## **HC-49SMD**









#### **Features**

- · External dimensions: 11.4 x 4.8 x 3.8 mm.
- · Frequency range: 3.579545MHz ~ 64MHz.
- · Surface mount type crystal units.
- · A great number of standard frequencies.
- · High frequency pullability and low equivalent series resistance.
- · Highly mass production capability.
- · Applications: PC, STB, LCDM and Cable Modem.

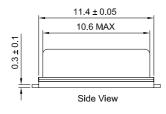
Electrical Specifications				
Item / Type	HC-49SMD			
Nominal Frequency Range	3.579545 ~ 64MHz			
Vibration Mode	AT Fundamental			
Load Capacitance	12pF, 20pF, or specify			
Frequency Tolerance (at 25 °C)	$\pm 10$ ppm, $\pm 20$ ppm, or specify			
Frequency Versus Temperature Characteristics	± 20 ppm, or specify			
Operating Temperature	- 20 ~ + 70 °C , - 40 ~ + 85 °C , or specify			
Storage Temperature	-40 ~ +85 °C , or specify			
Shunt Capacitance	7 pF Max.			
Level Of Drive	1 ~ 500 μW (100μW typical)			
Frequency Aging (at 25 °C)	± 3 ppm / year Max.			

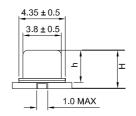
#### Equivalent Series Resistance(ESR)

Fundamental			
3.579545 ~ 4 MHz	150 Ω Max.		
4 ~ 5 MHz	120 Ω Max.		
5 ~ 6 MHz	100 Ω Max.		
6 ~ 7 MHz	80 Ω Max.		
7 ~10MHz	60 Ω Max.		
10 ~ 27 MHz	40 Ω Max.		

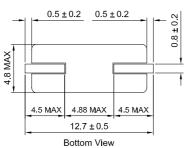
3rd Overtone	
20 ~ 25 MHz	100 Ω Max.
25 ~ 64 MHz	80 Ω Max.

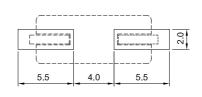
#### Dimensions





TYPE	H (SMD HIGH)	h (BODY HIGH)
S3	$3.8 \pm 0.3$	$3.3 \pm 0.3$
S2	30+03	23+03





Top View Suggested Layout

Units: mm

# **HC-49SMD**

### ★ PART NUMBER GUIDE 部件号示例 e.g. X49SM12MSD2SC

HC-49SMD=11.4 $\times$ 4.35 SMD SEAM TYPE

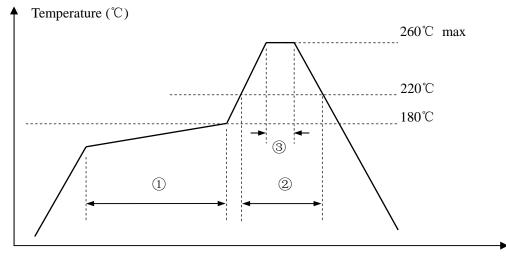
Quartz Crystal Resonator	Dimensions	Frequency (Hz)		Frequency Stability Overall (ppm)	Pin	Material	Operating Temp. Range
X	49SM	12M	S	D	2	S	C

Loa	Load Capacitance (Pf)			
X	7.4pF			
G	12.5pF			
L	9pF			
M	10pF			
О	12pF			
Р	15pF			

Frequency tolerance			
B ±10PPM			
D	±20PPM		

Operating temperature				
C	-20~ +70°C			
I	-40~ +85°C			
Α	-40~ +125°C			
F	-40~ +105°C			

## ★ REFLOW SOLDERING PROFILE 回流焊特性



Times (S)

Db froe reflect	1	Preheat	160~180℃	120sec. max
Pb free reflow 2		Primary heat	220℃	60sec. max
А	3	Peak	260℃	10sec. max.