

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:

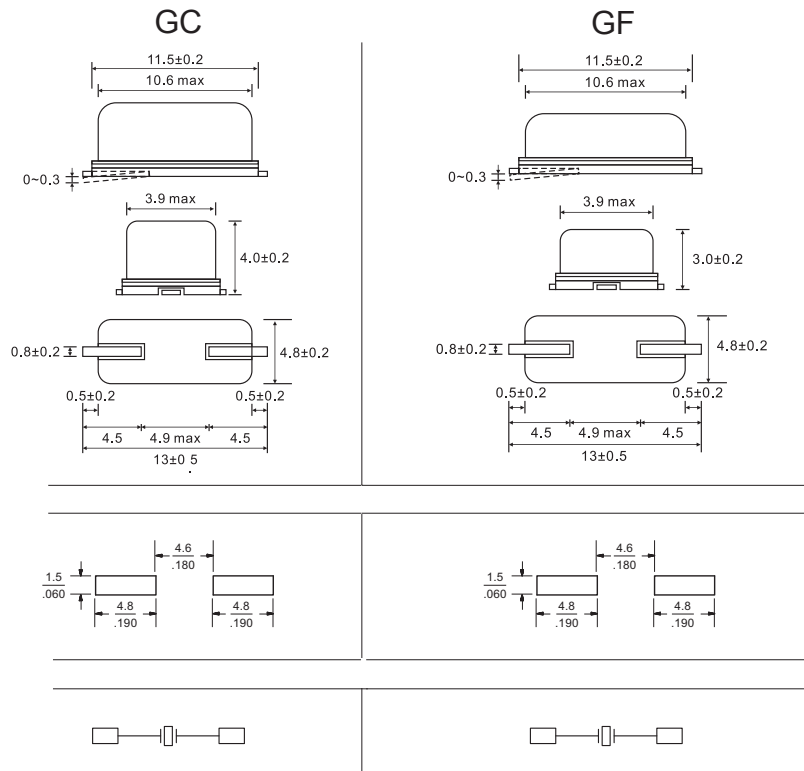
- ±3ppm (typ), ±5ppm (max)

Reflow Temperature:

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

Mechanical Drawings: HC-49

Package Details



New Part Number Example

GC 036 0001
 A = Product Family
 B = Frequency Code
 C = Specification Code

GF 036 0001
 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.

Legacy Ordering Information

49SMLB 03.6864 - 18 GGC -E (X)

Type / Package: 49SMLB = 2 contact, 4mm high
 49SAB = 4 contact, 5 mm high
 49SNC = 4 contact, 5mm high
 49SUB = 6 contact, 5mm high

Frequency (in MHz) = 0x.xxxx, xx.xxxx
 (a zero is used in front of frequencies under 10 MHz)

Cut Type: - (dash) = AT-cut Parallel Resonance
 Blank = AT-cut Series Resonance
 B = BT-Cut

Load Capacitance: xx = Parallel Resonance (specify load)
 Blank = Series Resonance

Options:
 (T) = Tape and Reel (full increments only) 1000 pieces
 (Q) = Manufactured in a TS16949 or QS9000 registered facility
 Blank = Bulk

-E (dash E) = Lead (Pb)-free RoHS Compliant Version
 Blank = non-RoHS (not available for new designs)

Calibration / Stability / Temp Range:
 GGC = ±30ppm / ±30ppm / -20 to +70°C (ATCut)
 GHE = ±30ppm / ±50ppm / -40 to +85°C (ATCut)
 HJE = ±50ppm / ±100ppm / -40 to +85°C (ATCut)
 Blank = ±50ppm/0 to -100ppm/-20 to +70°C (BTCut)
 *others available

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)