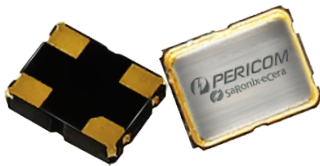


# Quartz Crystal Ceramic SMD

**FHQ**



2.5 x 2.0mm Ceramic SMD

## Product Features

- Rugged AT-cut crystal construction
- Miniature 2.5 x 2.0mm ceramic package
- Available on tape & reel; 8mm tape, 3000 units per reel
- Pb-free and RoHS/Green compliant

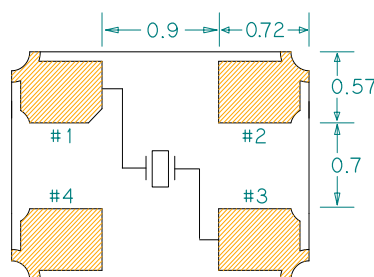
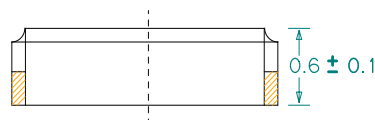
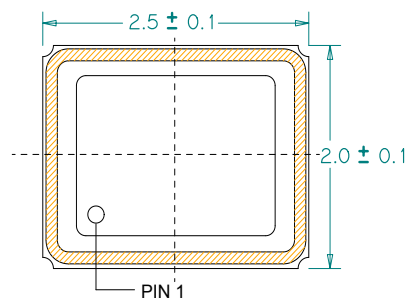
## Product Description

The 4-pad FH Series seam seal devices incorporate a sub-miniature AT-cut crystal resonator housed in a standard 2.5 x 2.0mm ceramic package. These compact crystal are ideal for surface mounting in densely populated PCB applications.

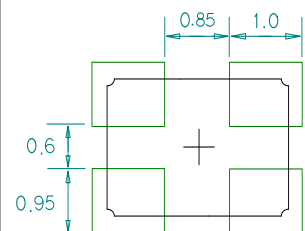
## Applications

- Portable / hand-held PCs
- PCMCIA Cards
- Notebook PC
- Bluetooth
- Wireless LAN
- UWB
- ZigBee
- USB
- GPS
- HDD
- GSM, CDMA, GPRS

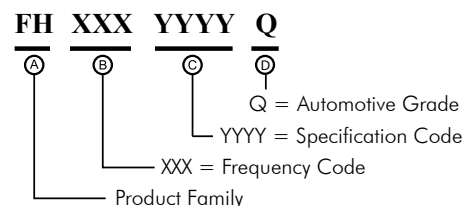
## Package: (Dimensions are in mm)



## Recommended Land Pattern:



## Part Ordering Information:



Following the above format, SaRonix-eCera part numbers will be assigned upon confirmation of exact customer requirements.

### Frequency Range:

- 12.0000 MHz to 66.0000 MHz (Fundamental)

### Characteristics at 25°C ±3°C:

- Frequency Calibration Tolerance:  $\pm 10\text{ppm}$  to  $\pm 50\text{ppm}$
- Load Capacitance: 7 to 32pF or Series Resonance
- Effective Series Resistance (ESR):
  - 12.0000MHz to 19.9999MHz: 140 $\Omega$  max
  - 20.0000MHz to 29.9999MHz: 70 $\Omega$  max
  - 30.0000MHz to 66.0000MHz: 50 $\Omega$  max
- Drive Level: 10 $\mu\text{W}$  typ. 100 $\mu\text{W}$  max
- Shunt Capacitance: 5pF Max.

### Temperature Range:

- Operating: -20 to +70°C; -40 to +85°C (AECQ Grade 3)
- Storage: -55 to +125°C

### Temperature Stability:

- $\pm 10\text{ppm}$  to  $\pm 50\text{ppm}$  (-20 to +70°C )
- $\pm 15\text{ppm}$  to  $\pm 50\text{ppm}$  (-40 to +85°C)

### Aging at 25°C, First Year:

- $\pm 3\text{ppm}$  Max

### Reflow Temperature:

- 260°C Max, 10 seconds max