

# 90SMX & 91SMX CRYSTALS

ISSUE 6; 28 AUGUST 1996

## Delivery Options

- Common frequencies are available from stock. Please see p142 for details

## Holder Style

- 90SMX & 91SMX surface mount crystals are plastic encapsulated

## General Specifications

- Load Capacitance ( $C_L$ ): 12.5pF standard
- Drive Level: 1.0μW max

## Packaging

- 90SMX & 91SMX surface mount crystals are available packaged individually or on tape and reel

## Standard Frequency Tolerances

- ±10ppm, ±15ppm, ±20ppm, ±30ppm, ±50ppm, ±100ppm

## Operating Temperature Ranges

- 0 to 50°C
- 10 to 60°C
- 20 to 70°C
- 30 to 80°C
- 40 to 90°C

## Storage Temperature Range

- 55 to 125°C

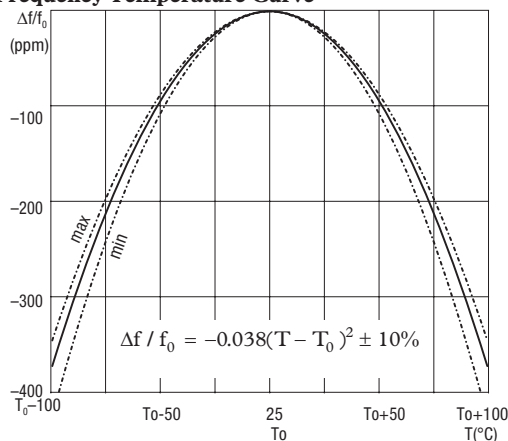
## Marking

- Includes Frequency

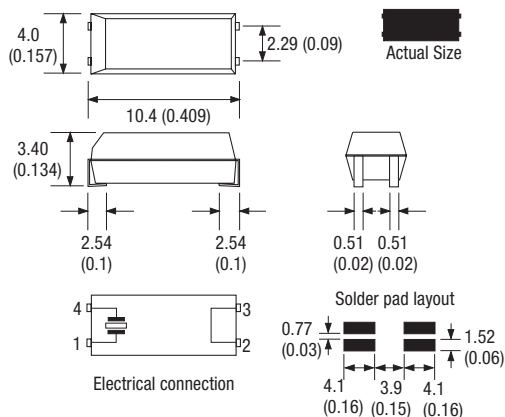
## Minimum Order Information Required

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

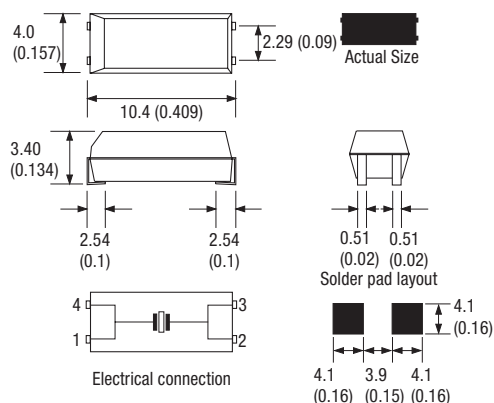
## Frequency Temperature Curve



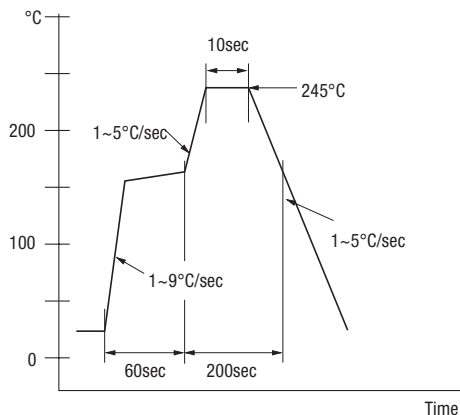
## Outline in mm (inches) - 90SMX (scale 2:1)



## Outline in mm (inches) - 91SMX (scale 2:1)



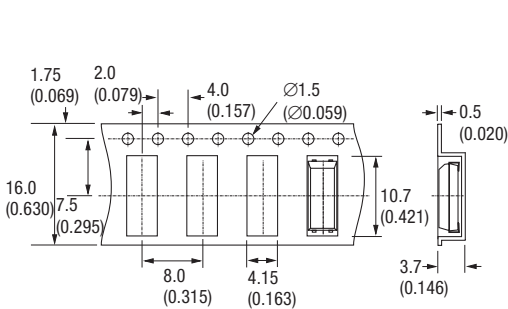
## Typical Solder Condition - Infrared Reflow



# 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		
32.7680kHz	±10ppm to ±100ppm	0 to 50°C	-25ppm	-100ppm	60kΩ	Fundamental
		-10 to 60°C	-50ppm	-100ppm		
		-20 to 70°C	-85ppm	-100ppm		
		-30 to 80°C	-150ppm	-300ppm		
		-40 to 90°C	-180ppm	-500ppm		

Outline in mm (inches) - Tape



Outline in mm (inches) - Reel (scale 1:8)

