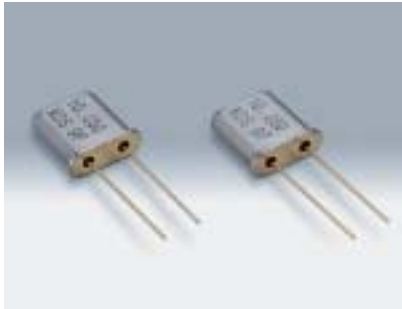


# Crystal Resonators

## UM-1, UM-4, UM-5, HC-49/T, HC-49/U, HC-50/T, HC-50/U



The UM Series Resonators feature excellent frequency stability and are suitable for pager and mobile radio applications. These highly impact-resistant, reliable crystal resonators have been reduced in size without trading off their electrical characteristics.

The HC Series Resonators are excellent in frequency stability and suitable as the reference clocks of microprocessors and other electronic devices.

### ■ Features

- Automatic mounting with tape & reel form is possible.



### ■ Series Resistance

Type	Vibration Mode	UM-4 Ωmax.	UM-5 Ωmax.	UM-1 Ωmax.	HC-49/T Ωmax.	HC-50/T Ωmax.	HC-49/U Ωmax.	HC-50/U Ωmax.
1.8~2.0MHz	F	-	-	-	-	-	600	600
2.0~2.4MHz	F	-	-	-	-	-	450	450
2.4~3.0MHz	F	-	-	-	-	-	350	350
3.0~3.5MHz	F	-	-	-	-	-	150	150
3.5~4.0MHz	F	-	-	-	150	150	90	90
4.0~7.0MHz	F	-	-	-	90	90	60	60
7.0~10MHz	F	-	-	-	45	45	35	35
10~15MHz	F	50	50	50	45	45	35	35
15~20MHz	F	50	50	50	25	25	25	25
20~25MHz	F/3	50/-	50/-	50	25/60	25/60	25/50	25/50
25~30MHz	F/3	50/-	50/-	50	25/40	25/40	25/40	25/40
30~75MHz	3	70	70	70	40	40	40	40
75~100MHz	3/5	70/-	70/80	70/80	-/60	-/60	-/60	-/60
100~125MHz	5	80	80	80	60	60	60	60
125~150MHz	5	100	100	100	80	80	80	80
150~200MHz	7	-	120	120	-	-	-	-

Consult our sales representative for other specifications or special specifications.

■ Frequency Range  
1.8~200MHz

■ Vibration Mode  
Thickness-shear mode (AT cut)  
Fund, 3rd, 5th, 7th

■ Drive Level  
10μW, 50μW, 100μW, 500μW

■ Load Capacitance  
Series, 12pF, 16pF, 20pF, 32pF (fund.)  
8pF, 10pF, 12pF, 16pF (3rd, 5th, 7th)

■ Frequency Tolerance (at 25°C)  
±5×10<sup>-6</sup>, ±10×10<sup>-6</sup>, ±15×10<sup>-6</sup>,  
±20×10<sup>-6</sup>, ±30×10<sup>-6</sup>

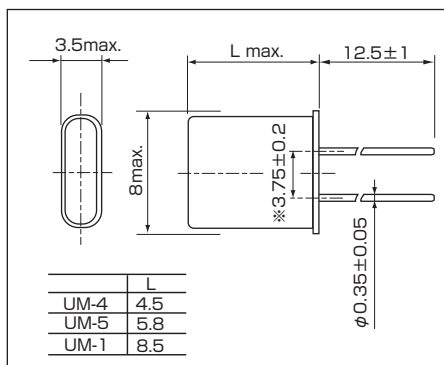
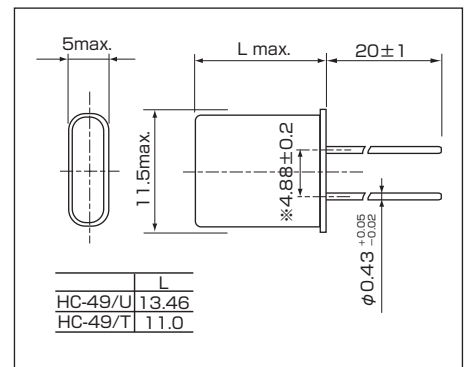
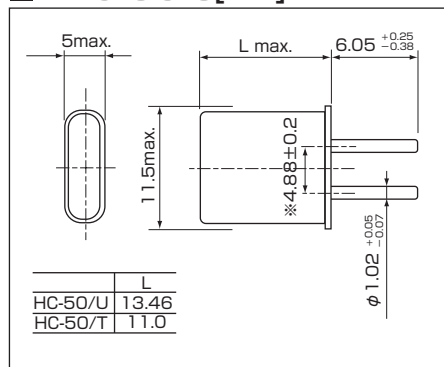
■ Frequency Tolerance over Temperature (Ref. to 25°C)  
±5×10<sup>-6</sup>, ±10×10<sup>-6</sup>, ±20×10<sup>-6</sup>,  
±30×10<sup>-6</sup>, ±50×10<sup>-6</sup>

■ Operating Temperature Range  
-10°C~+60°C

■ Storage Temperature Range  
-30°C~+80°C

■ Aging Characteristics  
UM Series:  
±1×10<sup>-6</sup>, ±2×10<sup>-6</sup>, ±3×10<sup>-6</sup> /  
year (max.)  
HC Series:  
±5×10<sup>-6</sup> /year (max.)

### ■ Dimensions [mm]



※Per dimension closest to the body of the unit.