

# 86SMX Crystals

SSUE 6; 24 SEPTEMBER 2004

## Delivery Options

- Please contact our sales office for current leadtimes

## Holder Style

- 86SMX surface mount crystals are plastic encapsulated

## General Specifications

- Load Capacitance (CL): 10pF to 50pF or Series
- Drive Level: 100µW max

## Packaging

- 86SMX surface mount crystals are available packaged individually or on tape and reel

## Standard Frequency Tolerances and Stabilities

- ±10ppm, ±20ppm, ±30ppm, ±50ppm, ±100ppm, ±150ppm,

## Operating Temperature Ranges

- 0 to 70°C    -20 to 70°C  
-10 to 60°C    -40 to 90°C

## Storage Temperature Range

- -40 to 90°C

## Solder Condition

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

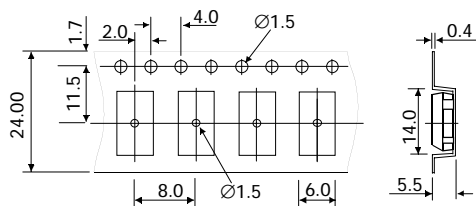
## Marking

- Frequency only

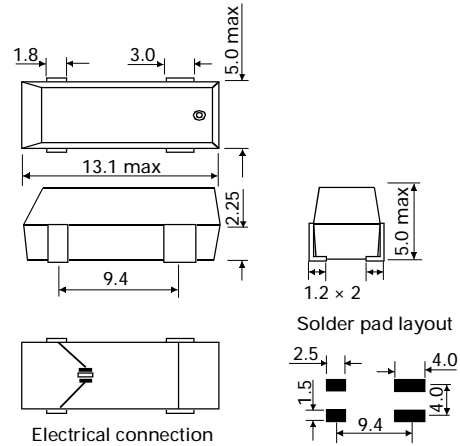
## Minimum Order Information Required

- Frequency + Holder + Frequency Tolerance @ 25°C  
+ Frequency Stability + Operating Temperature Range +  
Circuit Condition

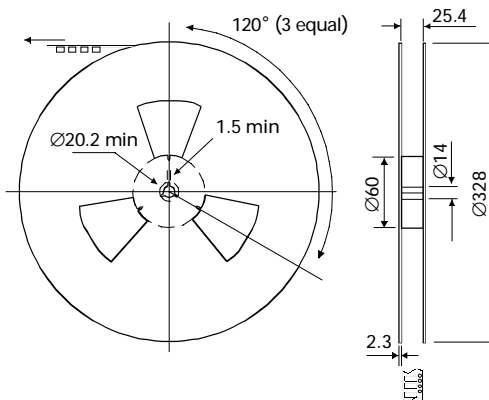
## Outline in mm - Tape



## Outline in mm - 86SMX



## Outline in mm - Reel



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		
3.57 to < 3.70MHz	±10ppm to ±100ppm	0 to 50°C	±10ppm	±100ppm	200Ω	Fundamental
		-10 to 60°C	±20ppm			
		-20 to 70°C	±30ppm			
		-40 to 90°C	±50ppm	±150ppm		
3.70 to < 4.0MHz	±10ppm to ±100ppm	0 to 50°C	±10ppm	±100ppm	180Ω	Fundamental
		-10 to 60°C	±20ppm			
		-20 to 70°C	±30ppm			
		-40 to 90°C	±50ppm	±150ppm		
4.0 to < 5.0MHz	±10ppm to ±100ppm	0 to 50°C	±10ppm	±100ppm	150Ω	Fundamental
		-10 to 60°C	±20ppm			
		-20 to 70°C	±30ppm			
		-40 to 90°C	±50ppm	±150ppm		
5.0 to < 10.0MHz	±10ppm to ±100ppm	0 to 50°C	±10ppm	±100ppm	120Ω	Fundamental
		-10 to 60°C	±20ppm			
		-20 to 70°C	±30ppm			
		-40 to 90°C	±50ppm	±150ppm		
10.0 to < 16.0MHz	±10ppm to ±100ppm	0 to 50°C	±10ppm	±100ppm	50Ω	Fundamental
		-10 to 60°C	±20ppm			
		-20 to 70°C	±30ppm			
		-40 to 90°C	±50ppm	±150ppm		
16.0 to < 26.0MHz	±10ppm to ±100ppm	0 to 50°C	±10ppm	±100ppm	40Ω	Fundamental
		-10 to 60°C	±20ppm			
		-20 to 70°C	±30ppm			
		-40 to 90°C	±50ppm	±150ppm		
26.0 to 33.0MHz	±10ppm to ±100ppm	0 to 50°C	±10ppm	±100ppm	25Ω	Fundamental
		-10 to 60°C	±20ppm			
		-20 to 70°C	±30ppm			
		-40 to 90°C	±50ppm	±150ppm		
30.0 to < 36.0MHz	±10ppm to ±100ppm	0 to 50°C	±10ppm	±100ppm	100Ω	3rd Overtone
		-10 to 60°C	±20ppm			
		-20 to 70°C	±30ppm			
		-40 to 90°C	±50ppm	±150ppm		
36.0 to 90.0MHz	±10ppm to ±100ppm	0 to 50°C	±10ppm	±100ppm	80Ω	3rd Overtone
		-10 to 60°C	±20ppm			
		-20 to 70°C	±30ppm			
		-40 to 90°C	±50ppm	±150ppm		

SURFACE MOUNT  
QUARTZ CRYSTALS