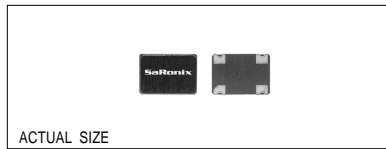


Technical Data

S1700 / S1703 / S1750 Series



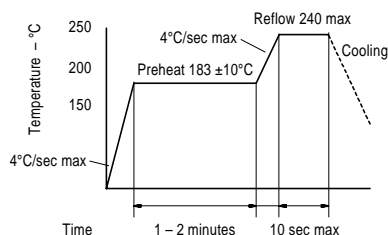
Description

The S1700, S1703 and S1750 are crystal-controlled, low-current oscillators providing precise rise and fall times to drive high speed CMOS and TTL loads. The sub-miniature, very low profile leadless ceramic package has gold-plated contact pads, ideal for today's pick-and-place SMT environments. The S1750 is a high output load version available to 67 MHz.

Applications & Features

- Sub-miniature, very low profile package is ideal for SMT applications
- CMOS, HCMOS & TTL compatible
- Perfect for PC's; notebook, palmtop computers; portable applications; PCMCIA cards; disc drives. Anywhere small size, low power, surface mountability are a priority.
- S1700 for low power 5V application
- S1703 for 3.3V operations
- S1750 for high output load, higher fan-out applications
- Available on tape & reel; 16mm tape, 1000pcs per reel

Solder Reflow Guide



| | |
|-----------------------------|--|
| Frequency Range: | 1.8432 MHz to 80 MHz |
| Frequency Stability: | ±50 or ±100 ppm over all conditions; calibration tolerance, operating temperature, input voltage change, load change, aging(1 year @ 25°C average ambient temperature), shock and vibration. |
| Temperature Range: | Operating: 0 to +70°C Storage: -55 to +125°C |
| Supply Voltage: | 5.0V ±10% (S1700 & S1750) 3.3V ±10% (S1703) |
| Supply Current: | S1700: 15mA max 1.8432 to 35MHz 30mA max 35+ to 66MHz 50mA max 66+ to 80MHz S1750: 20mA max 1.8432 to 20MHz 35mA max 20+ to 50MHz 60mA max 50+ to 67MHz S1703: 10mA max 1.8432 to 20MHz: 20mA max 20+ to 50MHz: 25mA max 50+ to 67MHz: |

Output:

| | | |
|--------------|--------------------|---|
| TTL | Symmetry: | 40/60% max @ 1.5V |
| | Rise & Fall Times: | 5ns max 0.5 to 2.5V |
| | Logic 0: | 0.5V max |
| | Logic 1: | 2.5V min |
| | Load: | 5 TTL |
| | Period Jitter RMS: | 8ps max |
| HCMOS | Symmetry: | 45/55% max @ 50% VDD, 40/60% max for S1703 |
| | Rise & Fall Times: | 10ns max, 5ns max above 67MHz, 20% to 80% VDD |
| | Logic 0: | 10% VDD max |
| | Logic 1: | 90% VDD min |
| | Load max: | S1700: 15pF, S1703: 30pF, S1750: 50pF |
| | Period Jitter RMS: | 8ps max |

| | | |
|--------------------|-------------------------------|---|
| 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 |
| | 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 |
| | Humidity: | MIL-STD-883, Method 1004 |

Part Numbering Guide

| | | | | | | | |
|--------|---------|------|---|---|---------|-----|--|
| | S | 1700 | C | - | 50.0000 | (T) | |
| Series | Saronix | | | | | | (T) = Tape & Reel full reel increments only |
| | | | | | | | Frequency (MHz) Contact SaRonix for developed frequencies |
| | | | | | | | Stability Tolerance B = ±50 ppm C = ±100 ppm |

*3.3V available above 67MHz, please contact SaRonix

www.DataSheet4U.com

DS-138 REV G

Technical Data

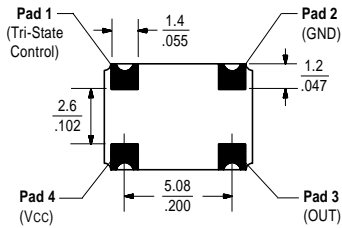
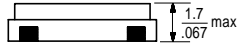
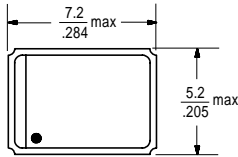
S1700 / S1703 / S1750 Series

Tri-State Logic Table

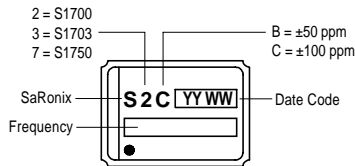
| Pad 1 Input | Pad 3 Output |
|----------------|----------------|
| Logic 1 or NC | Oscillation |
| Logic 0 or GND | High Impedance |

Required Input Levels on Pad 1:
90% V_{DD} min
10% V_{DD} max

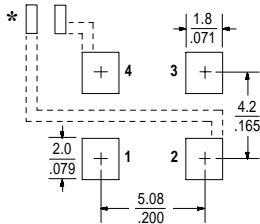
Package Details



Marking Format

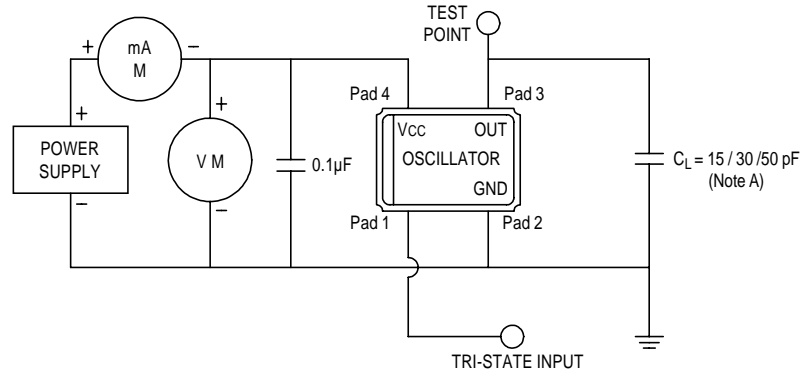


Recommended Land Pattern



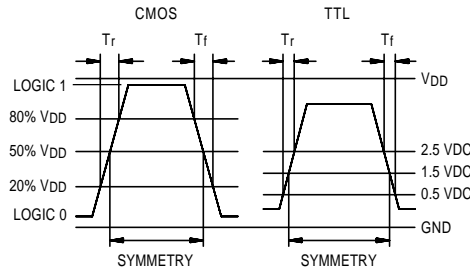
*External power supply decoupling required.

Test Circuit



Note A: CL includes probe and fixture capacitance
15 pF S1700 to 80 MHz
30 pF S1703 to 67 MHz (for higher frequencies, please contact SaRonix)
50 pF S1750 to 67 MHz

Output Waveform



All specifications are subject to change without notice.

Scale: None (Dimensions in $\frac{\text{mm}}{\text{inches}}$)

DS-138 REV G