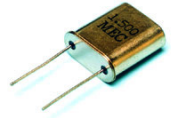


- **AT-Cut round crystal blank, optimized for low harmonics**
- **Tight tolerances and stabilities available**
- **Available <200MHz with 5th overtone mode**
- **RoHS compliant**



## DESCRIPTION

H49 crystals are industry-standard crystals. Standard H49 crystals provide a very low cost source of system clock frequency while the part may also be produced with tight tolerances and stabilities. Several holder variants are available.

## SPECIFICATION

Frequency Range	H49:	1.0MHz to 1.3MHz (SL-Cut) 1.8MHz to 200.0MHz (AT-Cut)
	49T:	3.1MHz to 200.0MHz
Oscillation Mode:	See table	
Load Capacitance (CL):	Series or from 8pF to 32pF (Customer specified)	
Drive Level:	100µWatts typ., 500µWatts max.	
Calibration Tolerance at 25°C		
	AT-Cut:	±5, ±10, ±20 or ±30ppm
	SL-Cut:	±50ppm
Frequency Stability:	See table	
Shunt Capacitance (C0):	7pF maximum	
Ageing:	±2ppm maximum	
Storage Temperature:	-50° to +105°C	
Crystal Holder:	Resistance-weld hermetic seal	
Supply format:	Bulk pack	
RoHS Status:	RoHS Compliant	

## ESR and OSCILLATION MODE

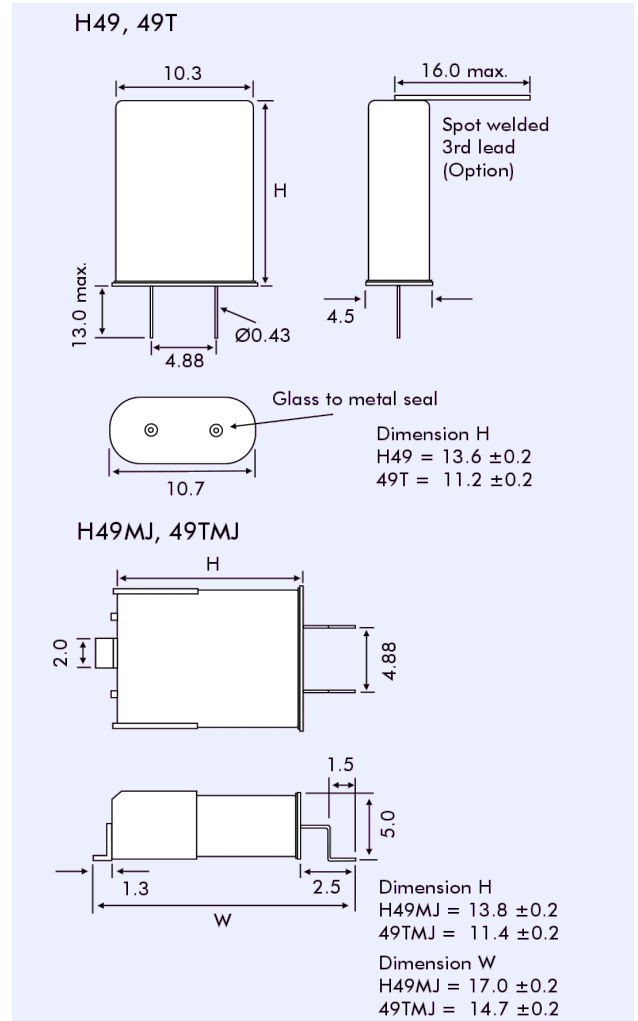
Frequency Range MHz	Holder Type	Crystal Cut/ Oscill. Mode	ESR Ω Max.
1.0 ~ 1.3	H49	SL, Fund.	5k
1.8 ~ 3.0	H49	AT, Fund.	400
3.1 ~ 3.5	H49	AT, Fund.	150
3.5 ~ 5.0	H49, 49T	AT, Fund.	100
5.1 ~ 7.0	H49, 49T	AT, Fund.	50
7.1 ~ 10.0	H49, 49T	AT, Fund.	35
10.0 ~ 30.0	H49, 49T	AT, Fund.	25
30.1 ~ 45.0	H49, 49T	AT, Fund.	20
24.0 ~ 100.0	H49, 49T	AT, 3rd o.t.	40
80.0 ~ 160.0	H49, 49T	AT, 5th o.t.	70

## FREQUENCY STABILITY OVER OPERATING TEMPERATURE RANGE

Temp. (°C)\ppm	±5	±10	±15	±20	±25	±30	±50	±100 (SL)
X -10 to +60°C	✓	✓	✓	✓	✓	✓	✓	✓
Y -20 to +70°C	ASK	✓	✓	✓	✓	✓	✓	✓
I -40 to +85°C	ASK	✓	✓	✓	✓	✓	✓	✓

✓ = available, ASK = Contact Mercury

## OUTLINE & DIMENSIONS



## PART NUMBER FORMAT

Example: **H49 - 16.384 - 18 - 30/50/-20+70/ 30R**

Package  
H49, 49T, H49MJ or 49TMJ

Frequency in MHz

Load Capacitance  
(Either SR for series or CL in pF)

Calibration tolerance  
at 25°C (±ppm)

Temperature Stability  
over temp. range (±ppm)

Operating Temp. Range (°C)  
(Lower and upper limits)

Equivalent Series Resistance  
(Optional - use when special  
value is required)