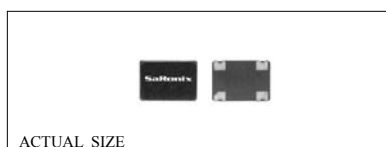


Technical Data

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

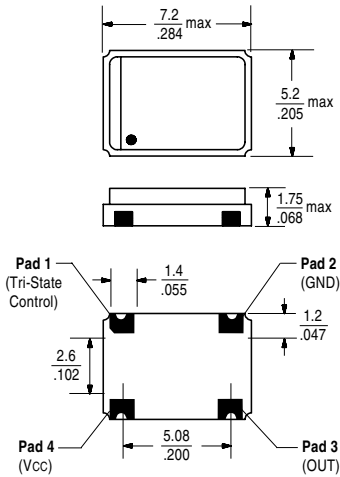
- Sub-miniature, very low profile package is ideal for SMT applications
- Ideal for lead-free soldering
- CMOS, HCMOS & TTL compatible
- Perfect for PC's; notebook, palmtop computers; portable applications; PC-MCIA cards; disc drives.
- S1700 for low power 5V application
- S1703 for 3.3V operations. 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	

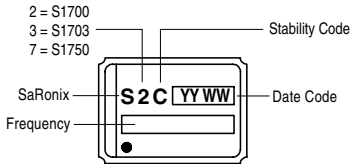
Technical Data

S1700 / S1703 / S1750 Series

Package Details

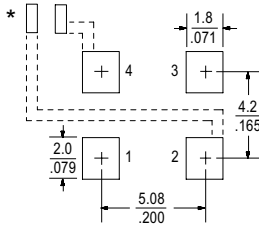


Marking Format*



*Exact Locations May Vary

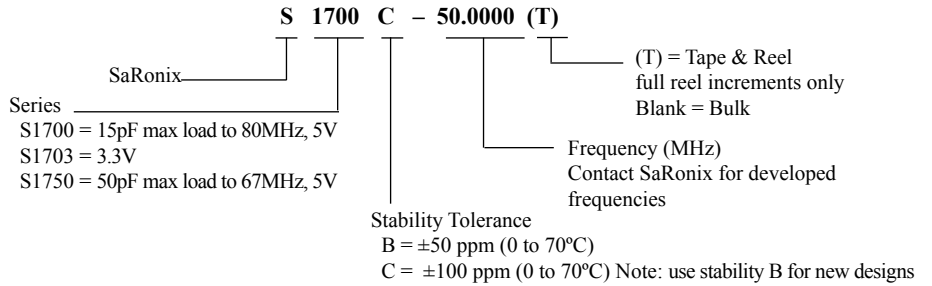
Recommended Land Pattern



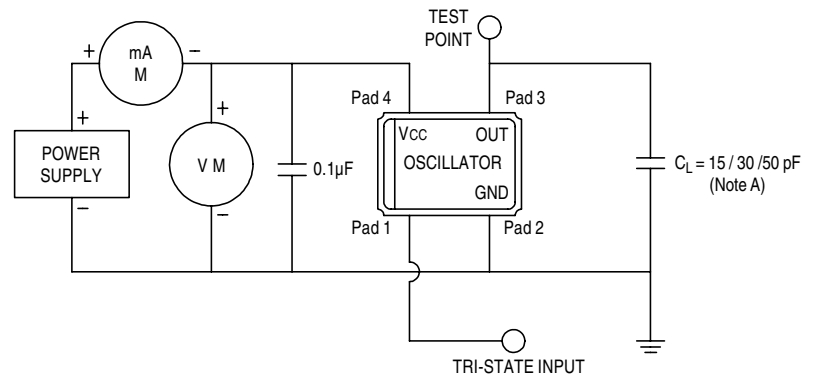
* External power supply decoupling required.

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

Part Numbering Guide

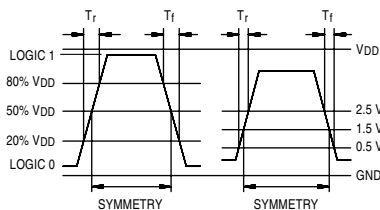


Test Circuit

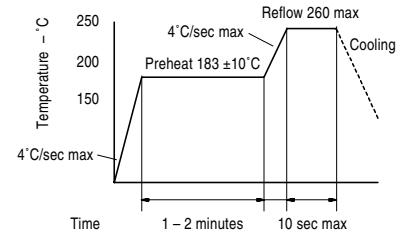


Note A: CL includes probe and fixture capacitance
15 pF S1700 to 80 MHz
15pF S1703 to 64 MHz (30pF to 80MHz)
50 pF S1750 to 67 MHz

Output Waveform



Solder Reflow Guide



Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[Diodes Incorporated:](#)

[S1703C-57.0000\(T\)](#)