

## FH Series Quartz Crystal Legacy NKS2 Series 2.5 x 2.0mm

# **Miniature Quartz Crystal Ceramic SMD**



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

# **Typical Applications**

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

#### **Frequency Range:**

• 16 MHz to 66.0000 MHz (Fundamental)

#### Characteristics at $25^{\circ}C \pm 2^{\circ}C$ :

- Frequency Calibration Tolerance: ±10ppm, ±20ppm, or ±30ppm
- Load Capacitance: 7 to 32pF or Series Resonance
- Effective Series Resistance (ESR):

150Ω max (16 to 19.9 MHz)

 $80\Omega$  max (20 to 29.9 MHz)

 $60\Omega$  max (30 to 66 MHz)

- Drive Level:  $10\mu W$  typ. ( $100\mu W$  max)
- Shunt Capacitance: 5pF Max

#### **Temperature Range:**

- Operating: –20 to  $+70^{\circ}$ C or –40 to  $+85^{\circ}$ C
- Storage: -55 to +125°C

#### **Temperature Stability:**

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





# Miniature Quartz Crystal Ceramic SMD FH

### FH Series Quartz Crystal Legacy NKS2 Series | 2.5 x 2.0mm

#### **Mechanical Drawings:**





#### **Part Ordering Information:**



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

#### **Legacy Ordering Information - For Reference Only:**



#### Part Number Example:

Spec: Freq 20MHz, ±30ppm calib, ±30ppm stab, -20 to +70°C, 16pF, T&R = NKS2NAD1-20.0000-16(T)

