


# Quartz Crystal

**GB GG**

 Actual Size 

## Product Description

The GB/GG Series is a miniature, AT or BT cut strip resonator crystal, housed in low profile metal can package.

## Product Features

- Low profile 3.5mm height GB
- Low profile 2.5mm height GG
- AT or BT cut performance
- Resistance weld seal
- 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:

- 3.2 to 29.999 MHz, AT Fundamental
- 30.0 to 54.000 MHz, AT 3rd OT
- 26.8 to 54.000 MHz, BT Fundamental

## 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:
  - 200Ω max (3.2 to <3.5MHz)
  - 180Ω max (3.5 to <4.0MHz)
  - 150Ω max (4 to <5.0MHz)
  - 120Ω max (5 to <6.0MHz)
  - 100Ω max (6 to <7.0MHz)
  - 80Ω max (7 to <9.0MHz)
  - 60Ω max (9 to <13.0MHz)
  - 40Ω max (13 to <20.0MHz)
  - 30Ω max (20 to <30.0MHz, AT Fund)
  - 80Ω max (30 to 54MHz, AT (3rd overtone)
  - 30Ω max (26.8 to 54MHz, BT Fund)
- Drive Level: 100μW correlation, (500μW 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) AT Cut
- ±50 or ±100ppm (-40 to +85°C) AT Cut
- 0 to -100ppm (-20 to +70°C) BT Cut

## Aging @ 25°C, first year:

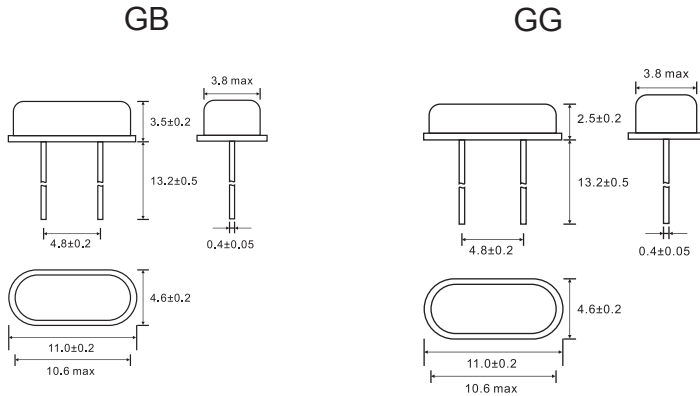
- ±3ppm (typ), ±5ppm (max)

## Reflow Temperature:

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

**Mechanical Drawings: HC-49/S**

**Package Details**



Scale: None (Dimension in mm)

**New Part Number Example**

**GB**   **051**   **0001**   A = Product Family  
 (A)   (B)   (C)   B = Frequency Code  
 C = Specification Code

**GG**   **051**   **0001**   A = Product Family  
 (A)   (B)   (C)   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.

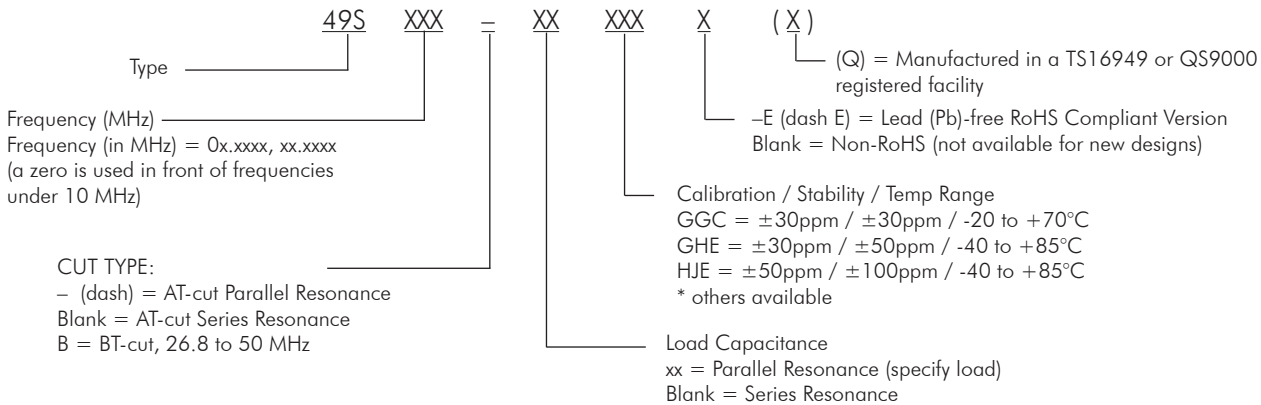
**Mechanical:**

- Shock: JESD22-B104 Condition B
- Solderability: MIL-STD-883, Method 2003 (non-RoHS package)
- Solderability: J-STD-002( RoHS package )
- Terminal Strength: MIL-STD-883 Method 2004
- Vibration: JESD22-B103
- Solvent Resistance: JESD22-B107
- Resistance to Soldering Heat: MIL-STD-202, Method 210, Condition I or J (Non-RoHS package)
- Resistance to Soldering Heat: J-STD-020C Table 5-2 Pb-free devices (3 cycles max) (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**



**Part Number Example:**

Spec: Freq 5.1234MHz, ±30ppm calib, ±30ppm stab, -20 to +70°C, 16pF = 49S05.1234-16GGC = 49S05.1234-16GGC-E (for lead-free)