SaRonix

Crystal Clock Oscillator

3.3 & 5V, HCMOS, TTL, SMD

Technical Data

S1700 / S1703 / S1750 Series

ACTUAL SIZE

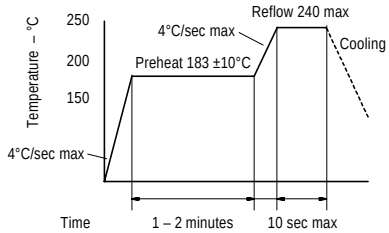
Description

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)

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

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

Frequency (MHz)
Contact SaRonix for developed frequencies

(T) = Tape & Reel
full reel increments only

*3.3V available above 67MHz, please contact SaRonix

DS-138 REV G

SaRonix 141 Jefferson Drive • Menlo Park, CA 94025 • USA • 650-470-7700 • 800-227-8974 • Fax 650-462-9894

Technical Data

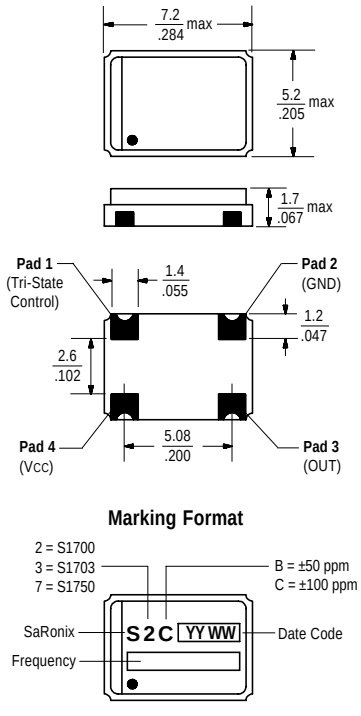
S1700 / S1703 / S1750 Series

Tri-State Logic Table

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

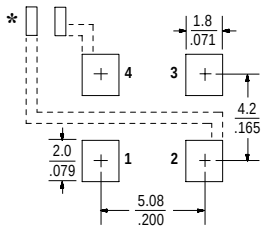
Required Input Levels on Pad 1:
90% V_{DD} min
10% V_{DD} max

Package Details



Marking Format

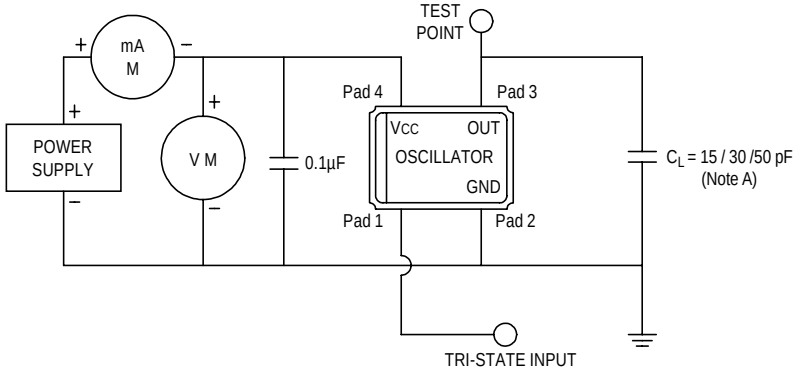
Recommended Land Pattern



*External power supply decoupling required.

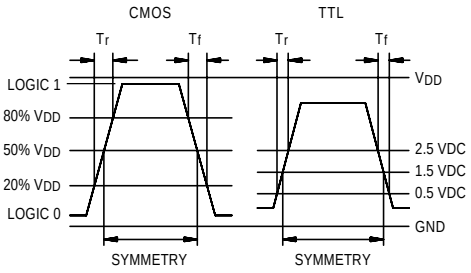
Scale: None (Dimensions in mm / inches)

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.

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