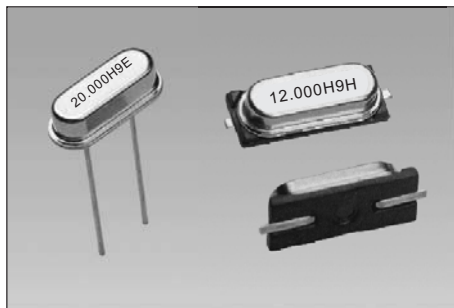




LOW PROFILE HOLDER TYPE CRYSTAL UNITS



• HC-49S & 49SM 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

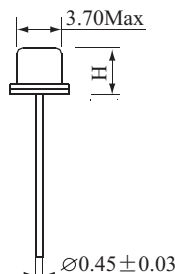
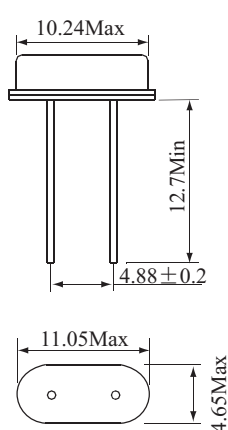
Type	HC-49SA/49SMA	HC-49SB/49SMB
Frequency Range	Fo	3.2~66.000MHz
Load Capacitance	CL	10pF to Series
Frequency Tolerance	$\Delta F / F_o$	$\pm 10\text{ppm}, \pm 30\text{ppm}, \pm 50\text{ppm}$ (At 25°C)
Equivalent Series Resistance	ESR	See Table 1
Temperature Stability	TC	$\pm 10\text{ppm}, \pm 30\text{ppm}, \pm 50\text{ppm}$ (Refer to 25°C)
Operating Temperature Range	TOPR	-20~+70°C, -30~+85°C Option
Storage Temperature Range	TSTG	-40~+85°C
Shunt Capacitance	Co	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°C, 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 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

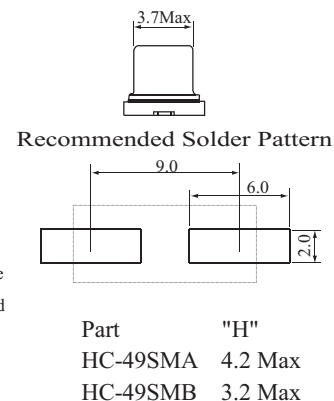
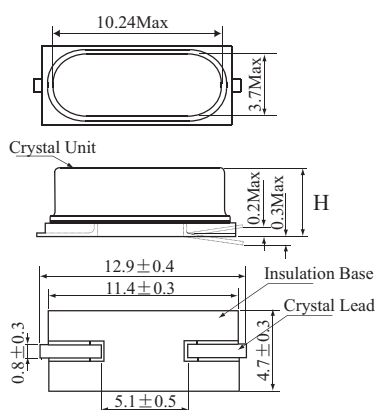
Mechanical Dimensions(mm)

HC-49SA&SB



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

HC-49SMA&SMB



Part	"H"
HC-49SMA	4.2 Max
HC-49SMB	3.2 Max

TAIWAN:

HOSONIC ELECTRONIC CO., LTD.
23-1 LANE 84, CHUN YING ST. SHULIN CHEN.
TAIPEI 23804, TAIWAN
WEB SITE: <http://www.hosonic.com>

☎: 886-2-86875200
☎: 886-2-26816456
✉: sharon@hosonic.com.tw

CHINA:

HANGZHOU HOSONIC ELECTRONIC CO., LTD.
NO.242 LIANGBO ROAD, LIANGZHU TOWN.
YUHANG DISTRICT, HANGZHOU, ZHEJIANG, CHINA
WEB SITE: <http://www.hosonic.com.cn>

☎: 86-571-88778189
☎: 86-571-88778857
✉: mike@hosonic.com

Specifications are subject to change without notice

PART NUMBERING SYSTEM

CRYSTAL UNITS



SMD Crystal Units Part Numbering System

SMD Crystal Units

E Internal Code	7SB	12.0000	F	20	A	3	3	F
Package	Nominal Frequency (In MHz)	Vibration Mode	Load Capacitance	Operating temperature Range	Frequency Tolerance	Frequency Stability	Option (can be blank)	
SB=HC-49SMA SD=HC-49SMB XA=HC-49SX1 XB=HC-49SX2 XC=HC-49SX3 XD=HC-49SX4 3SB=HCX-3SB 4SB=HCX-4SB 5FA=HCX-5FA 5SB=HCX-5SB 6FA=HCX-6FA 6SA=HCX-6SA 6SB=HCX-6SB 7SB=HCX-7SB 8FA=HCX-8FA	Please enter the nominal frequency (7 digitals include the decimal)	F=AT-Fund B=BT-Fund T=3 RD V=5 TH	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	X=Special F=Lead Free	