

# **Quartz Crystal**







# **Product Description**

The GA series is an industry standard AT-cut crystal that is housed in Mil standard package.

#### **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:
  - $700\Omega$  max (1.8432 to 3.199MHz)
  - $150\Omega$  max (3.2 to 3.499MHz)
  - $120\Omega$  max (3.5 to 3.999MHz)
  - $100\Omega$  max (4 to 4.999MHz)
  - $50\Omega$  max (5 to 6.000MHz)
  - $40\Omega$  max (6 to 7.999MHz)
  - $35\Omega$  max (8 to 9.999MHz)
  - $30\Omega$  max (10 to 12.999MHz)
  - $25\Omega$  max (13 to 17.999MHz)
  - 20Ω max (18 to 27.000MHz, AT Fund)
- 40Ω max (27 to 60MHz, AT (3rd overtone)
  Drive Level: 100μW correlation, (2000μW Max)
- Shunt Capacitance: 7pF Max.

#### **Temperature Range:**

- Operating:  $-20 \text{ to } +70^{\circ}\text{C}$ ;  $-40 \text{ to } +85^{\circ}\text{C}$  (as specified)
- Storage: -55 to +125°C

#### **Temperature Stability (as specified):**

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

#### Aging @ 25°C, first year:

•  $\pm 3$ ppm (typ),  $\pm 5$ ppm (max)

#### **Reflow Temperature:**

• 260°C Max, 10 sec max (RoHS package)

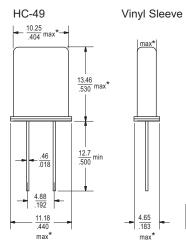




# GA Series | Legacy HC49/U Series

#### **Mechanical Drawings: HC-49**

# **Package Details**



#### **New Part Number Example**

 $\frac{\text{GA}}{\text{@}}$   $\frac{250}{\text{@}}$   $\frac{0001}{\text{©}}$  A = Product Family B = Frequency Code C = Specification Code

Note: After July 1, 2007, a Saronix - eCera part number following the above format will be assigned upon confirmation of exact customer requirements.

Scale: None (Dimension in mm/inches)

#### **Mechanical:**

Shock: JESD22-B104 Condition B

• Solderability: JESD22 method 1 (Predonditioning 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:**

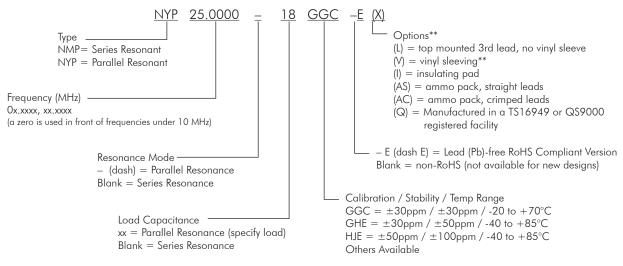
Gross Test Leak: JESD22-A109, Condition C

• Fine Test Leak: JESD22-A109, Condition A1

• Moisture Resistance: JESD22-A113

• Insulation Resistance: 500 MΩ min (100 VDC)

### **Legacy Ordering Information**



<sup>\*\*</sup>Optional vinyl shrink sleeve may be specified, as needed

Part Number Example: Spec: Freq 5.1234 MHz,  $\pm 30 ppm$  calib,  $\pm 30 ppm$  stab, -20 to  $+70 ^{\circ}C$ , 16 pF

= NYP05.1234-16GGC

= NYP05.1234-16GGC-E (for lead-free)

