



# SPI Serial Flash

## 25 Series

Product Brief

August 2010

### Product Description

SPI serial flash is small, low-power flash memory that features a Serial Peripheral Interface (SPI) and pin-for-pin compatibility with industry-standard SPI EEPROM devices. Its small footprint reduces ASIC controller pin count and packaging costs, saves board space and keeps system costs down. Offering lower power consumption and fewer wires than parallel flash, SPI serial flash is the ideal cost-efficient data transfer solution.

The ever growing SST 25 Series family provides ultra-low power serial flash for battery-operated applications, and includes an 8-bump XFBGA Z-Scale™ package for enhanced reliability and performance in an even smaller size.



### Key Features

#### Serial Peripheral Interface: Mode 0 and Mode 3

#### Small Footprint

- 8-lead SOIC
- Low-profile 8-contact WSON
- 8-bump XFBGA Z-Scale

#### Operating Voltage

- 1.65V-1.95V
- 2.45V-2.75V
- 2.7V-3.6V

#### Clock Frequency

- Up to 80 MHz maximum

#### Flexible Erase Capability

- 4 KByte uniform Sector Erase
- 32/64 KByte Block Erase
- Chip Erase

#### AAI Programming

- Auto Address Increment for fast production throughput

#### Page Mode Programming (64 Mbit)

#### Proven Technology

- CMOS SuperFlash® technology boosts data retention and endurance, and reduces erase time and power consumption, making SST serial flash ideal for portable designs
- Endurance of 100,000 cycles typical
- Greater than 100 years data retention
- Fast Sector Erase or Block Erase time: 18 ms (typical)
- Byte Program time: 7  $\mu$ s (typical)
- Active read current: 10 mA (typical)
- Standby current: 5  $\mu$ A (typical) throughput

#### Low-power Serial Flash for Battery-operated Applications

- 1.65V-1.95V operating range
- 512 Kbit through 8 Mbit densities
- Ultra-low power consumption
- Active Read current less than 9 mA
- Standby current less than 2  $\mu$ A

### Applications

- Blu-ray players
- HDTVs
- Bluetooth
- MP3 players
- DSL and cable modems
- Optical disk drives
- Hard disk drives
- Desktop PCs
- Notebook PCs
- Netbooks
- Printers
- Wireless LAN
- Set-top boxes
- LCD monitors
- Digital radios
- And many more



Silicon Storage Technology, Inc.  
1020 Kifer Road  
Sunnyvale, CA 94086-5308  
Tel: (408) 735-9110  
Fax: (408) 735-9036

[www.SST.com](http://www.SST.com)  
[www.SuperFlash.com](http://www.SuperFlash.com)

### Serial Flash, 3.0V

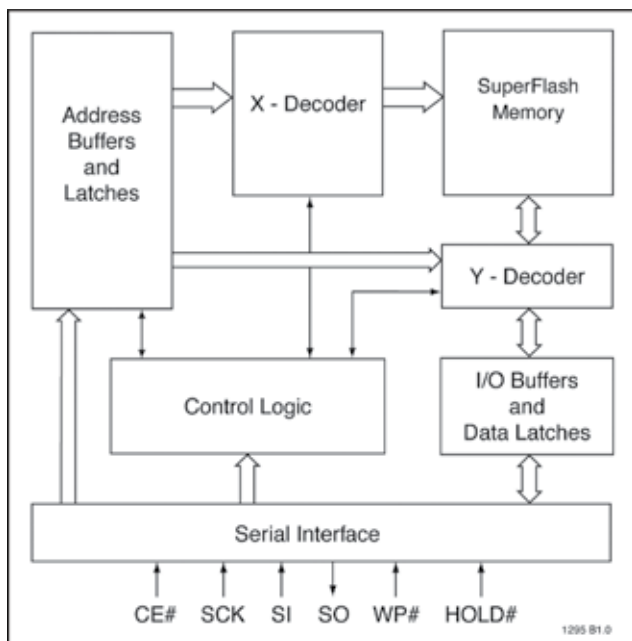
| Device      | Density        | Interface | Voltage   | Clock Speed (MHz) | Packages                                                  |
|-------------|----------------|-----------|-----------|-------------------|-----------------------------------------------------------|
| SST25VF512A | 512 Kb (64Kx8) | x1        | 2.7-3.6V  | 33                | SOIC-8 (150mil), WSON-8 (5x6mm), XFBGA-8                  |
| SST25VF010A | 1 Mb (128Kx8)  | x1        | 2.7-3.6V  | 33                | SOIC-8 (150mil), WSON-8 (5x6mm), XFBGA-8                  |
| SST25VF020B | 2 Mb (256Kx8)  | x1        | 2.7-3.6V* | 80                | SOIC-8 (150mil), WSON-8 (5x6mm), XFBGA-8                  |
| SST25VF040B | 4 Mb (512Kx8)  | x1        | 2.7-3.6V* | 80                | SOIC-8 (150mil), SOIC-8 (200mil), WSON-8 (5x6mm), XFBGA-8 |
| SST25VF080B | 8 Mb (1Mx8)    | x1        | 2.7-3.6V* | 80                | SOIC-8 (200mil), WSON-8 (5x6mm), XFBGA-8                  |
| SST25VF016B | 16 Mb (2Mx8)   | x1        | 2.7-3.6V  | 80                | SOIC-8 (200mil), WSON-8 (5x6mm)                           |
| SST25VF032B | 32 Mb (4Mx8)   | x1        | 2.7-3.6V  | 80                | SOIC-8 (200mil), WSON-8 (5x6mm)                           |
| SST25VF064C | 64 Mb (8Mx8)   | x1, x2    | 2.7-3.6V  | 80                | SOIC-16 (300mil), WSON-8 (6x8mm)                          |

\* 2.45V-2.75V operating voltage also available

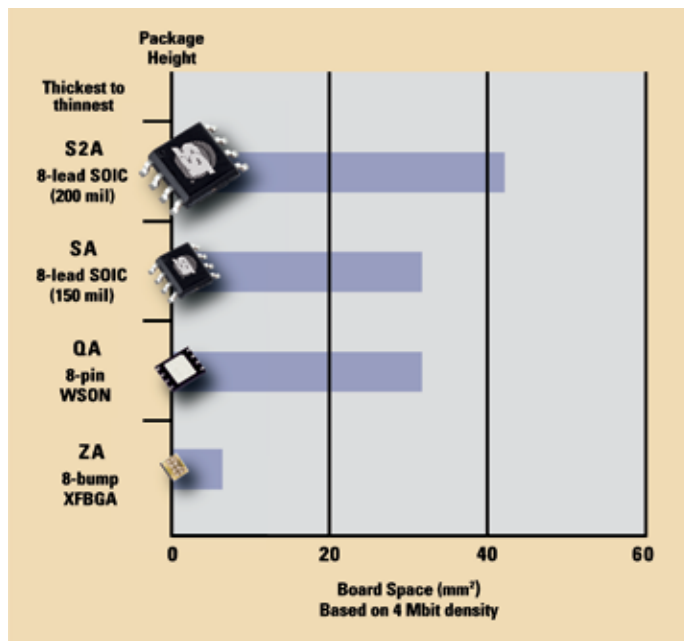
### Serial Flash, 1.8V

| Device     | Density        | Interface | Voltage    | Clock Speed (MHz) | Packages                 |
|------------|----------------|-----------|------------|-------------------|--------------------------|
| SST25WF512 | 512 Kb (64Kx8) | x1        | 1.65-1.95V | 40                | SOIC-8 (150mil)          |
| SST25WF010 | 1 Mb (128Kx8)  | x1        | 1.65-1.95V | 40                | SOIC-8 (150mil)          |
| SST25WF020 | 2 Mb (256Kx8)  | x1        | 1.65-1.95V | 40                | SOIC-8 (150mil), WSON-8  |
| SST25WF040 | 4 Mb (512Kx8)  | x1        | 1.65-1.95V | 40                | SOIC-8 (150mil), WSON-8  |
| SST25WF080 | 8 Mb (1Mx8)    | x1        | 1.65-1.95V | 75                | SOIC-8 (150mil), XFBGA-8 |

### 25 Series Block Diagram



### SST Serial Flash Packages



**Silicon Storage Technology, Inc.**  
 1020 Kifer Road  
 Sunnyvale, CA 94086-5308  
 Tel: (408) 735-9110  
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[www.SST.com](http://www.SST.com)  
[www.SuperFlash.com](http://www.SuperFlash.com)

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