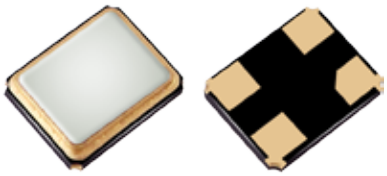
THE DATASHEET OF

FL4000061

Miniature Quartz Crystal Ceramic SMD

FL



3.2 x 2.5mm Ceramic SMD

Product Description

The 4-pad FL series seam seal devices incorporate a sub-miniature AT-cut crystal resonator housed in a standard 3.2 x 2.5mm ceramic package.

These compact crystals are ideal for surface mounting in densely populated or small form-factor PCB applications.

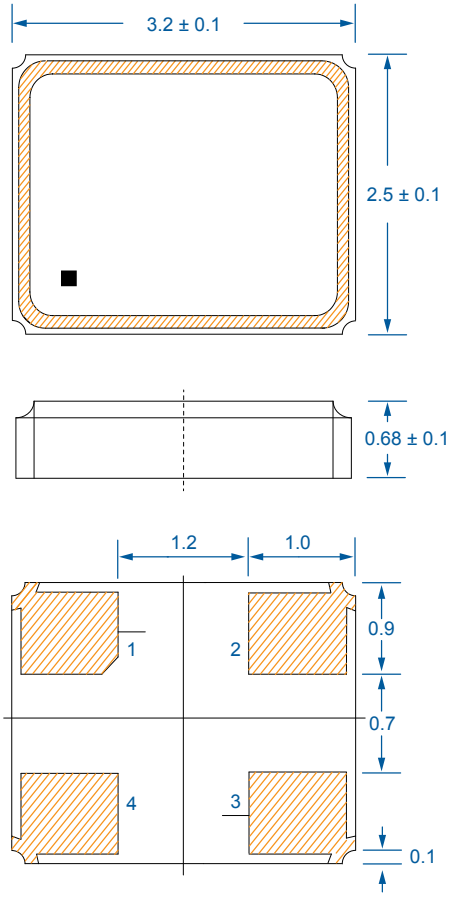
Product Features

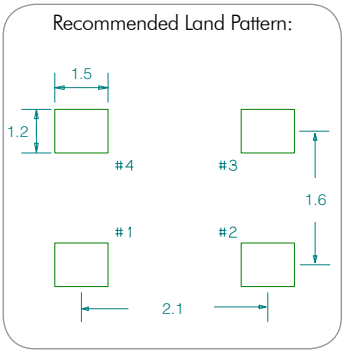
- Rugged AT-cut crystal construction
- Miniature 3.2 x 2.5mm ceramic package
- Available on tape & reel; 8mm tape, 3000 units per reel
- Pb-free and RoHS/Green compliant

Typical Applications

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

Package: (Scale: none; dimensions are in mm)

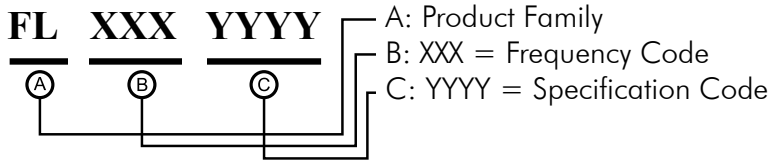




Pin Functions:

Pin	Function
1	Xtal
2	Case
3	Xtal
4	Case

Part Ordering Information:



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

Frequency Range:

- 8 MHz to 66.0000 MHz (Fundamental)

Characteristics at 25°C ±2°C:

- Frequency Calibration Tolerance: ±10ppm, ±20ppm, or ±30ppm
- Load Capacitance: 8 to 32pF or Series Resonance
- Effective Series Resistance (ESR):

  500Ω max (8 to 11.9 MHz)
  80Ω max (12 to 19.9 MHz)
  60Ω max (20 to 29.9 MHz)
  40Ω max (30 to 66 MHz)
- Drive Level: 10μW typ. (100μW max)
- Shunt Capacitance: 5pF Max

Temperature Range:

- Operating: –20 to +70°C or –40 to +85°C or –40 to +125°C
- Storage: –55 to +125°C

Temperature Stability:

- ±10ppm, ±20ppm, ±30ppm, or ±50ppm (–20 to +70°C)
- ±30ppm, or ±50ppm (–40 to +85°C)
- ±50ppm, or ±70ppm (–40 to 125°C)

Aging at 25°C, First Year:

- ±3ppm Max

Reflow Temperature:

- 260°C Max, 10 seconds Max

Mechanical

- Shock: JESD22-B104 Condition B
- Solderability: J-STD-002
- Terminal Strength: MIL-STD-883 Method 2004
- Vibration: JESD22-B103
- Solvent Resistance: JESD22-B107
- Resistance to Soldering Heat: J-STD-020C Table 5-2 Pb-free devices (3 cycles max)

Environmental

- Gross Test Leak: JESD22-A109, Condition C
- Fine Test Leak: JESD22-A109, Condition A1
- Moisture Resistance: JESD22-A113
- Insulation Resistance: 500 MΩ min (100 VDC)

Legacy Ordering Information - For Reference Only:

NKS 3 NAD 1 – 25.0000 –20 (T)

SaRonix Series Designator
NKS = 4 pad seam seal

Package Type
3 (3.2 x 2.5 mm typ)

Calibration / Stability / Temp Range
HAA = ±10 ppm / ±10 ppm / -20°C to +70°C
JAB = ±20 ppm / ±20 ppm / -20°C to +70°C
NAD = ±30 ppm / ±30 ppm / -20°C to +70°C
NAK = ±30 ppm / ±50 ppm / -20°C to +70°C
NED = ±30 ppm / ±30 ppm / -40°C to +85°C
NEK = ±30 ppm / ±50 ppm / -40°C to +85°C

Mode
1 = Fundamental

Frequency
Frequencies (in MHz) = xx.xxxx

Load Capacitance
–XX = Load Capacitance

Packing Method
(T) = Tape & Reel, full reel increments only, 3000pcs
Blank = Bulk

Part Number Example:

Spec: Freq 18.1234MHz, ±30ppm calib, ±30ppm stab, -20 to +70°C, 16pF, T&R = NKS3NAD1-18.1234-16(T)

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