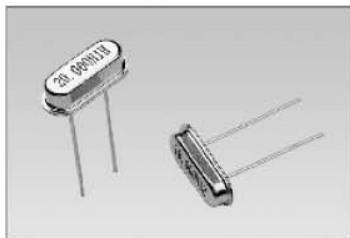


• HC-49S Series



This part is a miniature AT or BT cut strip crystal units with a low profile package. It is with resistance weld.

FEATURES

- Low Cost
- Industry Standard
- Wide Frequency Range
- Excellent Aging

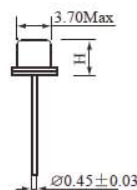
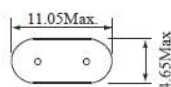
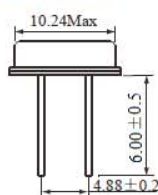
Electrical Specifications

	Type	HC-49SA	HC-49SB
Frequency Range	F0	3.2~66.000MHz	8~66.000MHz
Load Capacitance	CL	10pF to Series	
Frenquency Tolerance	$\Delta F / F_0$	$\pm 10\text{ppm}, \pm 30\text{ppm}, \pm 50\text{ppm}(\text{At } 25^{\circ}\text{C})$	
Equivalent Series Resistance	ESR	See Table 1	
Temperature Stability	TC	$\pm 10\text{ppm}, \pm 30\text{ppm}, \pm 50\text{ppm}(\text{Refer to } 25^{\circ}\text{C})$	
Operating Temperature Range	TOPR	-20~+70℃, -30~+85℃ Option	
Storage Temperature Range	TSTG	-55~+125℃	
Shunt Capacitance	C0	7pF max.	
Insulator Resistance	IR	500M Ω min. (At 100VDC)	
Drive Level	DL	100 μ W(500 μ W max.)	
Aging	Fa	$\pm 5\text{ppm}$ max. (At 25℃ ,First year)	
Packing Unit		200pcs/bag	

Table 1:Equivalent Series Resistance(ESR) and Mode of Vibration(Mode)

Frequency Range(Mhz)	Max ESR(Ω)	Mode	Frequency Range(Mhz)	Max ESR(Ω)	Mode
3.200 to 4.499	150	Fundamental/AT	9.000 to 9.999	60	Fundamental/AT
4.500 to 5.999	120	Fundamental/AT	10.000 to 12.999	50	Fundamental/AT
6.000 to 6.999	100	Fundamental/AT	13.000 to 40.000	40	Fundamental/AT
7.000 to 7.999	90	Fundamental/AT	40.000 to 66.000	80	3 rd Overtone
8.000 to 8.999	80	Fundamental/AT	27.000 to 40.000	40	Fundamental/BT

Mechanical Dimensions(mm)



Part	"H"
HC-49SA	3.5 Max
HC-49SB	2.5 Max



Through Hole Crystal Units Part Numbering System

<u>E</u> ↓ Internal Code	<u>UA</u> ↓	<u>3.57954</u> ↓	<u>F</u> ↓	<u>20</u> ↓	<u>A</u> ↓	<u>3</u> ↓	<u>3</u> ↓	<u>L</u> ↓
Package	Nominal Frequency (In MHz)	Vibration Mode	Load Capacitance	Operating temperature Range	Frequency Tolerance	Frequency Stability	Option (can be blank)	
UA=HC-49U SA=HC-49SA SC=HC-49SB MA=UM-1 MB=UM-5 AT=AT-39	Please enter the nominal frequency (7 digitals include the decimal)	F=AT-Fund T=AT-3 RD V=AT-5 TH B=BT-Fund	00=series 10=10pF 32=32pF (Pls enter the value of load capacitance)	A=0℃ to +50℃ B=0℃ to +70℃ C=-10℃ to +60℃ D=-10℃ to +70℃ E=-20℃ to +70℃ M=-40℃ to +85℃ N=-40℃ to +105℃ R=-55℃ to +125℃ S=Others	1=±10ppm 2=±20ppm 3=±30ppm 5=±50ppm 0=±100ppm X=±5ppm Y=±15ppm Z=±25ppm	1=±10ppm 2=±20ppm 3=±30ppm 5=±50ppm 0=±100ppm X=±5ppm Y=±15ppm Z=±25ppm	L=Cut Lead S=Insulator Tab V=Insert Vinyl Sleeve R=Tape and Reel Q=3 rd Lead on Top P=3 rd Lead Ground G=Gull Wing J=Jacket B=Tape and Box X=Others, Pls Specify F=Lead Free	

Tuning Fork Part Numbering System

<u>ET</u> ↓ Internal Code	<u>DA</u> ↓	<u>32.768</u> ↓	<u>B</u> ↓	<u>125</u> ↓	<u>B</u> ↓	<u>MB</u> ↓	<u>L</u> ↓
Package	Nominal Frequency (In KHz)	Operation temperature Range	Load Capacitance	Frequency Tolerance	Marking	Option (can be blank)	
DA=DT-26 DB=DT-38 DC=DT-15 MB=SM308	Please enter the nominal frequency (6 digitals include the decimal)	A=0℃ to +50℃ B=-10℃ to +60℃ C=-10℃ to +70℃ D=-20℃ to +70℃ W=-40℃ to +85℃	060=6.0pF 125=12.5pF 100=10pF (Pls enter the value of load capacitance)	A=±10ppm B=±20ppm C=±30ppm D=±50ppm E=±100ppm X=±5ppm Y=±15ppm Z=±25ppm	MP=With Marking MB=No Marking	L=Lead Cut R=Taping And Reel G=Gull Wing X=SpeCial SM=SMD Type F=Lead Free	

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