

**49U**

[ 10.7 \* 4.5 \* 13.6 mm ]

**49T**

[ 10.7 \* 4.5 \* 11.2 mm ]

Thru - Hole Crystals

Fund.

3rd O.T.

5th O.T.

Min.  
1.0MHzMax.  
160MHz

## Features

## Specifications

- Tight tolerance and stability. Ideal for communication equipment
- Available up to 200 MHz using a 5th overtone crystal mode
- RoHS compliant versions are also available.



## General Specifications

Item / Type	49U ; 49T series	
Frequency Range	49U	1.0 ~ 1.3MHz , 1.8 ~ 200.0MHz ( see Table 1 )
	49T	3.1 ~ 200.0MHz ( see Table 1 )
Load Capacitance	Series or Parallel ( 8 to 32 pF ) resonance	
Drive Level	100μ W typical ( 500μ W max. )	
Frequency Tolerance	AT-cut: ± 5 ppm , ± 10 ppm , ± 20 ppm or ± 30 ppm at 25°C	
	SL-cut: ± 50 ppm at 25°C	
Frequency Stability	See Table 2	
Aging	ΔF / F : ±2 ppm / year ( max. )	
Storage Temperature Range	- 50°C to 105°C	

Table 1

H49 ; 49T ESR ( Equivalent Series Resistance )							
Freq. ( MHz )	Hold Type	crystal cut and osc. Mode	E.S.R.	Freq. ( MHz )	Hold Type	crystal cut and osc. Mode	E.S.R.
1.0 ~ 1.3	49U	SL , Fund.	5K Ω	7.1 ~ 10.0	49U , 49T	AT , Fund.	35 Ω
1.8 ~ 3.0	49U	AT , Fund.	400 Ω	10.1 ~ 30.0	49U , 49T	AT , Fund.	25 Ω
3.1 ~ 3.5	49U	AT , Fund.	150 Ω	30.1 ~ 45.0	49U , 49T	AT , Fund.	20 Ω
3.6 ~ 5.0	49U , 49T	AT , Fund.	100 Ω	24.0 ~ 100.0	49U , 49T	AT , 3rd	60 Ω
5.1 ~ 7.0	49U , 49T	AT , Fund.	50 Ω	80.0 ~ 160.0	49U , 49T	AT , 5th	70 Ω

Table 2

Frequency stability vs Operating temperature range									
Stability code	Temp. (°C) \ ppm	± 5	± 10	± 15	± 20	± 25	± 30	± 50	± 100 (SL-cut )
X	-10 to 60°C	○	○	○	○	○	○	○	○
Y	-20 to 70°C		○	○	○	○	○	○	○
I	-40 to 85°C		○	○	○	○	○	○	○

○ : available ;

## Outline Dimensions ( Unit : mm )

Dip type ( 49U , 49T )

	H
49U	13.6 ± 0.2
49T	11.2 ± 0.2

●Reflow Condition

CYCLE TIME:200sec Max.