

## A49SL THRU-HOLE CRYSTAL

11.5 x 5 x 2.5 mm



### APPLICATIONS:

Home appliances, Modems,  
Microprocessors, Computers,  
LED TVs, Telecommunications

### FEATURES:

Resistance weld seal 2.5mm Height Package  
AT-Cut Fundamental & 3rd Overtone Available  
Customized frequency & Specification Available  
Low Cost with Shorter Lead Time  
Pb free/ RoHS Compliant

## PART NUMBERING GUIDE

Frequency	Oscillation Mode	Load Capacitance	Freq. Tolerance	Freq. Stability	Operating Temp.	ESR
(MHz)	F: Fundamental T: 3rd Overtone	Please specify (CL)value in pf. SR for series.	10: ± 10ppm 15: ± 15ppm 20: ± 20ppm 25: ± 25ppm 30: ± 30ppm 50: ± 50ppm	10: ± 10ppm 15: ± 15ppm 20: ± 20ppm 25: ± 25ppm 30: ± 30ppm 50: ± 50ppm	A1: -10°C to +60°C A2: -10°C to +70°C A3: -20°C to +70°C A4: -20°C to +85°C A5: -30°C to +85°C A6: -40°C to +85°C	Please refer to below ESR table.

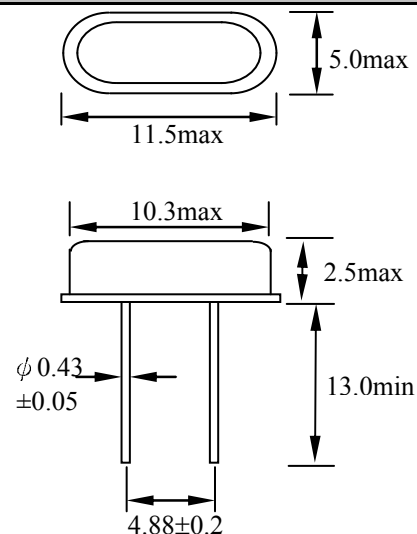
## ELECTRICAL CHARACTERISTICS

PARAMETERS	SYMBOL	SPECIFICATION
Frequency Range	Fo	4.000 ~ 60.000 MHz
Operation Mode		<b>Fundamental(AT Cut):</b> 4.000 ~ 27.000MHz <b>3rd Overtone(AT Cut):</b> 27.000 ~ 60.000MHz
Operating Temperature	To	- 20 to + 70°C, -40 to +85°C, or specify
Storage Temperature		- 40°C to + 85°C
Frequency Tolerance at +25°C	Δf/F	± 15 ppm, ± 30 ppm, ± 50 ppm or specify
Frequency Stability Over Operating Temperature Range	Δf/F	± 20 ppm, ± 30 ppm, ± 50 ppm or specify
Equivalent Series Resistance	R1	Please find below Table
Shunt Capacitance	C0	7pF max.
Load Capacitance	CL	series, 18pF(Standard), or specify
Drive Level	DL	300μW max., 100μW typical
Aging at 25°C	Δf/F	± 3ppm max.(first year)
Insulation Resistance		500MΩ min at 100Vdc

## EQUIVALENT SERIES RESISTANCE(ESR)Table

Frequency Range(MHz)	ESR(Ω) max.
<b>Fundamental</b>	
4.000 ~ 4.999	120
5.000 ~ 5.999	100
6.000 ~ 7.999	90
8.000 ~ 9.999	70
10.000 ~ 11.999	60
12.000 ~ 14.999	50
15.000 ~ 19.999	40
20.000 ~ 27.000	30
<b>3rd Overtone</b>	
27.000 ~ 47.999	80
48.000 ~ 60.000	60

## OUTLINE DRAWING: mm



If you require further assistance, please feel free contact us at antonio@asiastek.com

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