

Technical Data

S1700 / S1703 / S1750 Series



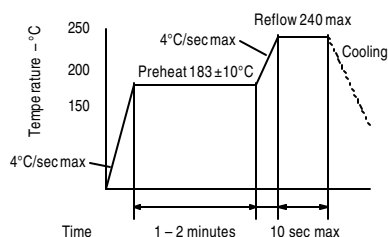
Description

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 operable at 3.3V and 5V
- S1750 for high output load, higher fan-out applications
- Available in embossed tape & 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, shock and vibration.

Temperature Range:
 Operating: 0 to +70°C
 Storage: -55 to +125°C

Supply Voltage:
 S1700, S1750: +5.0V ±10%
 S1703: +5.0V ±10% or 3.3V ±10%

Supply Current:

Frequency	5.0V	3.3V	5.0V
S1700, 5.0V: 1.5 to 35 MHz:	15mA max		
35+ to 66 MHz:	30mA max		
66+ to 80 MHz:	50mA max		
S1750, 5.0V: 1.5 to 20.0 MHz:	20mA max	S1703: 10mA max	15mA max
20+ to 50.0 MHz:	35mA max	20mA max	25mA max
50+ to 67.0 MHz:	60mA max	25mA max	45mA max

Output:

TTL
 TTL available as S1700 & S1750 only
 Symmetry: 40/60% max
 Rise & Fall Times: 5ns max 0.5 to 2.5V
 Logic 0: 0.5V max
 Logic 1: 2.5V min
 Load: 5TTL

HCMOS
 Symmetry: 45/55% max @ 50% VDD, 40/60% max for S1703
 Rise & Fall Times: 10ns max 20% to 80% VDD
 Logic 0: 10% VDD max
 Logic 1: 90% VDDmin
 Load: S1700 15 pF max to 80 MHz, S1703 30 pF max to 67 MHz, S1750 50 pF max to 67 MHz

Jitter: 8ps max RMS period jitter, 1ps max 1σ cycle-to-cycle jitter

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

SaRonix **S 1700 C - 50.0000** Frequency (MHz)
 Contact SaRonix for developed frequencies

Series
 S1700 = 15 pF max load to 80 MHz, 5V
 S1703 = 30 pF max load to 67 MHz, 5V and 3.3V
 S1750 = 50 pF max load to 67 MHz, 5V

Stability Tolerance
 B = ±50 ppm
 C = ±100 ppm

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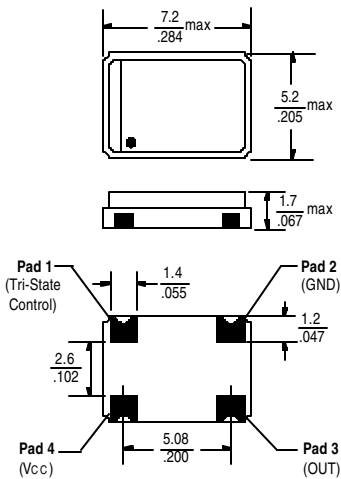
S1700 / S1703 / S1750 Series

Tri-State Logic Table

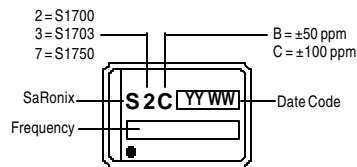
Pad 1 Input	Pad 3 Output
Logic 1 or NC	Oscillation
Logic 0 or GND	High Impedance

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

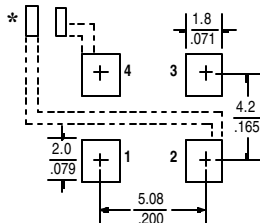
Package Details



Marking Format

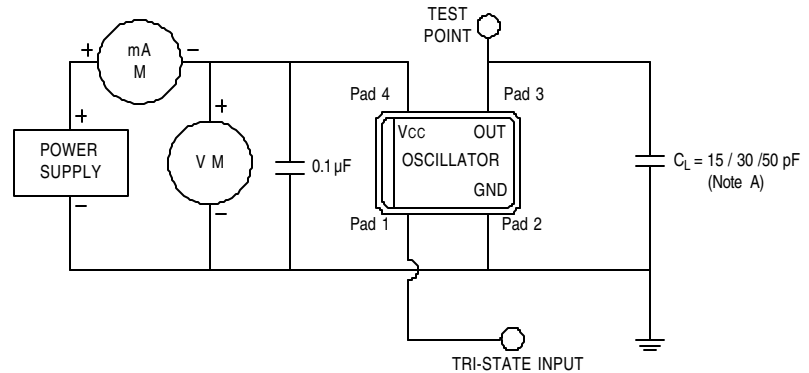


Recommended Land Pattern



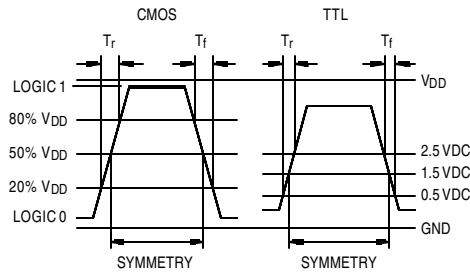
* External power supply decoupling required.

Test Circuit



Note A: CL includes probe and fixture capacitance
 15 pF S1700 to 80 MHz
 30 pF S1703 to 67 MHz
 50 pF S1750 to 67 MHz

Output Waveform



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

All specifications are subject to change without notice.