

Actual Size 

Product Description

The 2-pad NES5 and the 4-pad NKS5 Series devices incorporate a sub-miniature AT-cut crystal resonator housed in a standard 5x3.2mm ceramic package. These compact crystals are ideal for surface mounting in densely populated PCB applications.

Product Features

- Rugged AT-cut crystal construction
- Miniature 5x3.2mm ceramic package
- Available on tape & reel; 16mm tape, 1000/reel
- NKS5: Pb-free and RoHS/Green compliant
- NES5: RoHS compliant**
(* per #5, Annex of Directive 2002/05/EC)

Typical Applications

- HDD
- PCMCIA Cards
- Portable / hand-held PCs
- Notebook PC
- GPS
- Bluetooth
- Wireless LAN
- Portable Multimedia Devices
- USB Dongle

Common Frequencies (MHz):

12.0000	24.5760
13.5000	25.0000
14.3181	26.0000
14.7456	27.0000
16.0000	32.7680
18.4320	33.0000
19.4400	40.0000
20.0000	44.0000
24.0000	48.0000

Frequency Range:

- 12.0000 MHz to 50.0000 MHz (Fundamental)

Temperature Range:

- Operating: -20 to +70°C; -40 to +85°C (as specified)
- Storage: -40 to +85°C

Temperature Stability (as specified):

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

Characteristics at 25°C ±2°C:

- Frequency Calibration Tolerance: ±10ppm, ±20ppm, ±30ppm
- Load Capacitance: 10 to 32pF or Series Resonance
- Effective Series Resistance:
 - 70Ω max (12 to 12.9 MHz)
 - 60Ω max (13 to 15.9 MHz)
 - 50Ω max (16 to 31.9 MHz)
 - 40Ω max (32 to 50 MHz)
- Drive Level: 10μW typ. (100μW max)
- Shunt Capacitance: 5pF Max.

Aging at 25°C, First Year:

- ±3ppm Typ., ±5ppm Max.

Mechanical:

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

Environmental:

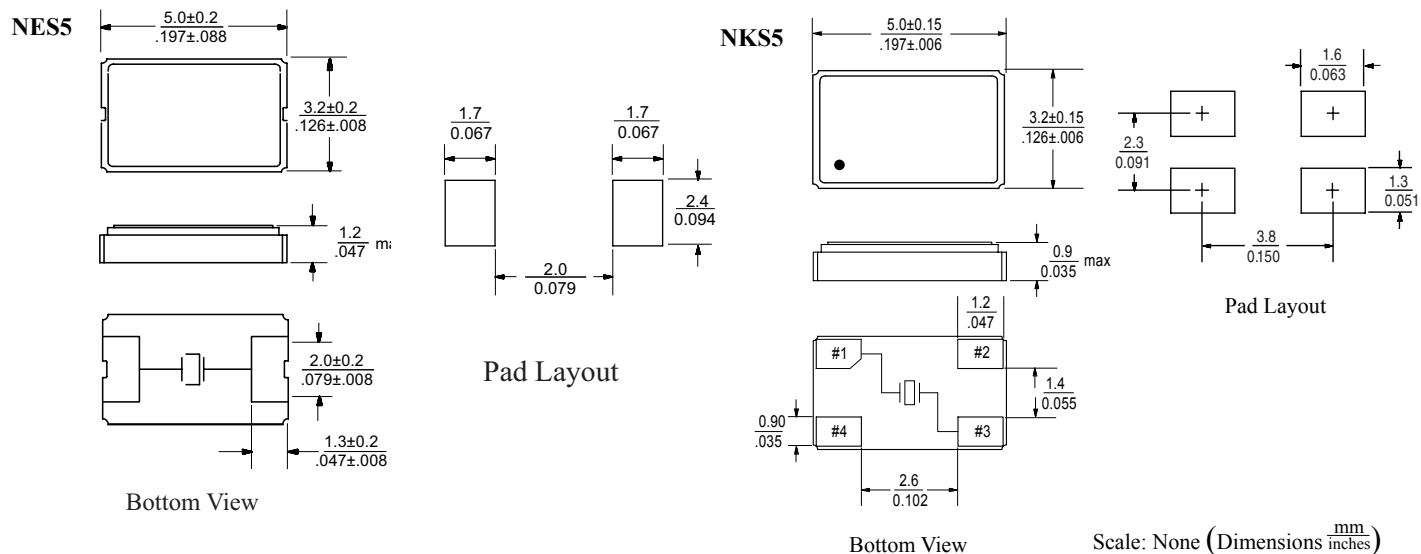
- Gross Test Leak: JESD22-A109 (Condition C)
- Fine Test Leak: JESD22-A109 (Condition A1)
- Moisture Resistance: JESD22-A113

Reflow Temperature:

- 260°C Max (10 seconds max)

Mechanical Drawings: 5 x 3.2 Ceramic

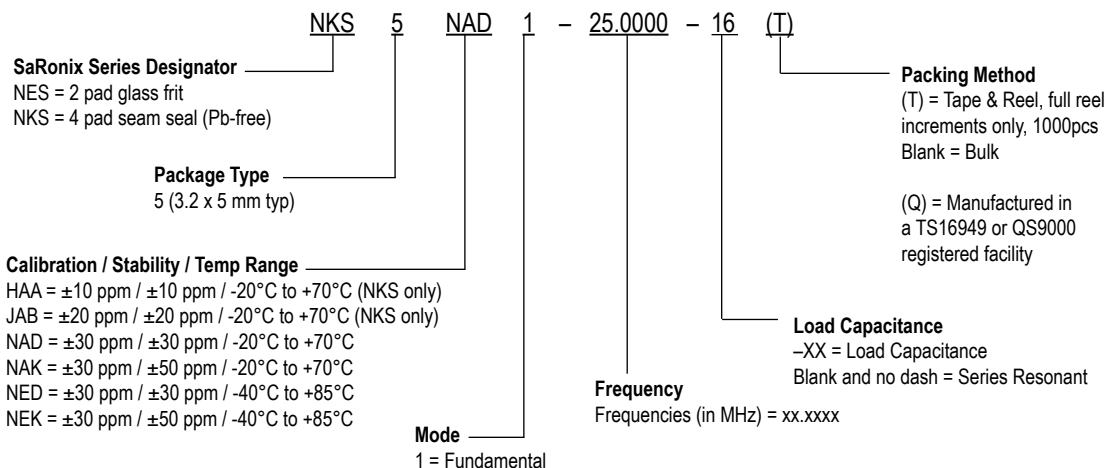
Package Details & Recommended Land Patterns



Package Top Marking

Marking Line 1: S YYWWX (SaRonix, date code, origin)
 Marking Line 2: • xx.xxxx (pin 1, frequency up to 7 digits including decimal point)

Ordering Information



Part Number Example:

Spec: Freq 25.0000MHz, ±30ppm calib, ±30ppm stab, -20 to +70°C, 16pF, T&R = NKS5NAD1-25.0000-16(T)