

# 12SMX Crystals

SURFACE MOUNT  
QUARTZ CRYSTALS

ISSUE 9; 10 APRIL 2002

### Delivery Options

- Please contact our sales office for current leadtimes

### Holder Style

- 12SMX surface mount crystals are encapsulated in a ceramic package with a resin sealed lid

### General Specifications

- Load Capacitance (CL): 10pF to 75pF or Series
- Drive Level: 0.1mW max
- Static Capacitance (Co): 7pF max

### Packaging

- 12SMX surface mount crystals are available packaged individually or on tape and reel
- 12SMX-B is the preferred package

### Standard Frequency Tolerances and Stability

- $\pm 30$ ppm,  $\pm 50$ ppm,  $\pm 100$ ppm

### Operating Temperature Ranges

- 0 to 50°C
- -10 to 60°C

### Storage Temperature Range

- -40 to 85°C

### Solder Condition

- For typical soldering conditions, please see the relevant page in Application Notes

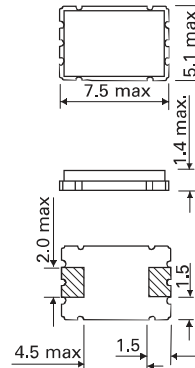
### Marking

- Frequency only

### Minimum Order Information Required

- Frequency + Holder and Pad Configuration + Frequency Tolerance @ 25°C + Frequency Stability + Operating Temperature Range + Circuit Condition + Overtone Order

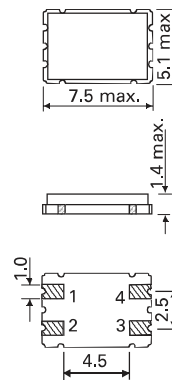
### Outline in mm - 12SMX (A)



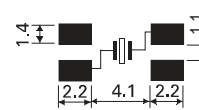
### Solder pad layout



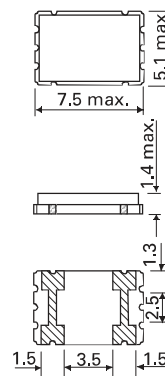
### Outline in mm - 12SMX (B)



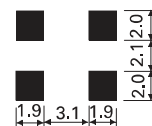
### Solder pad layout



### Outline in mm - 12SMX (C)



### Solder pad layout



**Electrical Specification – maximum limiting values**

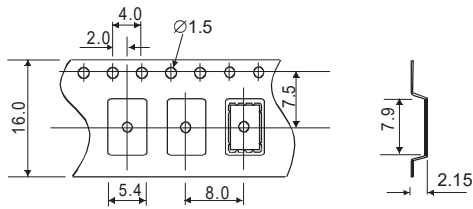
Frequency Range	Frequency Tolerance @ 25°C ±2°C	Operating Temperature Range	Frequency Stability Available Over Operating Temperature		ESR max.	Vibration Mode
			Minimum	Maximum		
6.0 to < 8.0MHz	±20ppm to ±100ppm	0 to 50°C	±20ppm	±100ppm	150Ω	Fundamental
8.0 to < 10.0MHz	±20ppm to ±100ppm	0 to 50°C	±30ppm	±100ppm	80Ω	Fundamental
		-10 to 60°C	±30ppm	±100ppm		
10.0 to < 16.0MHz	±20ppm to ±100ppm	0 to 50°C	±30ppm	±100ppm	60Ω	Fundamental
		-10 to 60°C	±30ppm	±100ppm		
16.0 to < 50.0MHz	±20ppm to ±100ppm	0 to 50°C	±30ppm	±100ppm	40Ω	Fundamental
		-10 to 60°C	±30ppm	±100ppm		
40.0 to < 84.0MHz	±20ppm to ±100ppm	0 to 50°C	±30ppm	±100ppm	60Ω	3rd Overtone
		-10 to 60°C	±30ppm	±100ppm		

Note: 12SMX-A (-C) Package may not be available for all combinations

**Note. For any other frequencies / specification combinations, please contact our sales office.**

SURFACE MOUNT QUARTZ CRYSTALS

**Outline in mm - Tape**



**Outline in mm - Reel**

