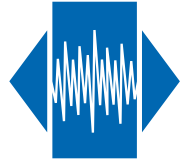


# SMX-2S

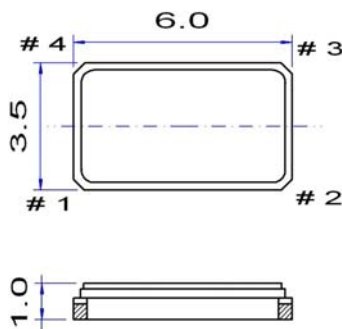


## Miniature SMD Crystal

### Features

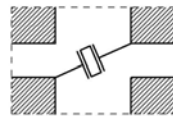
- Applications: telecommunications, automotive, audio, navigation
- Wide frequency range: 8 to 240 MHz
- High shock and vibrational resistivity
- Reflow soldering @ 260 °C

Parameter	Specification	
Frequency range	8 ~ 67 MHz 50 ~ 180 MHz 120 ~ 240 MHz	fundamental 3 <sup>rd</sup> overtone 5 <sup>th</sup> overtone
Mode of oscillation	AT-cut	
Standard frequencies	9.60, 10.245, 12.80, 13.00, 16.384, 20.00, 25.000, 27.00, 32.00, 44.00 & 48.00 MHz	
Frequency tolerance	±5 ~ ±30 ppm	@ +25 °C
Frequency stability	±10 ~ ±50 ppm	vs. operating temperature range
Aging	±1 ppm	1 <sup>st</sup> year
Load capacitance	series or parallel resonance (CL = 8 ~ 32 pF)	
Equivalent series resistance (ESR)	< 25 Ω < 15 Ω	@ 13 MHz @ 32 MHz
Drive level	10 ~ 100 μW	
Operating temperature range	-20 ~ +70 °C -40 ~ +85 °C -40 ~ +125 °C	commercial application industrial application automotive & avionic application
Storage temperature range	-55 ~ +125 °C	
Packaging unit	tape & reel	1'000 or 2'000 pieces
Customer specifications on request		

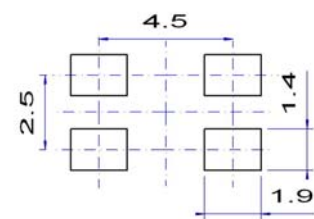


### Pin function

- # 1 crystal connection
- # 2 GND
- # 3 crystal connection
- # 4 GND

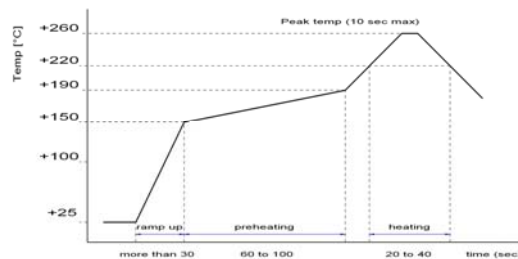


### Example for soldering pattern



**Do not design any conductive path between the pattern**

### Example for IR reflow soldering temperature



2002/95/EC RoHS compliant