

Product Selection Guide

2004



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Serial Flash Memories

Serial Flash—25 & 45 Series

Serial Flash is a small, low-power flash memory that uses serial interface for sequential data access. Serial Flash uses fewer wires than parallel flash memories to transfer data to and from a system. A reduction in board space, power consumption and system cost are some of the benefits of the lower pin count interface for Serial Flash. The 25 Series features a Serial Peripheral Interface (SPI) and pin-for-pin compatibility with industry-standard SPI Serial EEPROM devices in densities from 512 Kbit to 16 Mbit. The 45 Series features a 4-wire serial interface with a hardware Reset pin. Both series offer two footprint-compatible packages, 8-pin SOIC and 8-contact WSON (Ultra-thin Small Outline No-lead) for ease of density migration.

Key Features

- Small footprint
- Operating voltage:
 - Single 2.7-3.6V or 3.0-3.6V Read and Write operations
- 4-wire serial interface architecture
- Continuous byte-wide Read operation with wrap-around feature
- Low power consumption:
 - 25 Series: 7 mA (typical), Standby: 8 μ A (typical)
 - 45 Series: 10 mA (typical), Standby: 10 μ A (typical)
- Flexible Erase capability:
 - 25 Series: 4 KByte uniform Sector-Erase, 32 KByte Block-Erase or Chip-Erase capability
 - 45 Series: 4 KByte uniform Sector-Erase or Chip-Erase capability
- Fast Erase time: Sector-Erase or Block-Erase: 18 ms (typical)
- Byte-Program: 14 μ s (typical)
- Maximum operating clock frequency
 - 25 Series: 33 and 20 MHz
 - 45 Series: 10 MHz
- Auto Address Increment (AAI) programming for fast production manufacturing (25 Series only)
- Reset input pin interrupts internal write state machine and resets the device to Read mode (45 Series only)
- Hardware Write protection through WP# pin



Firmware Flash—49 Series

SST's Firmware Flash products are designed to store system BIOS in applications such as PCs, graphic cards, set-top boxes, network boards, and other embedded CPU applications. The SST49LF00xA Firmware Hub (FWH) devices incorporate Intel's proprietary FWH interface protocol used in the Intel 8xx series hub architecture chipsets. The SST49LF0x0A LPC flash devices comply with the standard Intel Low Pin Count (LPC) Interface Specification 1.0. The SST49LF00xB flash memory devices comply with Intel's LPC Interface Specification 1.1, supporting single-byte firmware memory and LPC memory cycle types and are backward compatible to the SST49LF00xA FWH devices.

- Memory organization
 - 4 KByte sectors
 - SST49LF002A / 020A: 16 KByte overlay blocks
 - SST49LF003A / 004A / 004B / 008A / 030A / 040 / 080A: 64 KByte overlay blocks
- Two operational modes
 - Parallel Programming (PP) mode for all devices to minimize programming time
 - Low Pin Count (Firmware Hub/LPC) mode for in-system operation
- System expansion
 - 4 ID pins allow for multi-chip selection
 - 5 GPI pins to extend system functions

- Security features
 - Hardware Write protection through WP# and TBL# pins for entire chip and/or Top Boot Block
 - Block Locking registers to individually protect each overlay block for SST49LF00xA/B
- Low power operation
 - Single 3.0-3.6V Read and Write operations
 - Active Read current: 6 mA (typical), Standby current: 10 μ A (typical) for SST49LF00xA / SST49LF0x0A
- Clock frequency operation: 33 MHz



Combination Memories

ComboMemory™—31, 32 & 34 Series

ComboMemory products are highly integrated solutions, combining SST's SuperFlash® technology and Static Random Access Memory (SRAM) in single and multi-chip packages. These devices are ideal for space-constrained applications that require both flash and SRAM, such as cell phones, pagers, portable consumer electronic devices, mobile communications, and handheld GPS units. The ComboMemory family includes three product series:

- 31 Series:** Monolithic integration of flash and SRAM
- 32 Series:** Flash and SRAM combined in a single Multi-Chip Package (MCP)
- 34 Series:** Dual-Bank flash and SRAM combined in a Multi-Chip Package (MCP)

Key Features

- Integrated flash and SRAM for small form factor design
- Read from or Write to SRAM while erasing or programming flash
- Dual-Bank flash architecture for concurrent Read-while-Write operations (34 Series)
- Small Sector Erase capability:
 - 31 and 32 Series: 4 KByte uniform Sector-Erase
 - 34 Series: 2 KByte uniform Sector-Erase
- x8/x16 flash on SST34HF16xxB
- 64 KByte uniform Block-Erase capability
- Low power consumption
- Small footprint - replaces two parts with one
- Provide easy density upgrade with ComboMemory-ready pin assignments
- High-density 32 Series:
 - 32 Mbit flash available in AMD- and Intel-compatible packages
 - MPF+ available with new features of Erase-Suspend/Erase-Resume, Boot Block, Security ID, and Hardware Reset



ROM/RAM Combo—30 Series

ROM/RAM Combo integrates Mask ROM and SRAM. These devices are fabricated using advanced CMOS low-power process technology. ROM/RAM Combo products are well suited for use in low-power and small form factor applications such as pagers and other handheld appliances.

- SST30VR021: 2 Mbit ROM + 1 Mbit SRAM
- SST30VR023: 2 Mbit ROM + 256 Kbit SRAM
- SST30VR043: 4 Mbit ROM + 256 Kbit SRAM
- SST30VR022: 2 Mbit ROM + 2 Mbit SRAM

Parallel Flash Memories

MTP™ (Many-Time Programmable)—27 and 37 Series

MTP products combine the electrical erasability of flash with the cost effectiveness of EPROM/OTPs. These devices target EPROM/OTP and the low-end flash market not requiring in-system programming. The MTP family includes two product series:

- 27 Series
 - 5.0V Read, 12.0V Program and Erase
 - Same packages and pin assignments as EPROM/OTP*
- 37 Series
 - 2.7-3.6V Read, 12.0V Program and Erase
 - Same packages and pin assignments as standard flash

*Note: SST27SF256 and SST27SF512 MTP follow flash memory pin assignments for 32-lead TSOP packages

MPF™ (Multi-Purpose Flash)—39 Series

MPF is a cost-effective flash memory addressing mainstream flash applications requiring in-system programming. These products are offered in x8 or x16 organization with single 5.0V, 2.7-3.6V or 1.65-1.95V power-supply voltages, yet offering the fastest Erase times in the industry. In addition to the standard Read access time of 70 ns, SST also offers high-speed, low-voltage MPF products with Read access times of 45 and 55 ns. All 39 Series products use JEDEC standard packages, pin assignments, and command sets for ease of use.

- 39 Series
 - 4 KByte Sector-Erase
 - Sector-by-sector Erase operations
 - Byte-by-byte Program operations

MPF™ +(Multi-Purpose Flash Plus)—39 Series

MPF+ includes all the features and benefits of MPF products, plus four additional features: Erase-Suspend/Erase-Resume, Boot Block, Security ID, and Hardware Reset. Top Boot Block devices end in "2" (e.g. SST39VF3202). Bottom Boot Block devices end in "1" (e.g. SST39VF3201).



SSF™ (Small-Sector Flash)—28 and 29 Series

SSF is a cost-effective flash memory providing the flexibility of programming single bytes and erasing small 128-byte/256-byte sectors. These products are offered in x8 organization, at single 5.0V or 2.7-3.6V power-supply voltages.

- 28 Series
 - 256 Byte Sector-Erase
 - Sector-by-sector Erase operations
 - Byte-by-byte Program operations
- SST29xF products
 - 128 Byte Sector-Erase
 - Sector-by-sector Erase operations
 - Byte-by-byte Program operations
- SST29xE products
 - 128 Byte page size
 - Page-by-page Write operations
 - Page-Write operation includes an internal Erase transparent to the external system
- Small page size of 128 Bytes
- Writing is done on a page-by-page basis
- The Page-Write operation includes internal erase transparent to the external system



CSF™ (Concurrent SuperFlash™)—36 Series

The Concurrent SuperFlash (CSF) family is a dual bank flash memory device designed for wireless communication applications. The dual bank architecture supports the Concurrent Read-While-Write operation where the user may read from one bank while programming or erasing in the other bank.

- Dual-Bank architecture for Concurrent Read-While-Write operations
- Hardware top or bottom sector protection
- 2 KWord-sector size
- 32 KWord overlay block size
- Erase Suspend/Erase Resume
- Security ID
- Selectable x8/x16 Data Bus for SST36VF1601C/1602C
- Reset input pin interrupts internal write state machine and resets the device to read mode



Device	Density	Voltage	Access Speed (ns)	Packages
MTP (Many-Time Programmable) Flash				
SST27SF256	256 Kb (32K x8)	5.0V Read/12V Program & Erase	70	PDIP-28, PLCC-32, TSOP-32 (8mmx14mm)
SST27SF512	512 Kb (64K x8)	5.0V Read/12V Program & Erase	70	PDIP-28, PLCC-32, TSOP-32 (8mmx14mm)
SST27SF010	1 Mb (128K x8)	5.0V Read/12V Program & Erase	70	PDIP-32, PLCC-32, TSOP-32 (8mmx14mm)
SST27SF020	2 Mb (256K x8)	5.0V Read/12V Program & Erase	70	PDIP-32, PLCC-32, TSOP-32 (8mmx14mm)
SST37VF512	512 Kb (64K x8)	2.7V Read/12V Program & Erase	70	PDIP-32, PLCC-32, TSOP-32 (8mmx14mm)
SST37VF010	1 Mb (128K x8)	2.7V Read/12V Program & Erase	70	PDIP-32, PLCC-32, TSOP-32 (8mmx14mm)
SST37VF020	2 Mb (256K x8)	2.7V Read/12V Program & Erase	70	PDIP-32, PLCC-32, TSOP-32 (8mmx14mm)
SST37VF040	4 Mb (512K x8)	2.7V Read/12V Program & Erase	70	PDIP-32, PLCC-32, TSOP-32 (8mmx14mm)
MPF (Multi-Purpose Flash), x8				
SST39SF512	512 Kb (64K x8)	4.5-5.5V	70	PDIP-32, PLCC-32, TSOP-32 (8mmx14mm)
SST39SF010A	1 Mb (128K x8)	4.5-5.5V	45, 70	PDIP-32, PLCC-32, TSOP-32 (8mmx14mm)
SST39SF020A	2 Mb (256K x8)	4.5-5.5V	45, 70	PDIP-32, PLCC-32, TSOP-32 (8mmx14mm)
SST39SF040	4 Mb (512K x8)	4.5-5.5V	45, 70	PDIP-32, PLCC-32, TSOP-32 (8mmx14mm)
SST39VF512	512 Kb (64K x8)	2.7-3.6V	70	PLCC-32, TSOP-32 (8mmx14mm)
SST39VF010	1 Mb (128K x8)	2.7-3.6V	70	PLCC-32, TSOP-32 (8mmx14mm), TFBGA-48 (0.8mm pitch, 6mmx8mm)
SST39VF020	2 Mb (256K x8)	2.7-3.6V	70	PLCC-32, TSOP-32 (8mmx14mm), TFBGA-48 (0.8mm pitch, 6mmx8mm)
SST39VF040	4 Mb (512K x8)	2.7-3.6V	70	PLCC-32, TSOP-32 (8mmx14mm)
SST39VF080	8 Mb (1M x8)	2.7-3.6V	70	TSOP-40 (10mm x 20mm)
SST39VF088	8 Mb (1M x8)	2.7-3.6V	70	TSOP-48 (12mm x 20mm)
SST39LF512	512 Kb (64K x8)	3.0-3.6V	45	PLCC-32, TSOP-32 (8mmx14mm)
SST39LF010	1 Mb (128K x8)	3.0-3.6V	45	PLCC-32, TSOP-32 (8mmx14mm), TFBGA-48 (0.8mm pitch, 6mmx8mm)
SST39LF020	2 Mb (256K x8)	3.0-3.6V	45	PLCC-32, TSOP-32 (8mmx14mm), TFBGA-48 (0.8mm pitch, 6mmx8mm)
SST39LF040	4 Mb (512K x8)	3.0-3.6V	45	PLCC-32, TSOP-32 (8mmx14mm)
SST39LF080	8 Mb (1M x8)	3.0-3.6V	55	TSOP-40 (10mm x 20mm)
SST39VF1681	16 Mb (2M x8)	3.0-3.6V	55	TSOP-48 (12mm x 20mm)
SST39VF1682	16 Mb (2M x8)	2.7-3.6V	70, 90	TSOP-48 (12mmx20mm)
MPF (Multi-Purpose Flash), x16				
SST39LF100	1 Mb (64K x16)	3.0-3.6V	45	TSOP-40 (10mmx14mm), TFBGA-48 (0.8mm pitch, 6mmx8mm)
SST39LF200A	2 Mb (128K x16)	3.0-3.6V	45, 55	TSOP-48 (12mmx20mm), TFBGA-48 (0.8mm pitch, 6mmx8mm)
SST39LF400A	4 Mb (256K x16)	3.0-3.6V	45, 55	TSOP-48 (12mmx20mm), TFBGA-48 (0.8mm pitch, 6mmx8mm)
SST39LF800A	8 Mb (512K x16)	3.0-3.6V	55	TSOP-48 (12mmx20mm), TFBGA-48 (0.8mm pitch, 6mmx8mm)
SST39LF160	16 Mb (1M x16)	3.0-3.6V	55	TSOP-48 (12mmx20mm), TFBGA-48 (0.8mm pitch, 8mmx10mm)
SST39VF100	1 Mb (64K x16)	2.7-3.6V	70	TSOP-40 (10mmx14mm), TFBGA-48 (0.8mm pitch, 6mmx8mm)
SST39VF200A	2 Mb (128K x16)	2.7-3.6V	70	TSOP-48 (12mmx20mm), TFBGA-48 (0.8mm pitch, 6mmx8mm)
SST39VF400A	4 Mb (256K x16)	2.7-3.6V	70	TSOP-48 (12mmx20mm), TFBGA-48 (0.8mm pitch, 6mmx8mm)
SST39VF800A	8 Mb (512K x16)	2.7-3.6V	70	TSOP-48 (12mmx20mm), TFBGA-48 (0.8mm pitch, 6mmx8mm)
SST39VF160	16 Mb (1M x16)	2.7-3.6V	70, 90	TSOP-48 (12mmx20mm), TFBGA-48 (0.8mm pitch, 8mmx10mm)
SST39VF320	32 Mb (2M x16)	2.7-3.6V	70, 90	TSOP-48 (12mmx20mm), TFBGA-48 (0.8mm pitch, 6mmx8mm)
SST39WF400A	4 Mb (256K x16)	1.65-1.95V	90, 100	TFBGA-48 (0.8mm pitch, 6mmx8mm)
				WFBGA (0.5mm pitch, 4mmx6mm), XFLGA (0.5mm pitch 4mmx6mm)
SST39VF800A	8 Mb (512K x16)	2.7-3.6V	70	TSOP-48 (12mmx20mm), TFBGA-48 (0.8mm pitch, 6mmx8mm)
				WFBGA (0.5mm pitch, 4mmx6mm), XFLGA (0.5mm pitch 4mmx6mm)
SST39VF160	16 Mb (1M x16)	2.7-3.6V	70, 90	TSOP-48 (12mmx20mm), TFBGA-48 (0.8mm pitch, 8mmx10mm)
SST39VF320	32 Mb (2M x16)	2.7-3.6V	70, 90	TSOP-48 (12mmx20mm), TFBGA-48 (0.8mm pitch, 6mmx8mm)
SST39WF400A	4 Mb (256K x16)	1.65-1.95V	90, 100	TFBGA-48 (0.8mm pitch, 6mmx8mm)
				WFBGA (0.5mm pitch, 4mmx6mm), XFLGA (0.5mm pitch 4mmx6mm)
MPF+ (Multi-Purpose Flash Plus), x16				
SST39VF1681	16 Mb (2M x8)	2.7-3.6V	70, 90	TSOP-48 (12mmx20mm), TFBGA-48 (0.8mm pitch, 6mmx8mm)
SST39VF1682	16 Mb (2M x8)	2.7-3.6V	70, 90	TSOP-48 (12mmx20mm), TFBGA-48 (0.8mm pitch, 6mmx8mm)
SST39VF1601	16 Mb (1M x16)	2.7-3.6V	70, 90	TSOP-48 (12mmx20mm), TFBGA-48 (0.8mm pitch, 6mmx8mm)
SST39VF1602	16 Mb (1M x16)	2.7-3.6V	70, 90	TSOP-48 (12mmx20mm), TFBGA-48 (0.8mm pitch, 6mmx8mm)
SST39VF3201	32 Mb (2M x16)	2.7-3.6V	70, 90	TSOP-48 (12mmx20mm), TFBGA-48 (0.8mm pitch, 6mmx8mm)
SST39VF3202	32 Mb (2M x16)	2.7-3.6V	70, 90	TSOP-48 (12mmx20mm), TFBGA-48 (0.8mm pitch, 6mmx8mm)
SST39VF6401	64 Mb (4M x16)	2.7-3.6V	70, 90	TSOP-48 (12mmx20mm), TFBGA-48 (0.8mm pitch, 8mmx10mm)
SST39VF6402	64 Mb (4M x16)	2.7-3.6V	70, 90	TSOP-48 (12mmx20mm), TFBGA-48 (0.8mm pitch, 8mmx10mm)
SSF (Small-Sector Flash), Byte Programmable				
SST28VF040	4 Mb (512K x8)	2.7-3.6V	150, 200	PLCC-32, TSOP-32 (8mmx20mm)
SST29SF040	4 Mb (512K x8)	4.5-5.5V	55	PLCC-32, TSOP-32 (8mmx14mm)
SST29VF040	4 Mb (512K x8)	2.7-3.6V	55	PLCC-32, TSOP-32 (8mmx14mm)
SSF (Small-Sector Flash), Page Programmable				
SST29EE512	512 Kb (64K x8)	4.5-5.5V	70	PDIP-32, PLCC-32, TSOP-32 (8mmx20mm)
SST29EE010	1 Mb (128K x8)	4.5-5.5V	70	PDIP-32, PLCC-32, TSOP-32 (8mmx14mm, 8mmx20mm)
SST29EE020	2 Mb (256K x8)	4.5-5.5V	120	PDIP-32, PLCC-32, TSOP-32 (8mmx20mm)
SST29LE512	512 Kb (64K x8)	3.0-3.6V	150	PLCC-32, TSOP-32 (8mmx20mm)
SST29LE010	1 Mb (128K x8)	3.0-3.6V	150	PLCC-32, TSOP-32 (8mmx14mm, 8mmx20mm)
SST29LE020	2 Mb (256K x8)	3.0-3.6V	200	PLCC-32, TSOP-32 (8mmx20mm)
SST29VE512	512 Kb (64K x8)	2.7-3.6V	200	PLCC-32, TSOP-32 (8mmx20mm)
SST29VE010	1 Mb (128K x8)	2.7-3.6V	200	PLCC-32, TSOP-32 (8mmx14mm, 8mmx20mm)
SST29VE020	2 Mb (256K x8)	2.7-3.6V	200	PLCC-32, TSOP-32 (8mmx20mm)
CSF (Concurrent SuperFlash)				
SST36VF1601C	16 Mb ((768K+256K)x16) ((1536K+512K)x8)	2.7-3.6V	70	TFBGA-48 (0.8mm pitch, 6mmx8mm)
SST36VF1602C	16 Mb ((256K+768K)x16) ((512K+1536K)x8)	2.7-3.6V	70	TFBGA-48 (0.8mm pitch, 6mmx8mm)

Device	Density	Voltage	Clock Speed	Packages
Serial Flash				
SST25VF512	512 Kb (64K x8)	2.7-3.6V	20 MHz	SOIC-8 (150mil), WSON-8
SST25VF010	1 Mb (128K x8)	2.7-3.6V	20 MHz	SOIC-8 (150mil), WSON-8
SST25VF020	2 Mb (256K x8)	2.7-3.6V	20 MHz	SOIC-8 (150mil), WSON-8
SST25LF020A	2 Mb (256K x 8)	3.0-3.6V	33 MHz	SOIC-8 (150mil), WSON-8
SST25VF040	4 Mb (512K x8)	2.7-3.6V	20 MHz	WSON-8
SST25LF040A	4 Mb (512K x8)	3.0-3.6V	33 MHz	SOIC-8 (200mil), WSON-8
SST25VF080	8 Mb (1Mb x8)	2.7-3.6V	20 MHz	SOIC-8 (200mil)
SST25LF080A	8 Mb (1Mb x8)	3.0-3.6V	33 MHz	SOIC-8 (200mil)
SST25VF016B	16 Mb (2Mb x8)	2.7-3.6V	33 MHz	SOIC-8 (200mil)
SST45LF010	1 Mb (128K x8)	3.0-3.6V	10 MHz	SOIC-8 (150mil), WSON-8
Firmware Flash (FWH & LPC Flash)				
SST49LF002A	2 Mb (256K x8)	3.0-3.6V	33 MHz	PLCC-32, TSOP-32 (8mmx14mm)
SST49LF003A	3 Mb (384K x8)	3.0-3.6V	33 MHz	PLCC-32, TSOP-32 (8mmx14mm)
SST49LF004A	4 Mb (512K x8)	3.0-3.6V	33 MHz	PLCC-32, TSOP-32 (8mmx14mm)
SST49LF004B	4 Mb (512K x8)	3.0-3.6V	33 MHz	PLCC-32, TSOP-40 (10mmx20mm)
SST49LF008A	8 Mb (1024K x8)	3.0-3.6V	33 MHz	PLCC-32, TSOP-32 (8mmx14mm) TSOP-40 (10mmx20mm)
SST49LF020	2 Mb (1024K x8)	3.0-3.6V	33 MHz	PLCC-32, TSOP-32 (8mmx14mm)
SST49LF020A	2 Mb (256K x8)	3.0-3.6V	33 MHz	PLCC-32, TSOP-32 (8mmx14mm)
SST49LF030A	3 Mb (384K x8)	3.0-3.6V	33 MHz	PLCC-32, TSOP-32 (8mmx14mm)
SST49LF040	4 Mb (512K x8)	3.0-3.6V	33 MHz	PLCC-32, TSOP-32 (8mmx14mm)
SST49LF080A	8 Mb (1024K x8)	3.0-3.6V	33 MHz	PLCC-32, TSOP-32 (8mmx14mm)
SST49LF016C	16 Mb (2Mb x8)	3.0-3.6V	33 MHz	TSOP-40 (10mmx20mm)
ComboMemory				
	Flash	SRAM	Access Speeds	
SST31LF021	2 Mb (256K x8)	1 Mb (128K x8)	3.0-3.6V	70 (ns) TSOP-32 (8mmx14mm)
SST31LF021E	2 Mb (256K x8)	1 Mb (128K x8)	3.0-3.6V	300 (ns) TSOP-32 (8mmx14mm)
SST31LF041	4 Mb (512K x8)	1 Mb (128K x8)	3.0-3.6V	70 (ns) TSOP-40 (10mmx14mm)
SST31LF041A	4 Mb (512K x8)	1 Mb (128K x8)	3.0-3.6V	70/300 (ns) TSOP-32 (8mmx14mm)
SST32HF202	2 Mb MPF (128K x16)	2 Mb (128K x16)	2.7-3.3V	70 (ns) LFBGA-48 (6mmx8mm)
SST32HF402	4 Mb MPF (256K x16)	2 Mb (128K x16)	2.7-3.3V	70 (ns) LFBGA-48 (6mmx8mm)
SST32HF802	8 Mb MPF (512K x16)	2 Mb (128K x16)	2.7-3.3V	70 (ns) LBGA-48 (10mmx12mm) LFBGA-48 (6mmx8mm)
SST32HF162	16 Mb MPF (1Mb x16)	2 Mb (128K x16)	2.7-3.3V	70 (ns) LBGA-48 (10mmx12mm)
SST32HF164	16 Mb MPF (1Mb x16)	4 Mb (256K x16)	2.7-3.3V	70/90 (ns) LBGA-48 (10mmx12mm)
SST32HF324/C	32 Mb MPF (2Mb x16)	4 Mb (256K x16)	2.7-3.3V	70/90 (ns) TFBGA-63 (8mmx10mm) LFBGA-62 (8mmx10mm)
SST32HF328/C	32 Mb MPF (2Mb x16)	8 Mb (512K x16)	2.7-3.3V	70/90 (ns) TFBGA-63 (8mmx10mm) LFBGA-62 (8mmx10mm)
SST32HF3241/C	32 Mb MPF+(2Mb x16)	4 Mb (256K x16)	2.7-3.3V	70/90 (ns) TFBGA-63 (8mmx10mm) LFBGA-62 (8mmx10mm)
SST32HF3281/C	32 Mb MPF+(2Mb x16)	8 Mb (512K x16)	2.7-3.3V	70/90 (ns) TFBGA-63 (8mmx10mm) LFBGA-62 (8mmx10mm)
SST34HF1621A	16 Mb CSF ((768K+256K) x8/16)	2 Mb (128K x16)	2.7-3.3V	70 (ns) LFBGA-56 (8mmx10mm) LFBGA-62 (8mmx10mm)
SST34HF1641A	16 Mb CSF ((768K+256K) x16)	4 Mb (256K x16)	2.7-3.3V	70 (ns) LFBGA-56 (8mmx10mm) LFBGA-62 (8mmx10mm)
SST34HF1681	16 Mb CSF ((768K+256K) x16)	8 Mb (512K x16)	2.7-3.3V	70 (ns) LFBGA-56 (8mmx10mm) LFBGA-62 (8mmx10mm)
ROM/RAM Combo				
	Mask ROM	SRAM		
SST30VR021	2 Mb (256K x8)	1 Mb (128K x8)	2.7-3.3V	500/500 (ns) TSOP-32 (8mmx14mm)
SST30VR043	4 Mb (512K x8)	256 Kb (32K x8)	2.7-3.3V	500/500 (ns) TSOP-32 (8mmx14mm)
SST30VR022	2 Mb (256K x8)	2 Mb (256K x8)	2.7-3.3V	500/500 (ns) TSOP-32 (8mmx14mm)
SST30VR023	2 Mb (256K x8)	256Kb (32K x8)	2.7-3.3V	500 (ns) TSOP-32 (8mmx14mm)



Microcontrollers

FlashFlex®51 Microcontrollers—89 Series

- 8-bit 8051-compatible microcontrollers with embedded SuperFlash® memory
 - Software compatible
 - Development toolset compatible
 - Pin-for-pin package compatible
- 256 Byte/1 KByte register/data RAM
- Multiple interrupts
 - Six to nine sources
 - Two to four levels
- Support external address range up to 64 KByte of program and data memory
- TTL- and CMOS-compatible logic levels
- 20/36/40/72 KByte embedded high performance SuperFlash® EEPROM
 - Individual block security lock
 - In-Application Programming (IAP™)
 - Primary/secondary re-mappable blocks
- Low power modes
 - Idle mode
 - Power-down mode with external interrupt wake-up

- Three high-current drive pins for LEDs
- Serial interfaces: enhanced UART and SPI
 - UART supports Auto Address Recognition (AAR) and framing error detector
- Four 8-bit, bi-directional I/O ports (32 I/O pins) plus P4, a 4-bit port*
- PDIP-40, PLCC-44 and TQFP-44 packages
- Multi-function timer/counter complement
 - Three 16-bit timer/counters
 - Watchdog Timer (WDT)
 - Programmable Counter Array (PCA)
- Commercial and industrial temperature ranges
- Reduced EMI modes
- 3V or 5V Operation

* For SST89E/V554A, P4 is available in PLCC and TQFP packages only



Device	Clock Speed		Flash Memory¹	RAM	Serial Interface		PCA	Interrupt		Internal Data Pointers	Reduced EMI	Operating Voltage
	5V	3V			UART²	SPI		Sources	Levels			
SST89C54	33 MHz	12 MHz	16KB+4KB	256B	1ch		0	6	2	1		2.7-5.5V
SST89C58	33 MHz	12 MHz	32KB+4KB	256B	1ch		0	6	2	1		2.7-5.5V
SST89E564RD	40 MHz		64KB+8KB	1KB	1ch+	✓	5ch	9	4	2	✓	4.5-5.5V
SST89E554RC	40 MHz		32KB+8KB	1KB	1ch+	✓	5ch	9	4	2	✓	4.5-5.5V
SST89E554A	40 MHz		32KB+8KB	1KB	1ch+	✓	5ch	10	4	2	✓	4.5-5.5V
SST89V564RD		33 MHz	64KB+8KB	1KB	1ch+	✓	5ch	9	4	2	✓	2.7-3.6V
SST89V554RC		33 MHz	32KB+8KB	1KB	1ch+	✓	5ch	9	4	2	✓	2.7-3.6V
SST89V554A		33 MHz	32KB+8KB	1KB	1ch	✓	5ch	10	4	2	✓	2.7-3.6V

Note 1: 16KB + 4KB stands for 16 Kbyte primary block (128 Byte sector size) and 4 KByte secondary block (64 Byte sector size)

Note 2: Enhanced UART with Automatic Address Recognition and Framing Error Detection Features



FlashFlex51 Development Kits

Both the Starter Kit and Dongle Kit are available from SST distributors. To locate a distributor nearest you or for more information on the kits, see the SST web site (www.sst.com). The web site is also your resource for third-party programmers and hardware emulators.

Product	FlashFlex51 Starter Kit	FlashFlex51 Dongle Kit
Product Description	Starter board, target emulator board and MCU programmer	Field application code downloader
Features	<ul style="list-style-type: none"> • Demo/target board with MCU control, 128 KB on-board flash, LED display port, any frequency operation, MCU signal access and 3.3V or 5V supply voltage • Breadboard area for product development • Remote Reset and EA pin control • Security lock and re-map setting • External flash memory upgrade • File download and upload from internal or external memory • BSL and SoftICE software provided with software updates via Web 	<ul style="list-style-type: none"> • RS-232 interface board with LEDs • Easy-to-use switch block for configuring the Dongle Board • Small, compact size allows for easy transport and effortless re-programming of remote systems and devices • BSL and SoftICE software provided with software updates via Web
Communication	RS-232 serial to PC COM port	RS-232 serial to PC COM port
Ordering Part Number	SST89CK78STR	SST89CK79DGL

Application Specific Embedded Controllers

ATA Flash Disk Controller—55 Series

SST's ATA Flash Disk Controller is the heart of the high-performance, flash media-based, data storage system. This technology is well suited for solid-state mass storage applications, offering new and expanded functionality while enabling smaller, lighter designs with lower power consumption.

The ATA Flash Disk Controller is widely used in such products as portable and desktop computers, digital cameras, music players, handheld data collection scanners, PDAs, handy terminals, personal communicators, audio recorders, monitoring devices, and set-top boxes.

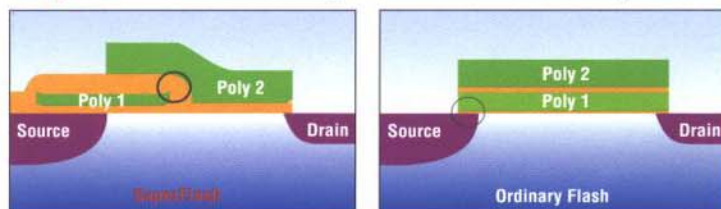
- Interface and support standard NAND flash media up to 1 Gbit
- Fast Read performance
 - Up to 5.0 MB/sec (max)
- Fast sustained Write performance
 - SST55LD017A supports up to 1.2 MB/sec (max)
 - SST55LD017B supports up to 2.4 MB/sec (max)
 - SST55LD017C/D support up to 4.0 MB/sec (max)
- Low power, 5V/3.3V interface
- Low standby current

- Pre-programmed embedded firmware
- Internal or external system clock option
- 20-byte unique ID for expanded security
- Write Protect or Power-down pin for preventing data overwrites
- Support for both commercial and industrial temperature ranges



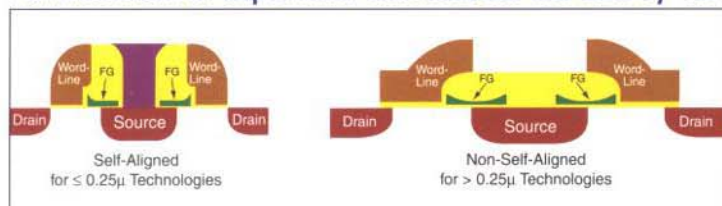
Functions	SST55LD017A	SST55LD017B	SST55LD017C	SST55LD017D
Supported Capacity	• 8 MB to 128 MB	• 8 MB to 640 MB • Up to 2GB with External Decoding	• 8 MB to 640 MB • Up to 2GB with External Decoding	• 8 MB to 640 MB • Up to 4GB with External Decoding
Performance-Sustained Write Speed	• Up to 1.2 MB/sec (max)	• Up to 2.4 MB/sec (max) with 2-Chip Multi-Tasking • Up to 1.2 MB/sec (max) with 1-Chip Multi-Tasking	• Up to 4.0 MB/sec (max) with 4-Chip Operation • Up to 3.2 MB/sec (max) with 3-Chip Multi-Tasking	• Up to 4.0 MB/sec (max) with 4-Chip Multi-Tasking • Up to 3.2 MB/sec (max) with 3-Chip Multi-Tasking
Performance-Sustained Read Speed	• Up to 5 MB/sec (max)	• Up to 5 MB/sec (max)	• Up to 5 MB/sec (max)	• Up to 5 MB/sec (max)
Security Features	No	No	No	Yes

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