NEW PRODUCT

SaRonix

Crystal Clock Oscillator

3.3 & 5V, HCMOS, TTL, SMD

Technical Data

S1613 / S1615 Series

ACTUAL SIZE

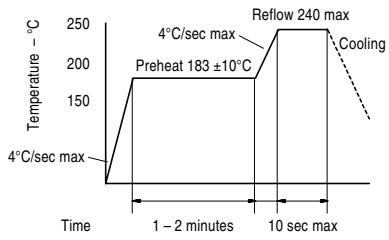
Description

The 5V S1615 and 3.3V S1613 are crystal-controlled, low-current oscillators providing precise rise and fall times to drive high performance applications. The subminiature, low profile leadless ceramic package has gold-plated contact pads, ideal for today's pick-and-place SMT environments. These oscillators are available to 125 MHz.

Applications & Features

- Sub-miniature, 1.9mm high ceramic package ideal for SMT applications
- 3.3 and 5V versions
- Tri-State
- CMOS, HCMOS & TTL compatible
- Frequency range covers 106.25 MHz Fibre Channel and 125 MHz Gigabit Ethernet applications
- Perfect for PCs; Notebook, Palmtop Computers; Portable Applications; PCMCIA Cards
- Anywhere small size, low power, surface mountability are a priority
- Available on tape & reel; 16mm tape, 500pcs per reel

Solder Reflow Guide



Frequency Range:	1.5 MHz to 50 MHz or 80 MHz to 125 MHz = S1613 1.5 MHz to 67 MHz = S1615
Frequency Stability:	±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:	0 to +70°C, -40 to +85°C available, see Part Number Builder
Storage:	-55 to +125°C
Supply Voltage:	5V ±10% or 3.3V ±10%
Supply Current:	
S1613:	15mA max 1.5 to 25 MHz 25mA max 25+ to 50 MHz 30mA max 80+ to 125 MHz
S1615:	20mA max 1.5 to 25 MHz 50mA max 25+ to 67 MHz
Output:	
Symmetry:	40/60% max @ 50% V_{DD} or 1.4V 45/55% max at 106.2500 MHz and 125.0000 MHz
Rise & Fall Times:	10ns max to 50MHz, 20% to 80% V_{DD} (S1613) 3ns max from 80+MHz, 20% to 80% V_{DD} (S1613) 6ns max 20% to 80% V_{DD} (S1615) 5ns max 0.4 to 2.4V (S1615)
Logic 0:	10% V_{DD} max or 0.4V max
Logic 1:	90% V_{DD} min or 2.4V min
Load S1613:	30pF, 15pF 80+ MHz
Load S1615:	50pF to 50 MHz, 30pF or 5TTL from 50+ to 67 MHz
Period Jitter RMS:	5ps 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
Terminal Strength:	MIL-STD-202, Method 211, Conditions A & C
Resitance 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
Moisture Resistance:	MIL-STD-883, Method 1004

Part Numbering Guide

S 1615 C – 50.0000 (T)

Saronix

Series
S1613 = 3.3V, 1.5 to 50 or 80 to 125 MHz
S1615 = 5.0V, 1.5 to 67 MHz

Stability Tolerance
A = ±25ppm, 0 to +70°C
B = ±50ppm, 0 to +70°C
C = ±100ppm, 0 to +70°C
E = ±50ppm, -40 to +85°C, 67 MHz max (above 67 MHz consult SaRonix)
F = ±100ppm, -40 to +85°C, 67 MHz max (above 67 MHz consult SaRonix)

Frequency (MHz)

(T) = Tape & Reel
full reel increments only

DS-196 REV B01

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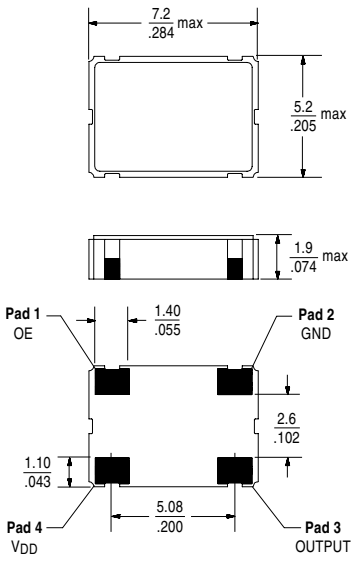
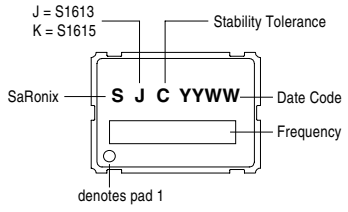
Package Details

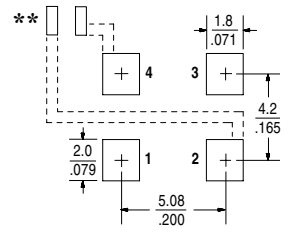


Marking Format*



*Exact location of items may vary

Recommended Land Pattern

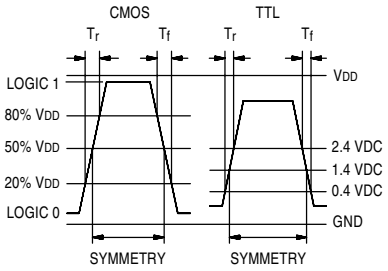


Tol: ±0.13mm

**External high frequency power supply decoupling required.

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

Output Waveform

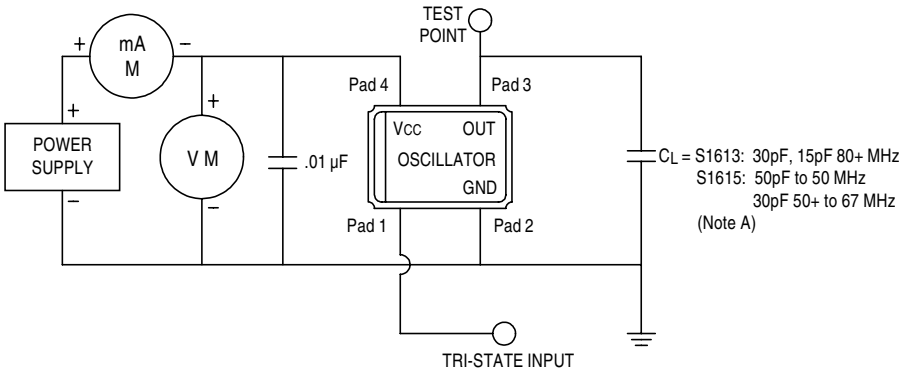


Tri-State Logic Table

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

Test Circuits



C_L = S1613: 30pF, 15pF 80+ MHz
S1615: 50pF to 50 MHz
30pF 50+ to 67 MHz
(Note A)

Note A: C_L includes probe and jig capacitance.

All specifications are subject to change without notice.

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