

Crystal Clock Oscillator

3.3 & 5V, HCMOS, TTL, SMD

Technical Data





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 fanout applications
- Available on tape & reel; 16mm tape, 500pcs per reel

Frequency Range:	1.8432 MHz to 80 MHz		
Frequency Stability: *Aging:	±50 or ±100 ppm over all conditions; calibration tolerance, operating temperature, rated input (supply) voltage change, load change, aging*. 1 year @ 25°C average ambient temperature), shock and vibration.		
Temperature Range: Operating: Storage:	0 to +70°C -55 to +125°C		
Supply Voltage:	5.0V ±10% (S1700 & S1750) 3.3V ±10% (S1703)		
Supply Current:	 \$1700: 15mA max 1.8432 to 35MHz 30mA max 35+ to 66MHz 50mA max 66+ to 80MHz \$1750: 20mA max 1.8432 to 20MHz 35mA max 20+ to 50MHz 60mA max 50+ to 67MHz \$1703: 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: Rise & Fall Times: Logic 0: Logic 1: Load: Period Jitter RMS:	40/60% max @ 1.5V 5ns max 0.5 to 2.5V 0.5V max 2.5V min 5 TTL 8ps max		
HCMOS Symmetry: Rise & Fall Times: Logic 0: Logic 1: Load max: Period Jitter RMS:	45/55% max @ 50% V _{DD} , 40/60% max for S1703 10ns max, 20% to 80% V _{DD} (5ns max S1703 67+ MHz) 10% V _{DD} max 90% V _{DD} min S1700: 15pF, S1703: 15pF (≤64MHz) & 30pF (64+MHz), S1750: 50pF 8ps max		
Output Enable Characteristics			
Output Ocillation (V _{IN}): Output High Impedance (V _{IN}): Disable Output Delay: Enable Output Delay: Internal Pullup Resistance:	$\begin{array}{l} \textbf{S1700} \\ \geq 90\% \ V_{DD} \ or \ N/C \\ \leq 10\% \ V_{DD} \ or \ GND \\ \leq 100 ns \\ \leq 100 ns \\ \geq 50 k\Omega \\ \textbf{*} \ 10 ms \ above \ 66.667 \ D \end{array}$	S1750 ≥ 2.2V or N/C ≤ 0.8V GND ≤ 100ns ≥ 100ns ≥ 50kΩ MHz for S1703	S1703≥ 2.2V or N/C≤ 0.5V or GND≤ 150ns≤ 150ns*≥ 50kΩ
Mechanical: Shock: Solderability: Vibration: Solvent Resistance: Resistance to Soldering Heat:	MIL-STD-883, Method 2002, Condition B MIL-STD-883, Method 2003 MIL-STD-883, Method 2007, Condition A MIL-STD-202, Method 215 MIL-STD-202, Method 210, Condition I or J		
Environmental: Gross Leak Test: Fine Leak Test: Thermal Shock: Humidity:	MIL-STD-883, Metho MIL-STD-883, Metho MIL-STD-883, Metho MIL-STD-883, Metho	d 1014, Condition C d 1014, Condition A2 d 1011, Condition A d 1004	







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