

# Quartz Crystal Ceramic SMD

GC GF



Actual Size



## Product Description

The crystals are miniature AT or BT cut strip resonators housed in low profile packages for surface mounting. The parts utilize a proven, low-cost, metal package technology with a precision molded base and universal contact configuration.

## Product Features

- Pb-free and RoHS/Green compliant.
- Low profile 4.0mm height GC
- Low profile 3.0mm height GF

## 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 3.499MHz)
  - 180Ω max (3.5 to 3.999MHz)
  - 150Ω max (4 to 4.999MHz)
  - 120Ω max (5 to 5.999MHz)
  - 100Ω max (6 to 6.999MHz)
  - 80Ω max (7 to 8.999MHz)
  - 60Ω max (9 to 12.999MHz)
  - 40Ω max (13 to 19.999MHz)
  - 30Ω max (20 to 29.999MHz, 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:

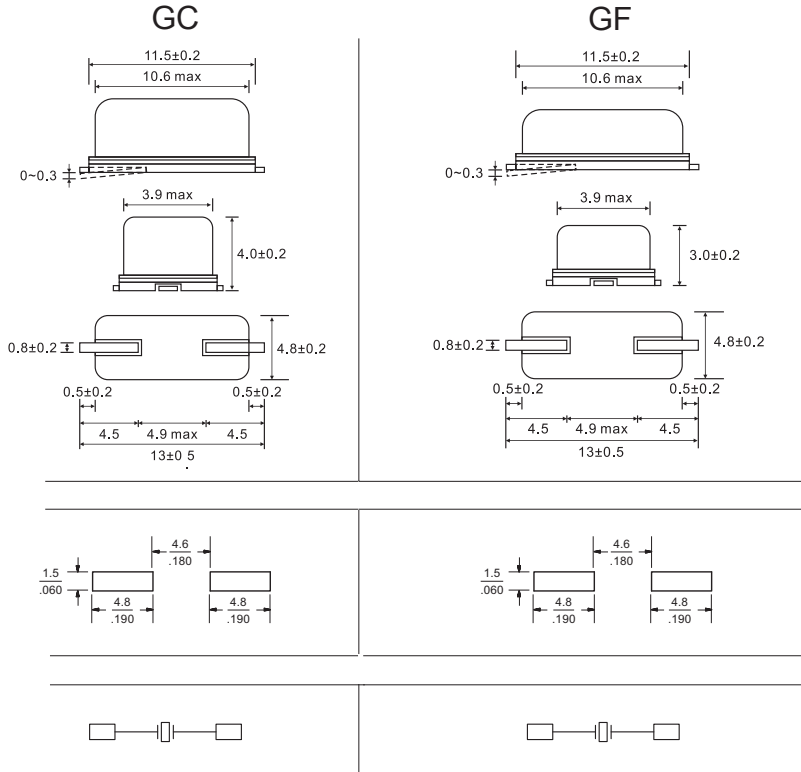
- ±3ppm (typ), ±5ppm (max)

## Reflow Temperature:

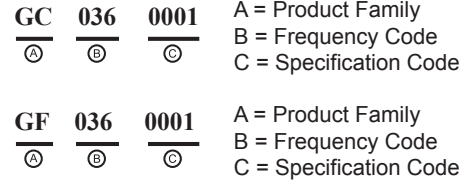
- 260°C Max, 10 sec max (RoHS package)

### Mechanical Drawings: HC-49

#### Package Details

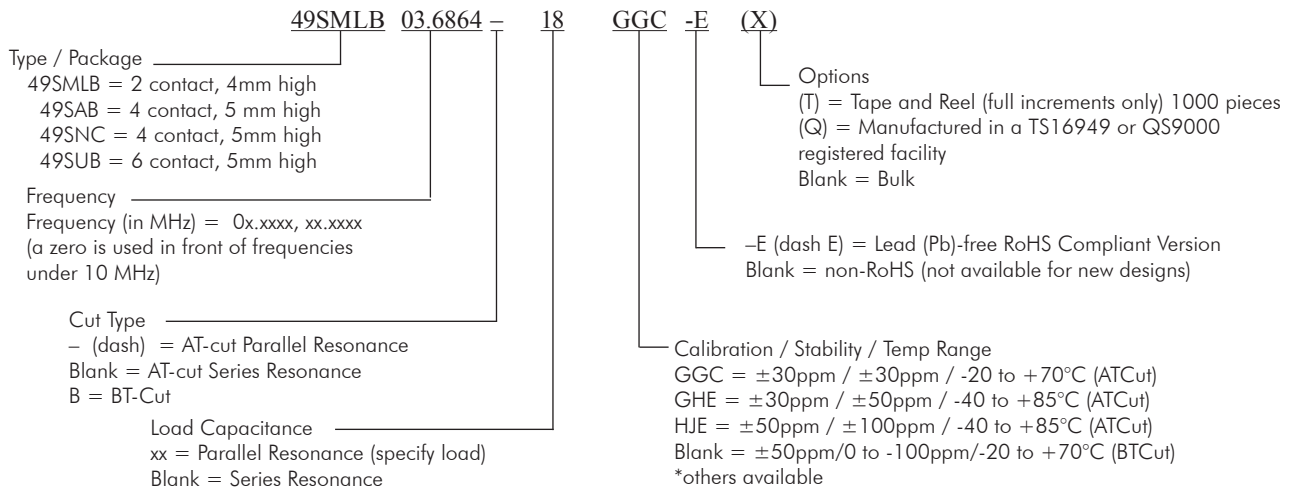


### New Part Number Example



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

### Legacy Ordering Information



Part Number Examples: Freq 5.1234MHz, ±30ppm calib, ±30ppm stability, -20 to +70°C, 16pF  
 = 49SMLB05.1234-16GGC  
 = 49SMLB05.1234-16GGC-E (for PB-Free/RoHS Compliant)

**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)