

# Quartz Crystal Ceramic SMD

**FWQ**



2.0 x 1.6mm Ceramic SMD

## Product Features

- Rugged AT-cut crystal construction
- 2.0 x 1.6mm ceramic package
- Available on tape & reel; 8mm tape, 3000 units per reel
- Pb-free and RoHS/Green compliant
- AEC-Q200 compliant
  - Grade 3, Grade 2 & Grade 1

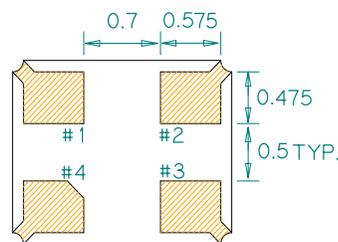
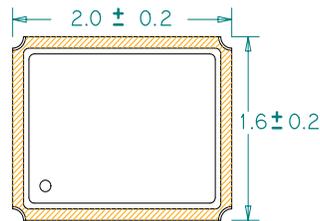
## Product Description

The 4-pad FWQ Series seam seal devices incorporate a sub-miniature AT-cut crystal resonator housed in a standard 2.0 x 1.6mm ceramic package. These compact crystal are ideal for surface mounting in densely populated PCB applications.

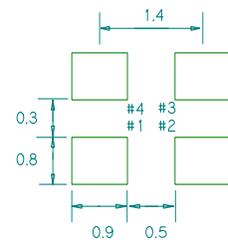
## Applications

- Automotive

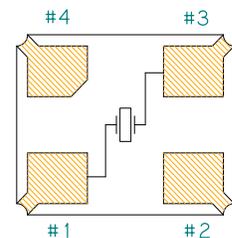
## Package: (Dimensions are in mm)



## Recommended Land Pattern:

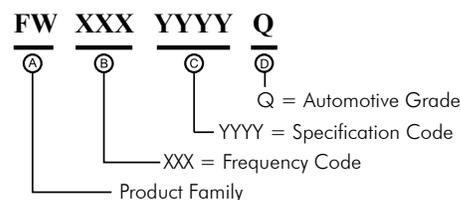


## Top View:



Recommended - Pin 1 & 3: Crystal  
Pin 2 & 4: GND

## Part Ordering Information:



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

## Frequency Range:

- 16.0000 MHz to 66.0000 MHz (Fundamental)

## Characteristics at 25°C ±3°C:

- Frequency Calibration Tolerance: ±10ppm to ±50ppm
- Load Capacitance: 7 to 32pF or Series Resonance
- Effective Series Resistance (ESR):
  - 16.0000MHz to 19.9999MHz: 150Ω max
  - 20.0000MHz to 29.9999MHz: 90Ω max
  - 30.0000MHz to 66.0000MHz: 60Ω max
- Drive Level: 10μW typ. 100μW max
- Shunt Capacitance: 5pF Max.

## Temperature Range:

- Operating: -20°C to +70°C; -40 to +85°C (AECQ Grade 3); -40°C to +105°C (AECQ Grade 2); -40°C to +125°C (AECQ Grade 1)
- Storage: -55°C to +125°C

## Temperature Stability:

- ±10ppm to ±50ppm (-20°C to +70°C)
- ±15ppm to ±50ppm (-40°C to +85°C)
- ±25ppm to ±100ppm (-40°C to +105°C)
- ±50ppm to ±100ppm (-40°C to +125°C)

## Aging at 25°C, First Year:

- ±3ppm Max

## Reflow Temperature:

- 260°C Max, 10 seconds max

**For the latest product information visit:** <http://www.pericom.com/products/timing/crystals/FWQ>

**For soldering reflow profile and reliability test ratings go to:** <http://www.pericom.com/pdf/sre/reflow.pdf>

**For tape and reel information go to:** [http://www.pericom.com/pdf/sre/tr\\_2016\\_xo.pdf](http://www.pericom.com/pdf/sre/tr_2016_xo.pdf)