

# 48U CRYSTAL



## Specifications

Parameters	Standard	Options
Frequency range	10,000 kHz - 250,000 MHz	
Frequency stability	Please specify	
Overall		
Initial at 25°C		
Temperature		
Aging first year		
Aging over .... Years		
Operating temperature	0° C ~ +70°C	-20°C ~ +70°C -40°C ~ +85°C Other on custom request
Storage temperature	-40°C ~ +85°C	-55°C ~ +125°C
Load capacitance C <sub>L</sub>		
10,0 kHz - 130,0 kHz	50 pF or serie	
130,0 kHz - 1050 kHz	30 pF or serie	
> 1050 kHz	4 pF ~ 120 pF or serie	
Equivalent series resistance ESR	see ESR table	Other on request
Shunt capacity C <sub>0</sub>		Other
<800 kHz	<15 pF	
>800 kHz	< 7 pF	
Aging	± 3 ppm /first year max.	Other on custom request
Insulation resistance	500 Mohms minimum	at 100 VDC
Drive level	10,0 to 2000 uW dependent of frequency	
Motional capacity C <sub>1</sub>	Please specify , if required	
Quality factor Q		
Co/C <sub>1</sub>		
Motional inductance L		
DFL (difference between 2 loadresonant frequencies)		
DLD ( drive level dependency )		
Spurious		
Marking		

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## ESR table

Frequency range	Mode	ESR ( ohms)
10,000 kHz - 49,999 kHz	Fund. XY cut	30 kOhm max.
50,000 kHz - 100,000 kHz	Fund. XY cut	13 kOhm max.
45,0 kHz - 500,000 kHz	Fund. X cut	2,0 kOhm max.
130,000 kHz - 440,000 kHz	Fund. DT cut	1,3 kOhm max.
220,000 kHz - 800,000 kHz	Fund. CT cut	1,8 kOhm max.
300,000 kHz - 1100,000 kHz	Fund. SL cut	1,3 kOhm max.
800,000 kHz - 1,499 MHz	Fund. AT cut	800 max.
1,500 MHz - 1,999 MHz	Fund.	500 max.
2,000 MHz - 2,999 MHz	Fund.	200 max.
3,000 MHz - 4,999 MHz	Fund.	80 max.
5,000 MHz - 5,999 MHz	Fund.	60 max.
6,000 MHz - 6,999 MHz	Fund.	50 max.
7,000 MHz - 7,999 MHz	Fund.	40 max.
8,000 MHz - 9,999 MHz	Fund.	35 max.
10,000 MHz - 11,999 MHz	Fund.	30 max.
12,000 MHz - 17,999 MHz	Fund.	25 max.
18,000 MHz - 40,000 MHz	Fund.	20 max.
18,000 MHz - 24,999 MHz	3 rd	60 max.
25,000 MHz - 39,999 MHz	3 rd	50 max.
40,000 MHz - 89,999 MHz	3 rd	40 max.
90,000 MHz - 150,000 MHz	3 rd	80 max.
50,000 MHz - 59,999 MHz	5 th	90 max.
60,000 MHz - 150,000 MHz	5 th	100 max.
80,000 MHz - 210,000 MHz	7 th	150 max.
100,000 MHz - 250,000 MHz	9 th	200 max.

## Drawing

Package	HC48U
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