



Actual Size



### Product Description

The HC-49/U series is an industry standard AT-cut crystal that is housed in Mil standard HC-49/U packaging.

### Product Features

- AT-cut performance
- Resistance weld seal
- Low cost
- Versatile
- Pb-free and RoHS/Green compliant available

### Typical Applications

- Set-Top Box/Multimedia
- Clock/VCXO Multiplier
- Network Adapter Cards
- Modems
- Microcontrollers and Processors
- Remote control devices

### Frequency Range:

- 1.8432 to 27.0000 MHz (Fundamental)
- 27.0001 to 60.0000 MHz (3rd OT)

### Characteristics at 25°C ±2°C:

- Frequency Calibration Tolerance (as specified): ±30ppm, ±50ppm
- Load Capacitance (as specified): 12 to 32pF or Series Resonance
- Effective Series Resistance:
  - 700Ω max (1.8432 to 3.199MHz)
  - 150Ω max (3.2 to 3.499MHz)
  - 120Ω max (3.5 to 3.999MHz)
  - 100Ω max (4 to 4.999MHz)
  - 50Ω max (5 to 6.000MHz)
  - 40Ω max (6.001 to 7.999MHz)
  - 35Ω max (8 to 9.999MHz)
  - 30Ω max (10 to 12.999MHz)
  - 25Ω max (13 to 17.999MHz)
  - 20Ω max (18 to 27.000MHz, AT Fund)
  - 40Ω max (27.001 to 60MHz, AT (3rd overtone))
- Drive Level: 100μW correlation, (2000μW Max)
- Shunt Capacitance: 7pF Max.

### Temperature Range:

- Operating: -20 to +70°C ; -40 to +85°C (as specified)
- Storage: -55 to +125°C

### Temperature Stability (as specified):

- ±30ppm (-20 to +70°C)
- ±50 or ±100ppm (-40 to +85°C)

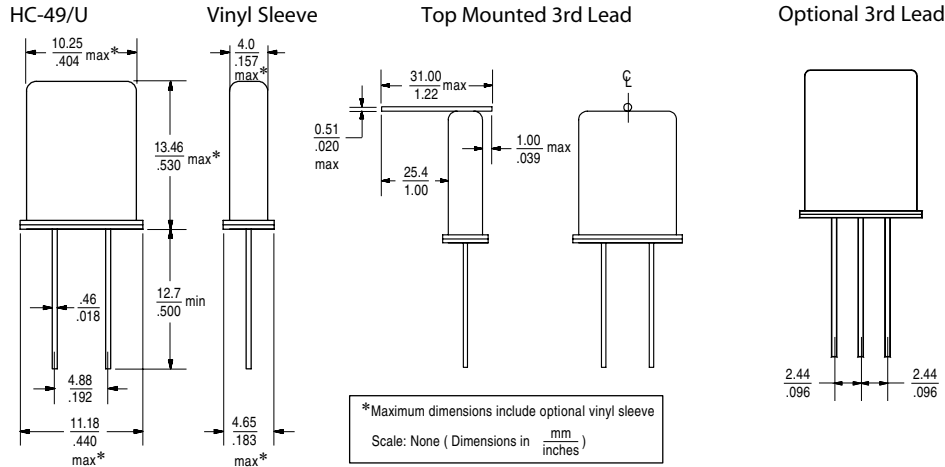
### Aging @ 25°C, first year:

- ±3ppm (typ), ±5ppm (max)

### Reflow Temperature:

- 240°C Max (non-RoHS package)
- 260°C Max, 10 sec max (RoHS package)

**Packaging Information: HC-49/U**

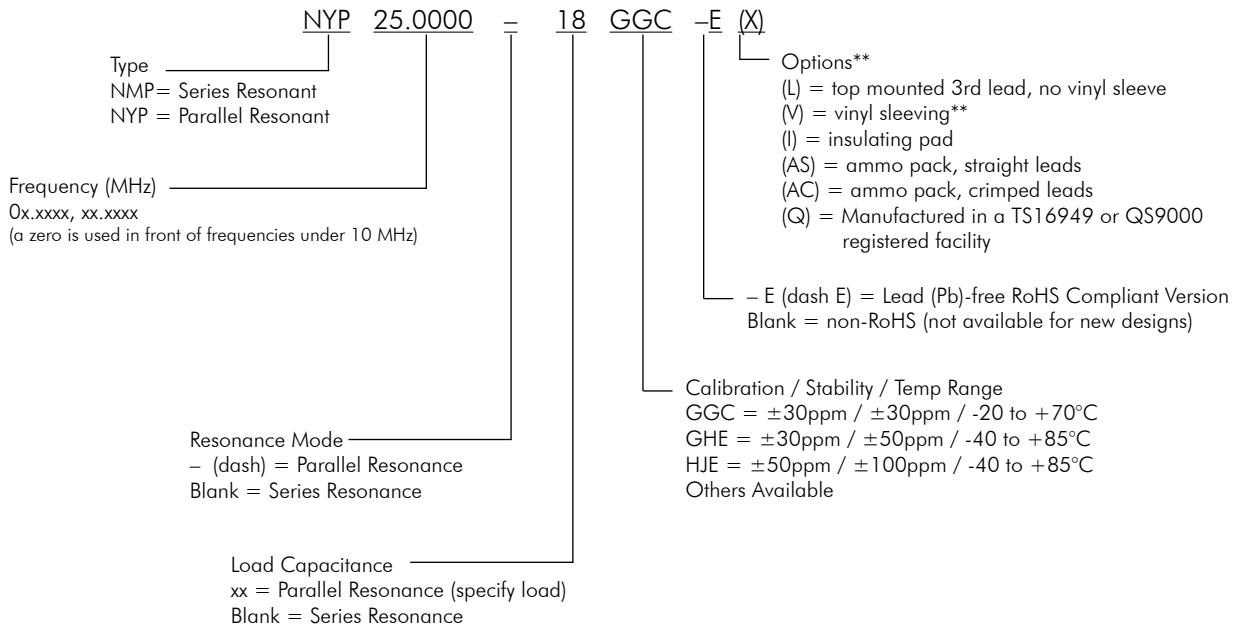


**Package Marking Information**

Line 1: Company name  
Line 2: Frequency (up to 9 digits, including decimal point)  
Line 3: Calib/Stability/Temp Code - Load Capacitance (marked "S" for Series Resonance)  
Line 4: Date Code: YYWWX



**Ordering Information**



\*\*Optional vinyl shrink sleeve may be specified, as needed

Part Number Example: Spec: Freq 5.1234MHz, ±30ppm calib, ±30ppm stab, -20 to +70°C, 16pF  
 = NYP05.1234-16GGC  
 = NYP05.1234-16GGC-E (for lead-free)

**Mechanical:**

- Shock: JESD22-B104 Condition B
- Solderability: JESD22 method 1 (Predconditioning E) RoHS package
- Terminal Strength: MIL-STD-883 Method 2004
- Vibration: JESD22-B103
- Solvent Resistance: JESD22-B107
- Resistance to Soldering Heat: JESD22-B106 (RoHS Package)

**Environmental:**

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