

Product Overview

N01S830: Serial SRAM Memory, 1 Mb, Ultra-Low-Power, 2.5 to 5.5 V

For complete documentation, see the data sheet.

The ON Semiconductor serial SRAM family includes several integrated memory devices including this 1 Mb serially accessed Static Random Access Memory, internally organized as 128 K words by 8 bits. The devices are designed and fabricated using ON Semiconductor's advanced CMOS technology to provide both high-speed performance and low power. The devices operate with a single chip select (CS) input and use a simple Serial Peripheral Interface (SPI) protocol. In SPI mode, a single data-in (SI) and data-out (SO) line is used along with the clock (SCK) to access data within the device. In DUAL mode, two multiplexed data-in/data-out (SIO0-SIO1) lines are used and in QUAD mode, four multiplexed data-in/data-out (SIO0-SIO3) lines are used with the clock to access the memory. The devices can operate over a wide temperature range of -40°C to +85°C and are available in a 8-lead TSSOP package. The N01S830xA device has two different variations, a HOLD version that allows communication to the device to be paused and a battery back-up (BBU) version to be used with a battery to retain data when power is lost.

Features

- Power Supply Range: 2.5 to 5.5 V
- Very Low Typical Standby Current: < 4 μ A
- Very Low Operating Current: < 10 mA
- Simple Serial Interface
 - Single-bit SPI Access
 - DUAL-bit and QUAD-bit SPI-like Access
- Flexible Operating Modes
 - Word Mode
 - Page Mode
 - Burst Mode (Full Array)
- High Frequency Read and Write Operation
 - Clock Frequency 20 MHz
- Functional Options- HOLD Pin for Pausing Operation - VBAT Pin for Battery-Back up
- Built-in Write Protection (CS High)
- High Reliability- Unlimited Write Cycles

End Products

Part Electrical Specifications

Product	Compliance	Status	Type	Density	Organization (bits)	f _{cycle} Max (MHz)	V _{CC} Min (V)	V _{CC} Max (V)	I _{standby} Typ (μA)	Package Type
N01S830BAT22E	AEC Qualified	Active	Serial	1 Mb	128k x 8	20	2.5	5.5	4	TSSOP-8
	PPAP Capable									
	Pb-free									
	Halide free									
N01S830BAT22ET	AEC Qualified PPAP Capable Pb-free Halide free	Active	Serial	1 Mb	128k x 8	20	2.5	5.5	4	TSSOP-8
N01S830BAT22I	Pb-free	Active	Serial	1 Mb	128k x 8	20	2.5	5.5	4	TSSOP-8
	Halide free									
N01S830BAT22IT	Pb-free Halide free	Active	Serial	1 Mb	128k x 8	20	2.5	5.5	4	TSSOP-8
N01S830HAT22E	AEC Qualified	Active	Serial	1 Mb	128k x 8	20	2.5	5.5	4	TSSOP-8
	PPAP Capable									
	Pb-free									
	Halide free									
N01S830HAT22ET	AEC Qualified PPAP Capable Pb-free Halide free	Active	Serial	1 Mb	128k x 8	20	2.5	5.5	4	TSSOP-8
N01S830HAT22I	Pb-free	Active	Serial	1 Mb	128k x 8	20	2.5	5.5	4	TSSOP-8
	Halide free									
N01S830HAT22IT	Pb-free Halide free	Active	Serial	1 Mb	128k x 8	20	2.5	5.5	4	TSSOP-8

Application Diagram

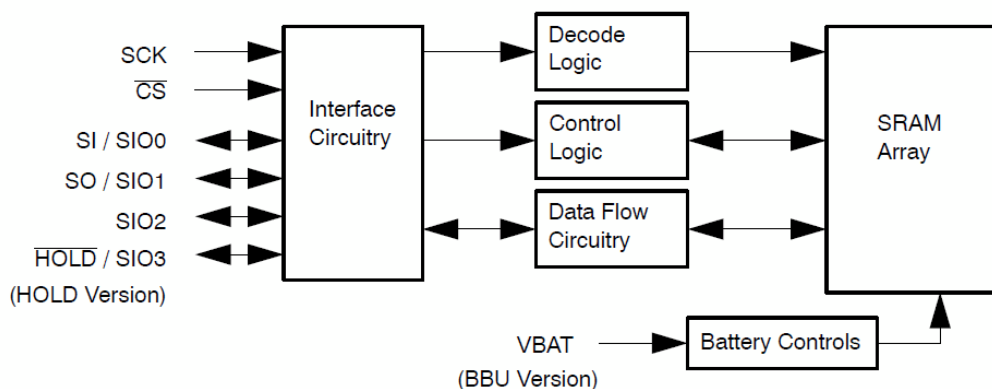


Figure 1. Functional Block Diagram

For more information please contact your local sales support at www.onsemi.com.

Created on: 9/16/2019