SaRonix™
A PERICOM® COMPANY

49S SMD Series

Miniature Quartz Crystal
49SMLB / 49SAB / 49SUB / 49SNC

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

- 49SNC is interchangeable with common platic-molded crystal configurations.
- 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 3.499MHz)
  - 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:

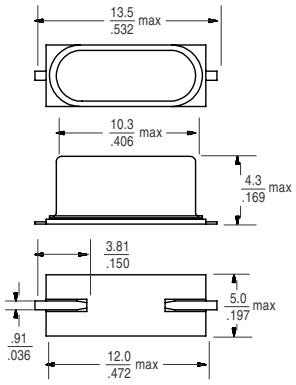
- ±3ppm (typ), ±5ppm (max)

Reflow Temperature:

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

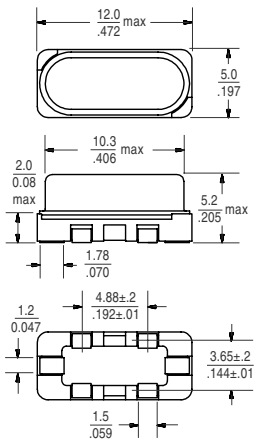
Packaging Information: HC-49

49SMLB package

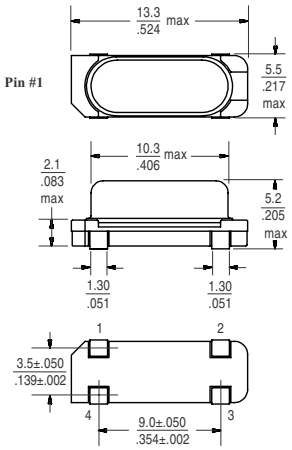


Scale: None (Dimensions in mm / inches)

49SAB/SUB package



49SNC package



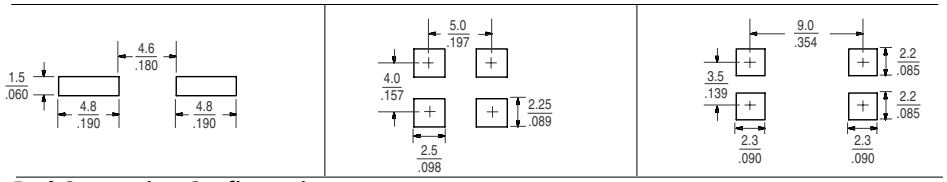
Package Marking Information

Line 1: S = SaRonix
xxx = Calib/Stability/Temp Code
YYWWX = Date Code

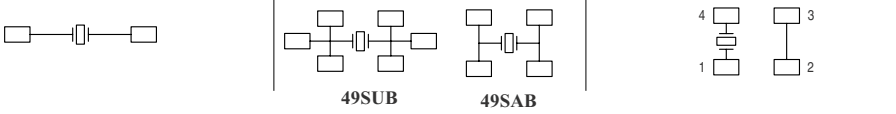
Line 2: Frequency (up to 7 digits, including decimal point)
Z = - (dash) for AT-cut parallel resonant
= blank for AT-cut series resonant
= B for BT-cut
xx = Load Capacitance (leave Blank if Series)

SxxxYYWWX
24.5760zxx

Land Pattern



Pad Connection Configurations



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
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

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

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

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

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)