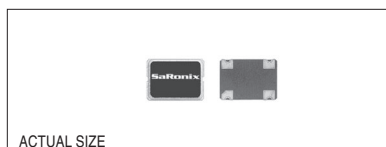


Technical Data

PrO™ S8002 Ceramic Series



Description

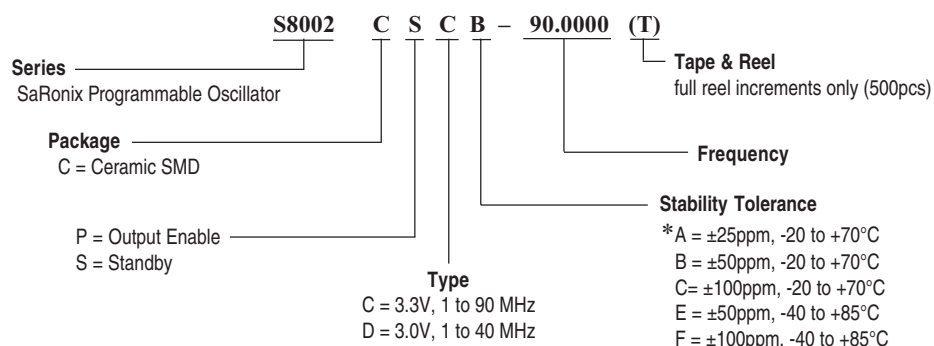
A crystal controlled, HCMOS compatible oscillator with an internal programming feature that allows SaRonix to supply any frequency in the 1 to 90MHz range. This technology significantly reduces lead-times from weeks to days. The parts exhibit the same low power, precise rise and fall times, tight symmetry and HCMOS drive capability as conventional SaRonix SMD oscillators. The parts feature tri-state enable or standby control on pad 1. The packages are miniature ceramic SMD, measuring 5 x 7 x 1.8 mm.

Applications & Features

- Quick delivery of any frequency between 1 and 90MHz.
- Suited for use with new HCMOS MPUs and DSPs.
- Tri-State output or standby mode
- High Drive HCMOS capability
- Stabilities of ± 25 , ± 50 , ± 100 ppm
- 5.0V version is available, see separate data sheet
- Available on tape & reel; 16mm tape, 500pcs per reel

Frequency Range:	1MHz to 90MHz		
Frequency Stability:	$\pm 25^*$, ± 50 or ± 100 ppm over all conditions: calibration tolerance, operating temperature, input voltage change, load change, 30 day aging, shock and vibration.		
Temperature Range:	Operating: -20 to +70°C or -40 to +85°C Storage: -55 to +125°C		
Supply Voltage:	Recommended Operating: 3.3V $\pm 10\%$ or 3.0V $\pm 10\%$ (1 to 40MHz only)		
Supply Current:	25mA from 1 to 40MHz, 30mA from 40+ to 90MHz		
Standby Current:	50 μ A max (use option S, see part number builder)		
Output Drive:	Symmetry:	@ 50% VDD	@ 50% VDD
		HCMOS (3.3V)	HCMOS (3.3V)
		1 to 40MHz	40+ to 90MHz
	-20 to +70°C:	45/55%	40/60%
	-40 to +85°C:	40/60%	40/60%
	Rise & Fall Times:	5ns max 20% to 80% VDD	
	Logic 0:	0.4V max	
	Logic 1:	VDD -0.4V min	
	Load:	30pF max 1 to 40MHz, 15pF max 40+ to 90MHz @ 3.3V	
		15pF max 1 to 40MHz @ 3.0V	
	Period Jitter RMS:	25ps typ, 50ps max 33+ to 90 MHz	
		33ps typ, 100ps max 5+ to 33 MHz	
		117ps typ, 167ps max 1 to 5 MHz	
Mechanical:	Shock:	MIL-STD-883, Method 2002, Condition B	
	Solderability:	MIL-STD-883, Method 2003	
	Terminal Strength:	MIL-STD-883, Method 2004, Condition D	
	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:	Thermal Shock:	MIL-STD-883, Method 1011, Condition A	
	Moisture Resistance:	MIL-STD-883, Method 1004	

Part Numbering Guide

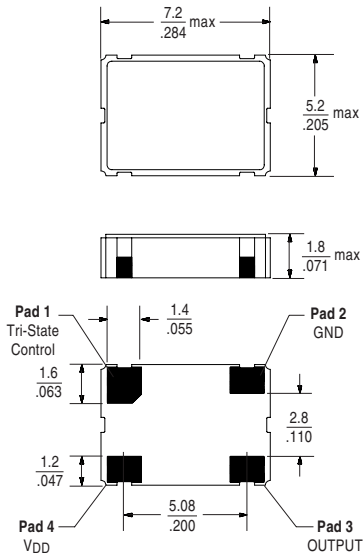


*Please contact SaRonix for available frequencies @ ± 25 ppm.

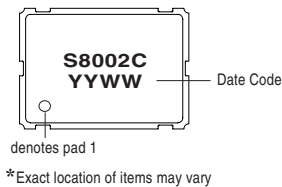
Technical Data

PrO™ S8002 Ceramic Series

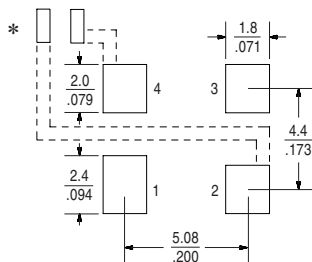
Package Details



Marking Format (Exact location of items may vary)



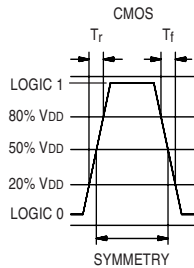
Recommended Land Pattern



*External high frequency power supply decoupling required.

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

Output Waveform



Tri-State or Standby Logic Table

Pin 1 Input	Pin 3 Output
Logic 1 or NC	Oscillation
Logic 0 or GND	High Impedance/Standby

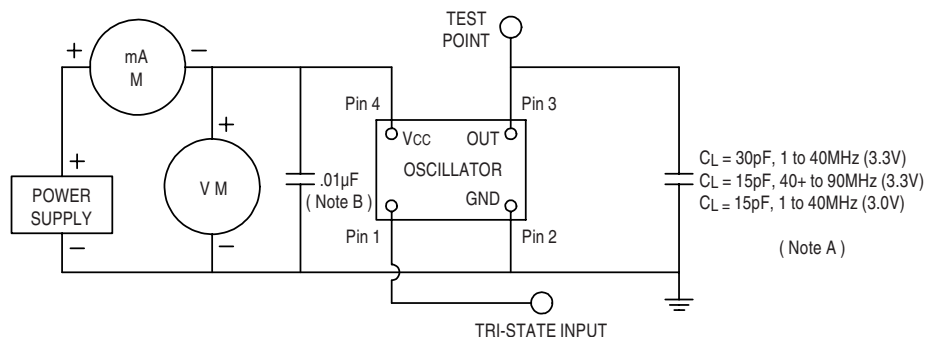
Required Input Levels on Pin 1:

Logic 1 = 0.7VDD min

Logic 0 = 0.2VDD max

Control Input: Disable Output Delay: 100ns max

Test Circuits

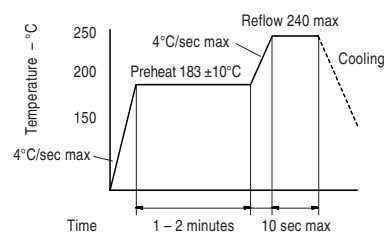


NOTE: A. CL includes probe and fixture capacitance.

NOTE: B. An external .01μF bypass capacitor close to package ground and VCC pin is required

HCMOS (Used at SaRonix)

Solder Reflow Guide



All specifications are subject to change without notice.

DS-213 REV A