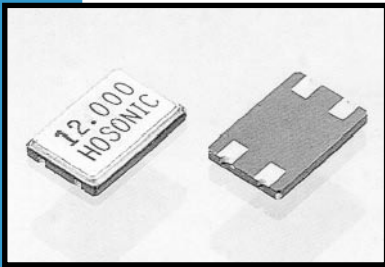




# SURFACE MOUNT CRYSTAL SERIES HCX-7S



## DESCRIPTION

VTM offer a surface mount crystal in a standard 7mm by 5mm package. The frequency range is 9.8304 to 100 MHz. The standard operating temperature range is -10°C to 60°C, although an extended range of -20°C to +70°C can be manufactured. These crystals can be IR reflowed, and typical applications are notebook computers, telecommunications equipment and modems. The crystals are supplied taped and reeled on 178mm diameter reels containing 1000 pieces.

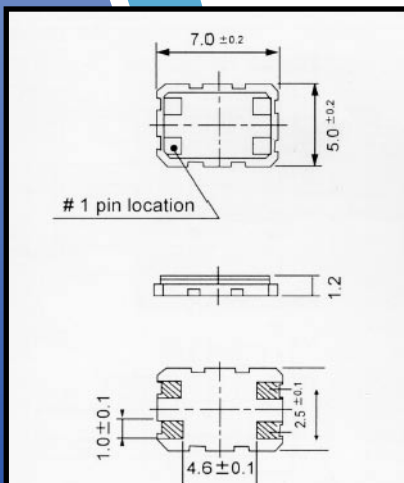
## SPECIFICATIONS

Frequency Range (Fo)	9.8304MHz to 100.000 MHz				
Frequency tolerance at 25°C	± 10 ppm	± 20 ppm	± 30 ppm	± 20 ppm	± 30 ppm
Temperature stability (Ref to 25°C)	± 10 ppm	± 20 ppm	± 30 ppm	± 20 ppm	± 30 ppm
Operating Temperature Range (T <sub>OPR</sub> )	-10°C to + 60°C		-20°C to + 70°C		
Storage Temperature Range (T <sub>STG</sub> )	-40°C to + 85°C				
Shunt Capacitance (C <sub>0</sub> )	7pF Max.				
Load Capacitance (C <sub>L</sub> )	12pF, 16pF, 20 pF, 32 pF, Series				
Insulation Resistance	500 MΩ min. at 100 V <sub>DC</sub>				
Drive Level	100 μW Max.				
Ageing (at 25°C)	± 5 ppm / year Max.				

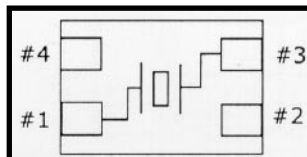
## EQUIVALENT SERIES RESISTANCE

Frequency Range (MHz)	Max ESR (Ω)	Mode
9.8304 to 16.000	60	Fundamental
16.001 to 40.000	40	Fundamental
40.001 to 84.000	60	3 <sup>rd</sup> Overtone
84.001 to 100.000	80	5 <sup>th</sup> Overtone

## DIMENSIONS

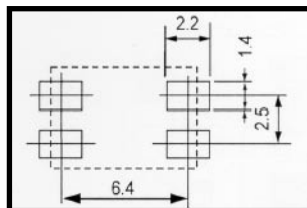


Unit: mm



Internal connections  
(Top View)

Note Pin #2 and #4 are connected through cover  
If case is connected to ground, frequency may drift



Reference footprint

## ORDERING DATA

Specify model, frequency (in MHz), Frequency Tolerance (in ppm), Temperature Stability (in ppm), & Temperature range

E.g HCX- 7S 10.000MHz, ±30ppm, ±30ppm, -10 to + 60.

# series HCX-7S