SMX-415

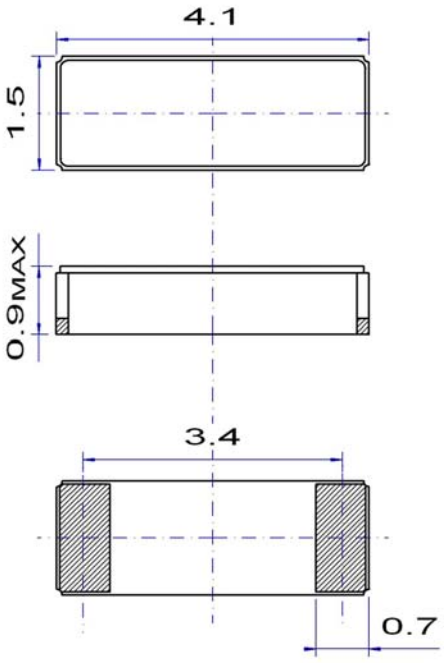
Ceramic packaged
SMD Watch Crystal

QuartzCom
the communications company

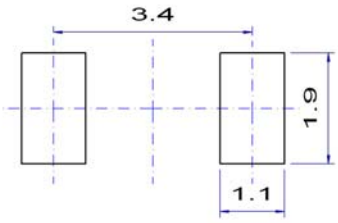
Features

- Applications: telecommunications, audio, automotive, medical
- Ultra low profile ceramic package
- Reliable, low cost crystal
- Reflow soldering @ 260 °C

Parameter	Specification	
Nominal frequency	**32.768 kHz**	
Frequency tolerance	±20 ppm	@ +25 °C
Frequency stability vs. temperature	±100 ppm ±150 ppm	over -20 ~ +70 °C over -40 ~ +85 °C
Aging	±3 ppm	1st year
Load capacitance	parallel resonance (CL = 8 ~ 12.5 pF)	
Series resistance	70 kΩ	Max.
Motional capacitance	2.5 fF	Typ.
Shunt capacitance	1.4 pF	Typ.
Drive level	0.1 µW Typical	< 0.5 µW
Turnover temperature	+25 °C	±5 °C
Temperature coefficient	-0.035 x (T-T0)^2 ppm/°C^2	
Operating temperature range	-20 ~ +70 °C -40 ~ +85 °C	commercial application industrial application
Storage temperature range	-55 ~ +125 °C	
Packaging unit	tape & reel	1'000 or 3'000 pieces
Customer specifications on request		

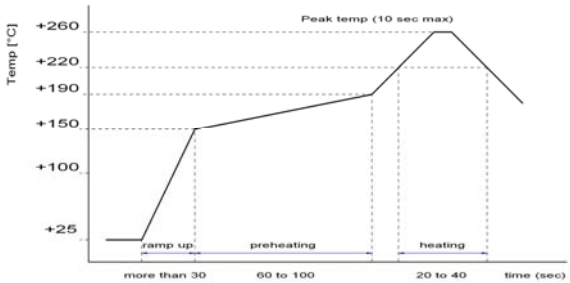


Example for soldering pattern



Do not design any conductive path between the pattern

Example for IR reflow soldering temperature



2002/95/EC RoHS compliant

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ISO 9001 BUREAU VERITAS Certification