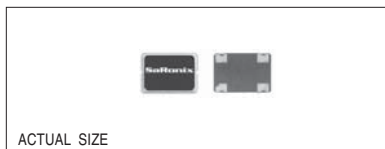


Technical Data

S1613 Series



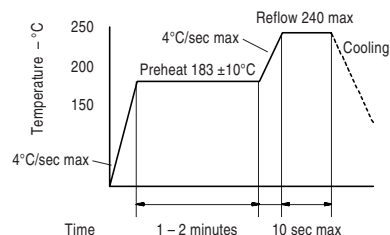
Description

The S1613 Series are crystal-controlled, low-current oscillators providing precise rise and fall times to drive high performance applications. The sub-miniature, low profile leadless ceramic package has gold-plated contact pads, ideal for today's pick-and-place SMT environments.

Applications & Features

- Fibre Channel - 106.25MHz
- Gigabit Ethernet - 125 MHz
- Perfect for PCs; Notebook, Palmtop Computers; Portable Applications; PCMCIA Cards, or anywhere small size, low power, surface mountability are a priority
- Tri-State Standard
- 1.9mm high ceramic package
- 3.3V operation
- HCMOS compatible
- Available on tape & reel; 16mm tape, 1000pcs per reel

Solder Reflow Guide



Frequency Range:		1.544 MHz to 125 MHz
Frequency Stability:		±20, ±25, ±50 or ±100ppm over all conditions; calibration tolerance, operating temperature, input voltage change, load change, aging (1 year @ 25°C average ambient operating temperature), shock and vibration.
Temperature Range:		
Operating:		-10 to +70°C, -40 to +85°C
Storage:		-55 to +125°C
Supply Voltage:		3.3V ±10%
Supply Current:		
Output Enabled:		15mA max 1.544 to 32 MHz 25mA max 32+ to 50 MHz 40mA max 50+ to 80 MHz 55mA max 80+ to 125 MHz
Output Disabled:		10µA max 1.544 to 80 MHz 25mA max 80+ to 125 MHz
Output:		
Symmetry:		45/55 % max @ 50% VDD, -40 to +85°C, 1.544 to 80 MHz 45/55 % max @ 50% VDD, -10 to +70°C, 1.544 to 125 MHz 40/60 % max @ 50% VDD, -40 to +85°C, 1.544 to 125 MHz
Rise & Fall Times:		7ns max 1.544 to 50 MHz @ 20% to 80% VDD 5ns max 50+ to 80 MHz 3ns max 80+ to 125 MHz
Logic 0:		10% VDD max
Logic 1:		90% VDD min
Load:		15pF max, 10LSTTL
Jitter 1.544 to 80 MHz:		5ps RMS (1-sigma) max accumulated jitter in 20,000 adjacent periods 1.5ps RMS (1-sigma) max phase jitter in 10kHz - 20MHz freq. band 50ps peak-to-peak max total jitter in 100,000 periods
Jitter 80+ to 125 MHz:		3ps RMS (1-sigma) max accumulated jitter in 20,000 adjacent periods 1ps RMS (1-sigma) max phase jitter in 10kHz - 20MHz freq. band 30ps peak-to-peak max total jitter in 100,000 periods
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
Terminal Strength:		MIL-STD-883, Method 2004, Condition D
Resistance to Soldering Heat:		MIL-STD-202, Method 210, Condition I or J
Environmental:		
Thermal Shock:		MIL-STD-883, Method 1011, Condition A
Moisture Resistance:		MIL-STD-883, Method 1004

Part Numbering Guide

Saronix	S	1613	C	-	80.0000	(T)
Series						
						(T) = Tape & Reel full reel increments only (1000pcs)
						Frequency (MHz)

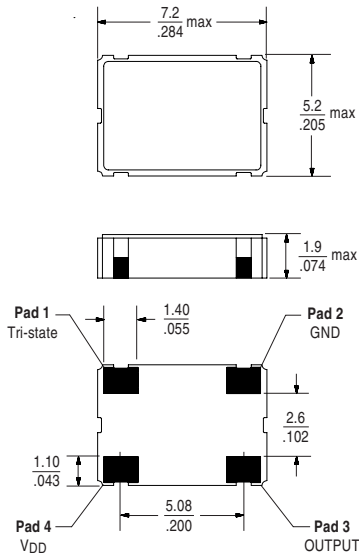
Stability Tolerance

- AA = ±20ppm, -10 to +70°C (call for frequency availability)
- A = ±25ppm, -10 to +70°C (call for frequency availability)
- B = ±50ppm, -10 to +70°C
- C = ±100ppm, -10 to +70°C
- E = ±50ppm, -40 to +85°C
- F = ±100ppm, -40 to +85°C

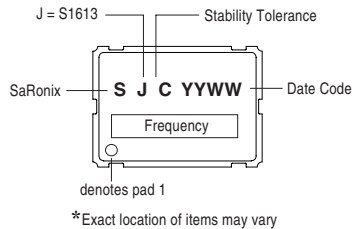
Technical Data

S1613 Series

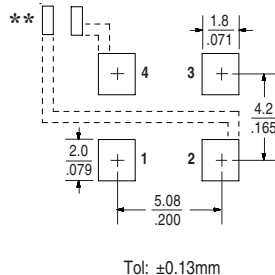
Package Details



Marking Format*



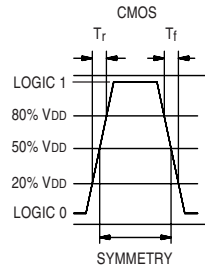
Recommended Land Pattern



**External high frequency power supply decoupling required.

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

Output Waveform



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 Pin 1:

Logic 1 = 2.2V min

Logic 0 = 0.8V max

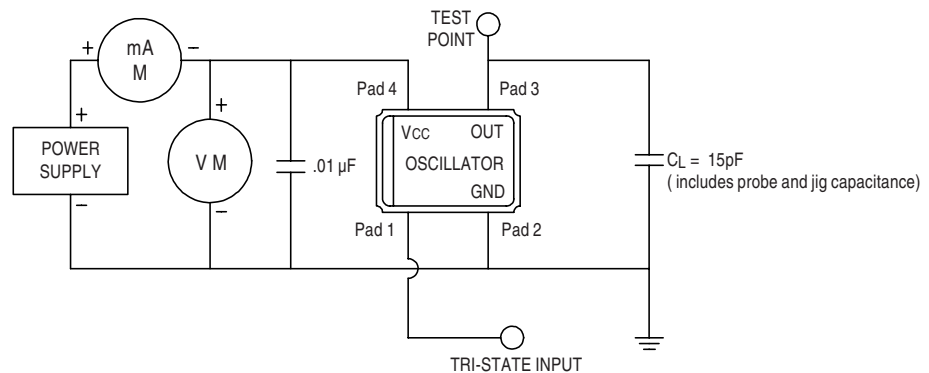
Control Input:

Disable Output Delay: 100nsec max

Enable Output Delay: 10msec max 1.544 to 80 MHz

100nsec max 80+ to 125 MHz

Test Circuits



HCMOS (Used at SaRonix)

All specifications are subject to change without notice.

DS-223 REV C