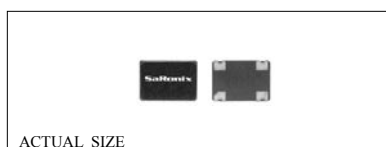


Technical Data

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, ceramic package has gold-plated contact pads, ideal for today's pick-and-place SMT environments and lead-free soldering. The S1750 is a high output load version available to 67 MHz.

Applications & Features

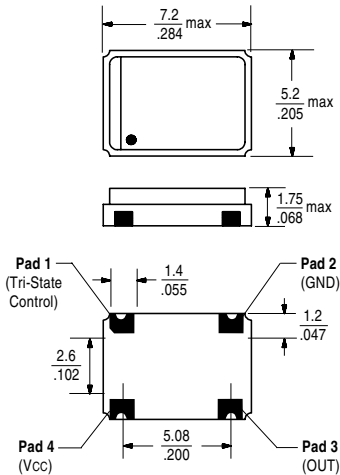
- Sub-miniature, very low profile package is ideal for SMT applications
- Ideal for lead-free soldering
- CMOS, HCMOS & TTL compatible
- Perfect for PC's; notebook, palmtop computers; portable applications; PC-MCIA cards; disc drives.
- S1700 for low power 5V application
- S1703 for 3.3V operations. Low-power Stand-by above 66.667MHz
- S1750 for high output load, higher fan-out applications
- Available on tape & reel; 16mm tape, 500pcs per reel

Frequency Range:		1.8432 MHz to 80 MHz	
Frequency Stability:		±50 or ±100 ppm over all conditions; calibration tolerance, operating temperature, rated input (supply) voltage change, load change, aging*.	
* 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: 8mA max 1.8432 to 34MHz (5mA max disable) 12mA max 34+ to 50MHz (8mA max disable) 15mA max 50+ to 64MHz (10mA max disable) 35mA max 64+ to 66.667MHz (23mA max disable) 35mA max 66.667+ to 80MHz (10µA max disable low power standby)	
Output:			
<u>TTL</u> (S1750 only)	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	
<u>HCMOS</u>	Symmetry:	45/55% max @ 50% V _{DD} , 40/60% max for S1703	
	Rise & Fall Times:	10ns max, 20% to 80% V _{DD} (5ns max S1703 67+ MHz)	
	Logic 0:	10% V _{DD} max	
	Logic 1:	90% V _{DD} min	
	Load max:	S1700: 15pF, S1703: 15pF (≤64MHz) & 30pF (64+MHz), S1750: 50pF	
	Period Jitter RMS:	8ps max	
Output Enable Characteristics			
	S1700	S1750	S1703
Output Ocillation (V _{IN}):	≥ 90% V _{DD} or N/C	≥ 2.2V or N/C	≥ 2.2V or N/C
Output High Impedance (V _{IN}):	≤ 10% V _{DD} or GND	≤ 0.8V GND	≤ 0.5V or GND
Disable Output Delay:	≤ 100ns	≤ 100ns	≤ 150ns
Enable Output Delay:	≤ 100ns	≤ 100ns	≤ 150ns*
Internal Pullup Resistance:	≥ 50kΩ	≥ 50kΩ	≥ 50kΩ
	* 10ms above 66.667 MHz for S1703		
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	

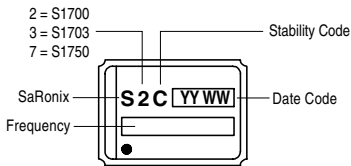
Technical Data

S1700 / S1703 / S1750 Series

Package Details

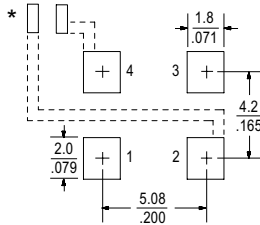


Marking Format*



*Exact Locations May Vary

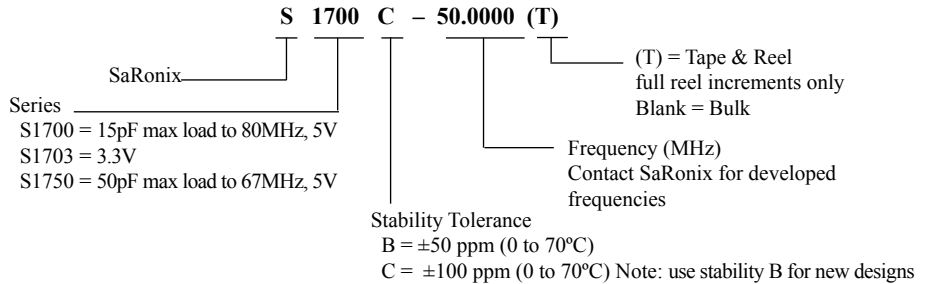
Recommended Land Pattern



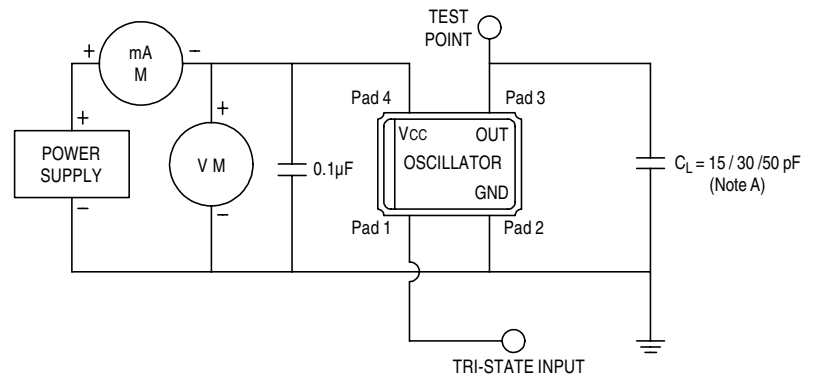
* External power supply decoupling required.

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

Part Numbering Guide

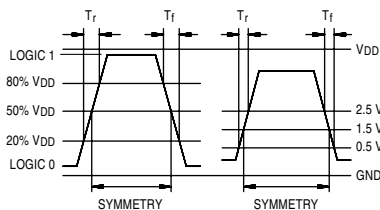


Test Circuit



Note A: CL includes probe and fixture capacitance
15 pF S1700 to 80 MHz
15pF S1703 to 64 MHz (30pF to 80MHz)
50 pF S1750 to 67 MHz

Output Waveform



Solder Reflow Guide

