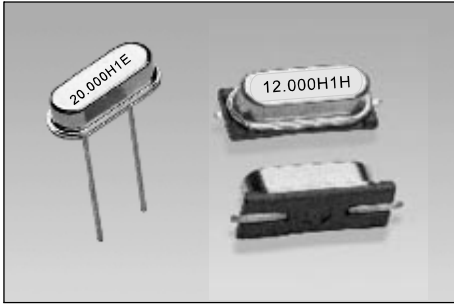




LOW PROFILE HOLDER TYPE QUARTZ CRYSTAL



• HC-49S & 49SM Series



FEATURES

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

Electrical Specifications

Type	HC-49SA/49SMA	HC-49SB/49SMB	
Frequency Range	F0	3.2~66.000MHz	8~66.000MHz
Load Capacitance	CL	10pF to Series	
Frequency Tolerance	$\Delta F/F_0$	$\pm 10\text{ppm}, \pm 30\text{ppm}$ Options(At 25°C) (See Table2)	
Equivalent Series Resistance	ESR	See Table1	
Temperature Stability	TC	$\pm 10\text{ppm}, \pm 30\text{ppm}$ Options(Refer to 25°C) (See Table2)	
Operating Temperature Range	TOPR	-20~+70°C, -30~+85°C Options (See Table3)	
Storage Temperature Range	TSTG	-55~+125°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 38.000	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

Part Number Generation

Example: **E SA 20.0000 F 20 E 3 3 L**

Internal Code

Package(SA=49SA SB=49SMA
SC=49SB SD=49SMB)

Nominal Frequency (In MHz)

Vibration Mode(F=Fundamental,
T=3rd Overtone)

Load Capacitance(In pF)

Operating Temperature Range

Frequency Tolerance At 25°C (In ppm)

Frequency Stability Over Temp. Range(In ppm)

L=Lead Cut S=Insulator Tab V=Insert Vinyl Sleeve
X=Special F=Lead Free

Table 2:

Frequency Tolerance
1= $\pm 10\text{ppm}$
Y= $\pm 15\text{ppm}$
2= $\pm 20\text{ppm}$
Z= $\pm 25\text{ppm}$
3= $\pm 30\text{ppm}$

Table 3:

Operating Temp.
E= -20°C to +70°C
G= -30°C to +85°C
M= -40°C to +85°C

Mechanical Dimensions(mm)

HC-49SA & 49SB

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

HC-49SMA & 49SMB

Crystal Unit

Insulation Base

Crystal Lead

Recommended Solder Pattern

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

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

Specifications are subject to change without notice