

# 12SMX Crystals

ISSUE 11; 5 SEPT 2008

RoHS  
2002/95/EC

## Delivery Options

- Please contact our sales office for current leadtimes

## Holder Style

- 12SMX-A, -C, -D are surface mount crystals encapsulated in a ceramic base with a resin sealed ceramic lid.
- 12SMX-B is a ceramic base with seam sealed metal lid.

## General Specifications

- Load Capacitance ( $C_L$ ): 10pF to 75pF or Series
- Drive Level: 0.1mW max
- Static Capacitance ( $C_0$ ): 7pF max

## Packaging

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

## 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
- 20 to 70°C
- 40 to 85°C

## Storage Temperature Range

- 40 to 85°C

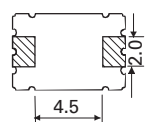
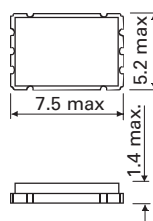
## Marking

- Includes frequency

## Minimum Order Information Required

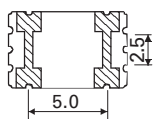
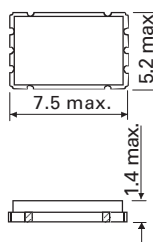
- Frequency + Holder and Pad Configuration + Frequency Tolerance @ 25°C + Frequency Stability + Operating Temperature Range + Circuit Condition + Overtone Order

## Outline in mm



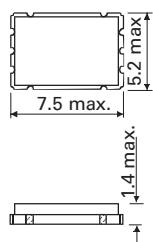
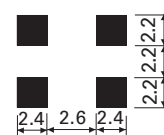
## 12SMX-A

## Solder pad layout



## 12SMX-C

## Solder pad layout

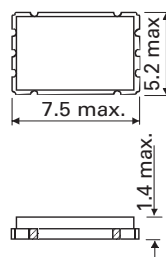
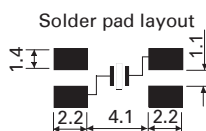
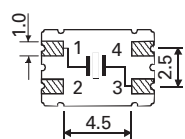


## 12SMX-B

### Pad Connection

- Crystal
- GND
- Crystal
- GND

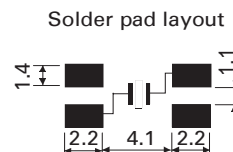
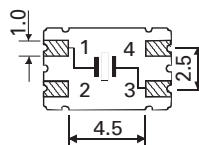
Note:- lid is connected to GND



## 12SMX-D

### Pad Connection

- Crystal
- NC
- Crystal
- NC

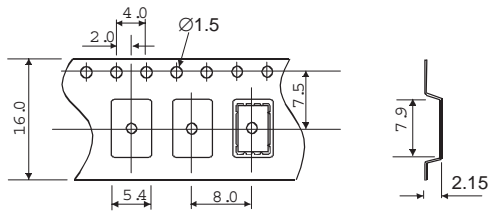




Frequency Range	Frequency Tolerance @ 25°C ±°C	Operating Temperature Range	Frequency Stability Available Over Operating Temperature Range		ESR Max.	Vibration Mode
			Minimum	Maximum		
6.0 to <8.0MHz	±20ppm to ±100ppm	0 to 50°C	±20ppm	±100ppm	150Ω	Fundamental
		-10 to 60°C				
		-20 to 70°C				
		-40 to 85°C	±30ppm			
8.0 to <10.0MHz		0 to 50°C	±20ppm		110Ω	
		-10 to 60°C				
		-20 to 70°C	±30ppm			
10.0 to <16.0MHz		0 to 50°C	±20ppm		60Ω	
		-10 to 60°C				
		-20 to 70°C				
		-40 to 85°C	±30ppm			
16.0 to <50.0MHz		0 to 50°C	±20ppm		40Ω	
		-10 to 60°C				
		-20 to 70°C				
		-40 to 85°C	±30ppm			
50.0 to <84.0MHz		0 to 50°C	±20ppm		60Ω	3rd Overtone
	-10 to 60°C					
	-20 to 70°C					
	-40 to 85°C	±30ppm				

Note : 12SMX-A, -C, -D packages may not be available for all combinations

Outline in mm - Tape



Outline in mm - Reel

