Multi-Purpose Flash™ (MPF™)
Multi-Purpose Flash Plus (MPF+)

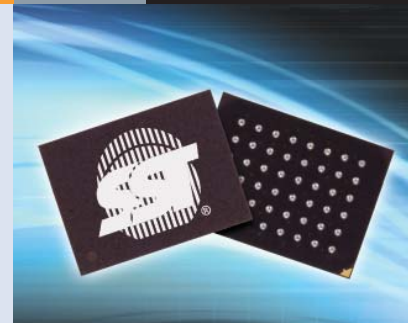## Product Description

Multi-Purpose Flash™ (MPF™) and Multi-Purpose Flash Plus (MPF+) make up a family of parallel flash memory products that deliver high performance, low power consumption, superior reliability and small sector size. Based on SST® SuperFlash® technology, MPF and MPF+ provide faster program, erase and read times than conventional flash, thereby saving power consumption and increasing manufacturing throughput.

In addition to offering 3V and 5V memory products, MPF and MPF+ provide 1.8V devices that deliver significant power savings compared to industry standard flash. Ideal for space-constrained applications, this family offers the industry's smallest standard packages, the XFLGA and WFBGA, both as small as 4 mm x 6 mm.

Key Features

Operating Voltages
– 1.65V-1.95V
– 2.7V-3.6V
– 4.5V-5.5V

Low Power Consumption*
– Active current: 5 mA (typical)
– Standby current: 3 μA (typical)

Fast Read Access Times*
– 45 ns
– 55 ns
– 70 ns

Fast Programming*
– 14 μs per word (typical)

Flexible Erase Capability and Fast Erase Times*
– 2 Kword Sector Erase: 18 ms (typical)
– 32 Kword Block Erase: 18 ms (typical)
– Chip Erase: 70 ms (typical)

Small Uniform Sector Sizes: 2 Kword and 32 Kword

Commercial and Industrial Operating Temperatures

Endurance: 100,000 cycles (typical)

Data Retention: 100 years (min)

MPF+ Offers Additional Features
– Erase suspend
– Boot block
– Hardware reset features

*Data varies for different devices, please refer to datasheet for details.

39 Series: Multi-Purpose Flash (MPF) Packages*

Voltage	Density	32-pin PDIP (PHE)	32-pin PLCC (NHE)	32-pin TSOP (WHE)	34-ball WFBGA (MME)	48-ball TFBGA (B3KE)	48-lead TSOP (EKE)	48-bump XFLGA (C1QE) (CAQE)	48-ball WFBGA (M1QE) (MAQE)
1.8V	4 Mbit					●		●	●
	8 Mbit					●		●	●
	16 Mbit					●			●
3V	512 Kbit		●	●					
	1 Mbit		●	●	●	●			
	2 Mbit		●	●	●	●	●		●
	4 Mbit		●	●		●	●	●	●
	8 Mbit					●	●	●	●
	16 Mbit					●	●		●
	32 Mbit					●	●		
	64 Mbit					●	●		
5V	1 Mbit	●	●	●					
	2 Mbit	●	●	●					
	4 Mbit	●	●	●					

*Wafer/Die (Known Good Die) sales of above devices are also available. Please contact SST sales for detailed information.

Applications

– *Bluetooth*
– *GPS*
– *Digital TVs*
– *Digital Media Players, MP3 Players*
– *WiFi/ WiMAX*
– *Printers*
– *Digital Photo Frames*
– *Mobile Phones*
– *DSL/Cable Modems*
– *Servers and Routers*
– *Set Top Boxes*
– *Digital Cameras*
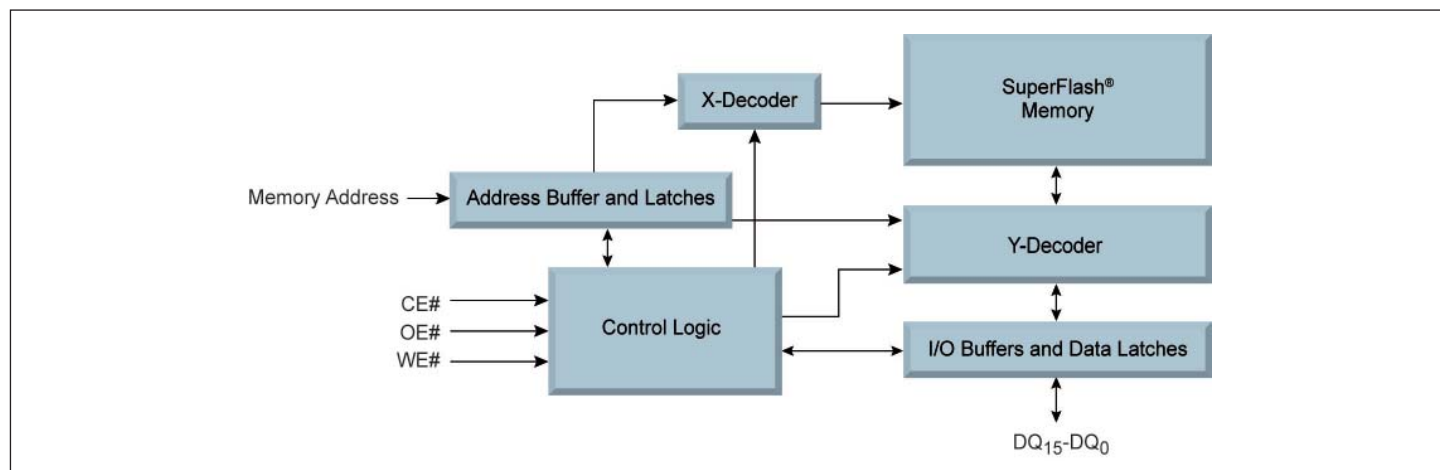– *Industrial*
– *Automotive Infotainment*

Parallel Flash Memory, 1.8V				
Device	Density	Voltage	Access Speed (ns)	Packages
SST39WF400B	4 Mbit (256K x16)	1.65-1.95V	70	TFBGA-48 (6 mm x 8 mm), WFBGA-48 (4 mm x 6 mm), XFLGA-48 (4 mm x 6 mm)
SST39WF800B	8 Mbit (512K x16)	1.65-1.95V	70	TFBGA-48 (6 mm x 8 mm), WFBGA-48 (4 mm x 6 mm), XFLGA-48 (4 mm x 6 mm)
SST39WF1601/1602	16 Mbit (1 Mb x16)	1.65-1.95V	70	TFBGA-48 (6 mm x 8 mm), WFBGA-48 (4 mm x 6 mm)
Parallel Flash Memory, 3V				
SST39LF/VF512	512 Mbit (64K x16)	LF: 3.0-3.6V VF: 2.7-3.6V	LF: 45 VF: 70	PLCC-32, TSOP-32 (8 mm x 14 mm)
SST39LF/VF010	1 Mbit (128K x8)	LF: 3.0-3.6V VF: 2.7-3.6V	LF: 55 VF: 70	PLCC-32, TSOP-32 (8 mm x 14 mm), TFBGA-48 (6 mm x 8 mm), WFBGA-34 (4 mm x 6 mm)
SST39LF/VF020	2 Mbit (256K x8)	LF: 3.0-3.6V VF: 2.7-3.6V	LF: 55 VF: 70	PLCC-32, TSOP-32 (8 mm x 14 mm), TFBGA-48 (6 mm x 8 mm), WFBGA-34 (4 mm x 6 mm)
SST39LF/VF200A	2 Mbit (128K x16)	LF: 3.0-3.6V VF: 2.7-3.6V	LF: 55 VF: 70	TSOP-48 (12 mm x 20 mm), TFBGA-48 (6 mm x 8 mm), WFBGA-48 (4 mm x 6 mm)
SST39LF/VF040	4 Mbit (512K x8)	LF: 3.0-3.6V VF: 2.7-3.6V	LF: 55 VF: 70	PLCC-32, TSOP-32 (8 mm x 14 mm), TFBGA-48 (6 mm x 8 mm)
SST39LF/VF400A	4 Mbit (256K x16)	LF: 3.0-3.6V VF: 2.7-3.6V	LF: 55 VF: 70	TSOP-48 (12 mm x 20 mm), TFBGA-48 (6 mm x 8 mm), WFBGA-48 (4 mm x 6 mm), XFLGA-48 (4 mm x 6 mm)
SST39LF/VF800A	8 Mbit (512K x16)	LF: 3.0-3.6V VF: 2.7-3.6V	LF: 55 VF: 70	TSOP-48 (12 mm x 20 mm), TFBGA-48 (6 mm x 8 mm), WFBGA-48 (4 mm x 6 mm), XFLGA-48 (4 mm x 6 mm)
SST39VF1601C/1602C	16 Mbit (1 Mb x16)	2.7-3.6V	70	TSOP-48 (12 mm x 20 mm), TFBGA-48 (6 mm x 8 mm), WFBGA-48 (4 mm x 6 mm)
SST39VF1681/1682	16 Mbit (2Mb x8)	2.7-3.6V	70	TSOP-48 (12 mm x 20 mm), TFBGA-48 (6 mm x 8 mm)
SST39VF3201B/2B	32 Mbit (2 Mb x16)	2.7-3.6V	70	TSOP-48 (12 mm x 20 mm), TFBGA-48 (6 mm x 8 mm)
SST39VF6401B/2B	64 Mbit (4 Mb x16)	2.7-3.6V	70	TSOP-48 (12 mm x 20 mm), TFBGA-48 (8 mm x 10 mm)
Parallel Flash Memory, 5V				
SST39SF010A	1 Mbit (128K x8)	4.5-5.5V	55, 70	PLCC-32, TSOP-32 (8 mm x 14 mm), PDIP-32
SST39SF020A	2 Mbit (256K x8)	4.5-5.5V	55, 70	PLCC-32, TSOP-32 (8 mm x 14 mm), PDIP-32
SST39SF040	4 Mbit (512K x8)	4.5-5.5V	55, 70	PLCC-32, TSOP-32 (8 mm x 14 mm), PDIP-32

Functional Block Diagram

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