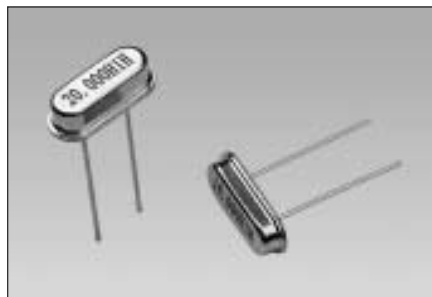




LOW PROFILE HOLDER TYPE CRYSTAL UNITS

Crystal Units

• 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. 49SB series is with lower height of less than 2.5mm.

FEATURES

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

Electrical Specifications

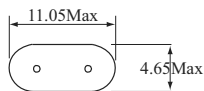
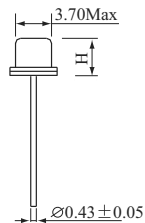
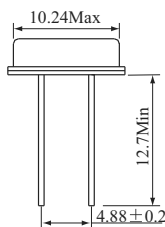
Parameter	Symb	Condition	Min	Typ	Max	Units
Frequency Range	F ₀	49SA	3.200		66.000	MHz
		49SB	8.000		66.000	MHz
Frequency Tolerance	ΔF/ F ₀	AT 25°C	±10	±30	±50	ppm
Temperature Stability	TC	REF TO 25°C	±10	±30	±50	ppm
Operating Temperature Range	T _{OPR}		-20*		+70*	°C
Storage Temperature Range	T _{STG}		-40		+85	°C
Shunt Capacitance	C ₀				7	pF
Load Capacitance	CL	Customer Specified	10		Series	pF
Insulator Resistance	IR	100V _{DC}	500			M Ω
Drive Level	DL			100	500	μW
Aging	F _a	AT 25°C, per year	-5.0		+5.0	ppm

*Operating temperature range: BT cut can only do 0°C to 50°C

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 30.000	40	Fundamental/AT
7.000 to 7.999	90	Fundamental/AT	30.000 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