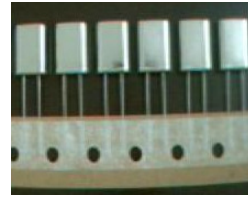


49U/49T T&R Series

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	H49	SL , Fund.	5K Ω	7.1 ~ 10.0	H49 , 49T	AT , Fund.	35 Ω
1.8 ~ 3.0	H49	AT , Fund.	400 Ω	10.1 ~ 30.0	H49 , 49T	AT , Fund.	25 Ω
3.1 ~ 3.5	H49	AT , Fund.	150 Ω	30.1 ~ 45.0	H49 , 49T	AT , Fund.	20 Ω
3.6 ~ 5.0	H49 , 49T	AT , Fund.	100 Ω	24.0 ~ 100.0	H49 , 49T	AT , 3rd	60 Ω
5.1 ~ 7.0	H49 , 49T	AT , Fund.	50 Ω	80.0 ~ 160.0	H49 , 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)

