25
	3.01 ~ 3.2	AT cut funda.	200	30.01 ~ 45.0	AT cut funda.	20
	3.21 ~ 3.5	AT cut funda.	150	24.0 ~ 100.0	AT cut 3 <sup>rd</sup> O/T	40
	3.51 ~ 3.9	AT cut funda.	120	80.0 ~ 160.0	AT cut 5 <sup>th</sup> O/T	70
	3.91 ~ 5.0	AT cut funda.	100	110.0 ~ 200.0	AT cut 7 <sup>th</sup> O/T	120
5.01 ~ 7.0	AT cut funda	50				
<b>Drive Level:</b>	1 mW maximum					
<b>Aging:</b>	Less than 2ppm per year max. at +25°C					

**Available Options** (If required please add the following designator as a suffix to the MEC part number):

"V" = Vinyl sleeve around holder | "K" = 3<sup>rd</sup> lead at bottom center | "R" = On Reel  
 "G" = Ground lead at top center | "I" = Teflon insulator at bottom center

**PACKAGE DIMENSIONS**

Unit: mm [inches]



**HOW TO ORDER**



Example: **H49-29.4912AF-32P-10/20/-10+70/25R** represents HC-49/U 29.4912 MHz AT-cut fundamental mode, load capacitance 20 pF, ±10 ppm frequency tolerance, ±20 ppm over -10 to +70°C frequency stability, ESR is 25 ohms max.

Example: **H49-38.00053A3-S-20/30/-10+70/40R-G** represents HC-49/U with top center ground lead 38.00053 MHz AT-cut 3<sup>rd</sup> overtone mode, series resonance, ±20 ppm frequency tolerance, ±30 ppm over -10 to +70°C frequency stability, ESR is 40 ohms max.