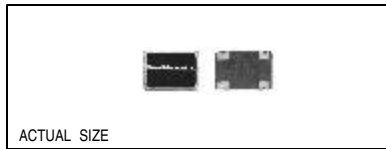


Technical Data

S1903 / S1950 Series



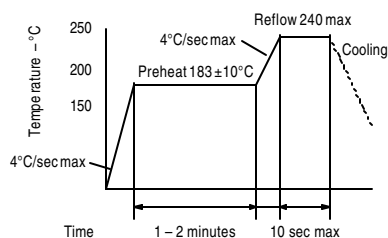
Description

The 5V S1950 and 3.3V S1903 are crystal-controlled, low-current oscillators providing precise rise and fall times to drive high performance applications. The sub-miniature, very low profile leadless ceramic package has gold-plated contact pads, ideal for today's pick-and-place SMT environments. The S1903 and the high output load S1950 are both available to 125 MHz.

Applications & Features

- Sub-miniature, 1.8mm high ceramic package ideal for SMT applications
- Available in 3.3V and 5V versions
- Tri-State
- Frequency range covers 106.25 MHz Fibre Channel and 125 MHz Gigabit Ethernet applications
- CMOS, HCMOS & TTL compatible
Perfect for PCs; notebook, palmtop computers; portable applications; PCMCIA cards. Anywhere small size, low power, surface mountability are a priority.
- Available in embossed tape & reel

Solder Reflow Guide



Frequency Range: 50+ MHz to 125 MHz (S1903)
80+ MHz to 125 MHz (S1950)

Frequency Stability: ±25, ±50 or ±100ppm over all conditions; calibration tolerance, operating temperature, input voltage change, load change, aging (1 year @ 25°C average ambient operating temperature), shock and vibration.

Temperature Range:

Operating: 0 to +70°C or -40 to +85°C
Storage: -55 to +125°C

Supply Voltage: 5V ±10% or 3.3V ±10%

Supply Current: 50mA typ, 65mA max @ 5V
35mA max @ 3.3V

Output:

Symmetry: 45/55% max @ 50% V_{DD} or 1.5V, 0 to +70°C @ 5V
40/60% max @ 50% V_{DD} or 1.5V, -40 to +85°C @ 5V
45/55% max @ 50% V_{DD} @ 3.3V

Rise & Fall Times: 2ns max 20% to 80% V_{DD}
1.5ns max 0.5 to 2.5V (S1950 only)

Logic 0: 10% V_{DD} max for S1950 or 20% V_{DD} max for S1903
Logic 1: 80% V_{DD} min

Load: 50Ω AC MOS @ 5V or 95Ω AC MOS @ 3.3V

Period Jitter RMS: S1950: 20ps max 0 to +70°C
25ps max -40 to +85°C
S1903: 12ps max, 50+ to 72 MHz
20ps max, 72+ to 125MHz, 0 to +70°C
25ps max, 72+ to 125MHz, -40 to +85°C

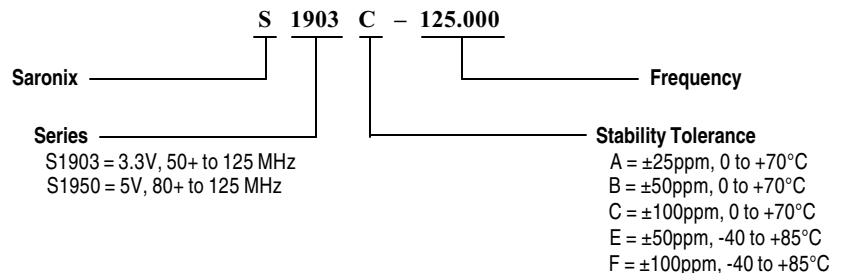
Mechanical:

Shock: MIL-STD-883, Method 2002, Condition B
Solderability: MIL-STD-883, Method 2003
Vibration: MIL-STD-883, Method 2007, Condition A
Solvent Resistance: MIL-STD-202, Method 215
Terminal Strength: MIL-STD-202, Method 211, Conditions A & C
Resistance to Soldering Heat: MIL-STD-202, Method 210, Condition I or J

Environmental:

Gross Leak Test: MIL-STD-883, Method 1014, Condition C
Fine Leak Test: MIL-STD-883, Method 1014, Condition A2
Thermal Shock: MIL-STD-883, Method 1011, Condition A
Moisture Resistance: MIL-STD-883, Method 1004

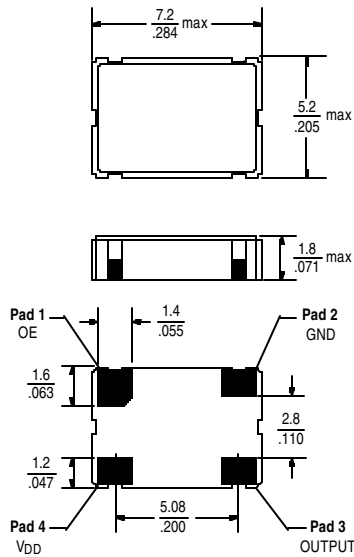
Part Numbering Guide



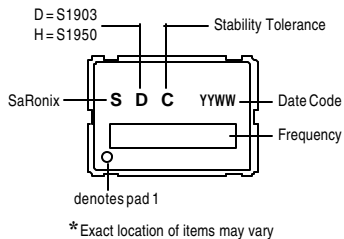
Technical Data

S1903/S1950 Series

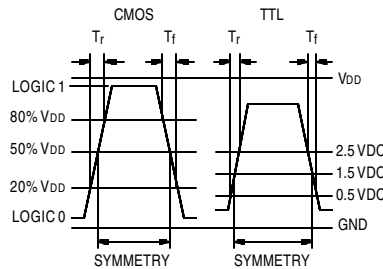
Package Details



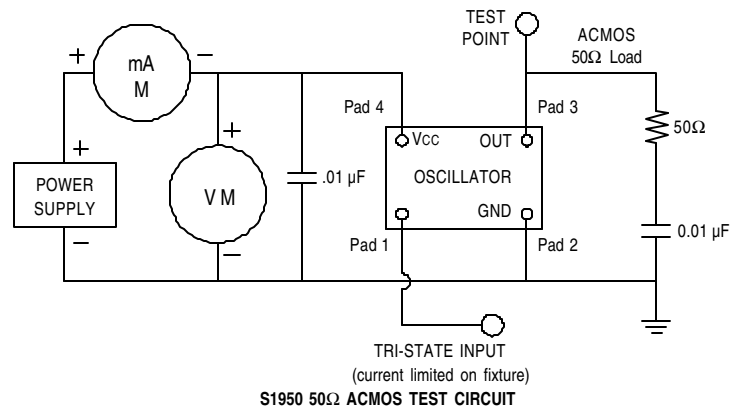
Marking Format*



Output Waveform

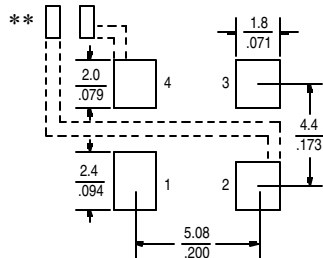


Test Circuits



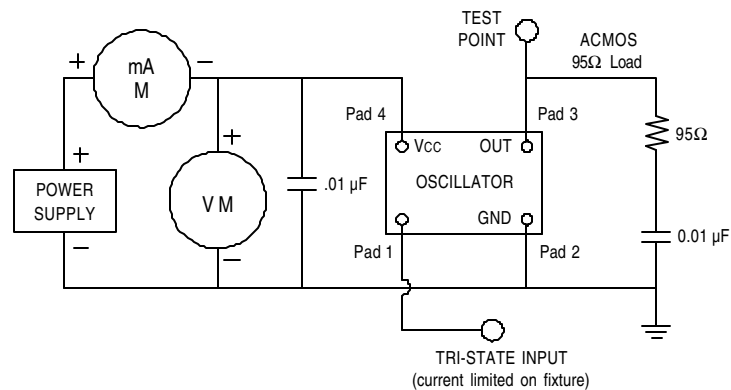
S1950 50Ω AC MOS TEST CIRCUIT

Recommended Land Pattern



** External high frequency power supply

Scale: None (Dimensions in mm/inches)



S1903 95Ω AC MOS TEST CIRCUIT

All specifications are subject to change without notice.