

# HC-49/US

## Through hall type crystal unit

49/US Series uses a metal package, and is a crystal unit of the through hall type to secure the high stability and high reliability.



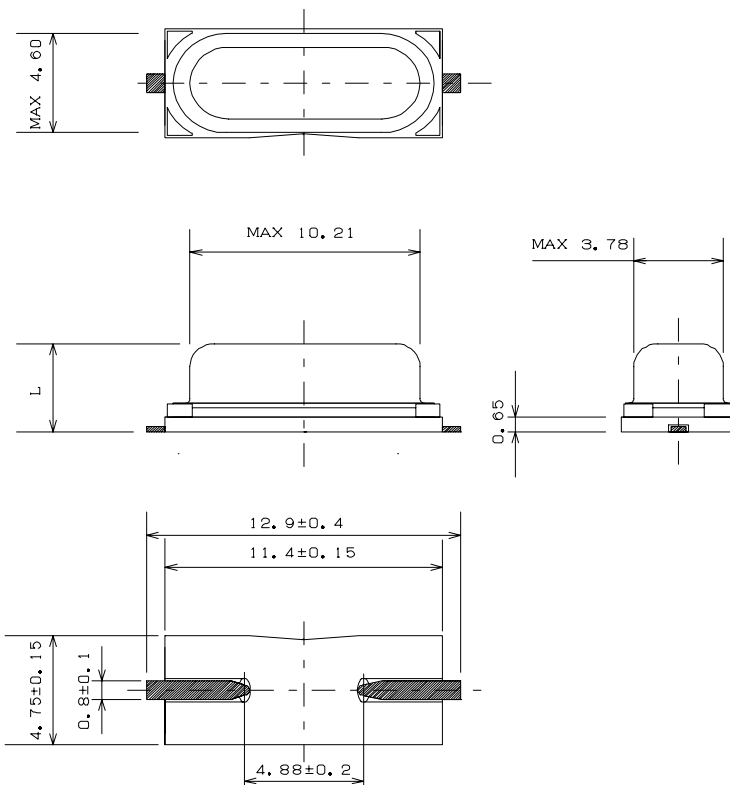
### FEATURES

- 2.0 mm max~4.0mm max height
- High reliability is secured by using a metal package.
- It is the best for the mass production model.
- IR reflow ready.
- H20 that suppresses height to 2.0mm is the best for a low-profile usage.

### STANDARD SPECIFICATIONS

Frequency range	3.5MHz to 36MHz	22MHz to 46MHz	32MHz to 65MHz
Mode of oscillation	AT Fundamental	BT Fundamental	AT 3rd OT
Tolerance at 25°C±3°C	±30 x 10 <sup>-6</sup>		
Frequency stability for -10°C to +60°C	±50 x 10 <sup>-6</sup>	±100 x 10 <sup>-6</sup>	±50 x 10 <sup>-6</sup>
Operating temperature range	-40°C ~ +85°C		
Storage temperature range	-55°C to +125°C		
Equivalent series resistance	See table		
Drive level	100 μW typical		
Load capacitance	12pF to 32pF or series		

### OUTLINE DRAWINGS



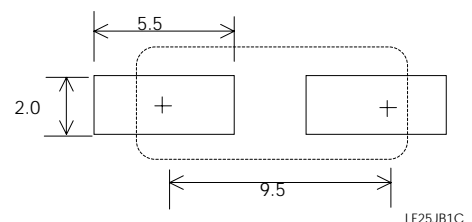
### ESR TABLE

Frequency Range (MHz)	Maximum ESR (Ω)	
AT Fundamental	3.5 - 4.0	180
	4.0 - 5.0	150
	5.0 - 6.0	120
	6.0 - 7.0	100
	7.0 - 9.0	80
	9.0 - 13.0	60
	13.0 - 20.0	50
	20.0 - 36.0	40
BT	22.0 - 46.0	40
OT	32.0 - 65.0	80

### L -Maximum value

TYPE	Dimension
49US-H20	2.0 max.
49US-H25	2.5 max.
49US-H30	3.0 max.
49US-H35	3.5 max.
49US-H40	4.0 max.

### Reference land pattern



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