

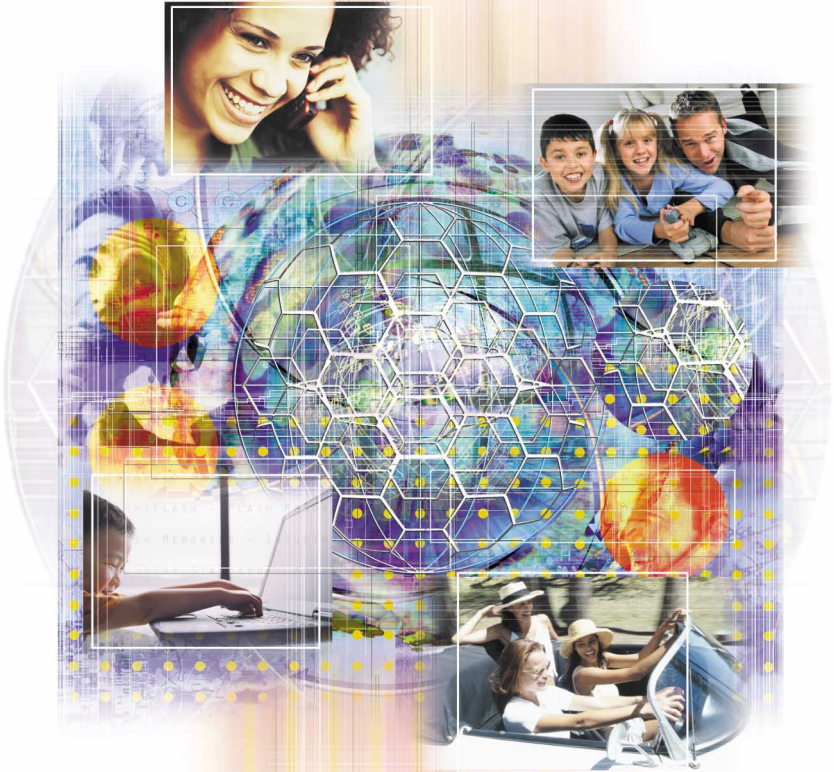


Flash Memories

All you need to know to help you find
the right solution

www.st.com/flash

www.stmillennium.com/flash



Selection Guide
also featuring cross reference

STMicroelectronics
More Intelligent Solutions



A wide portfolio of Flash memory solutions

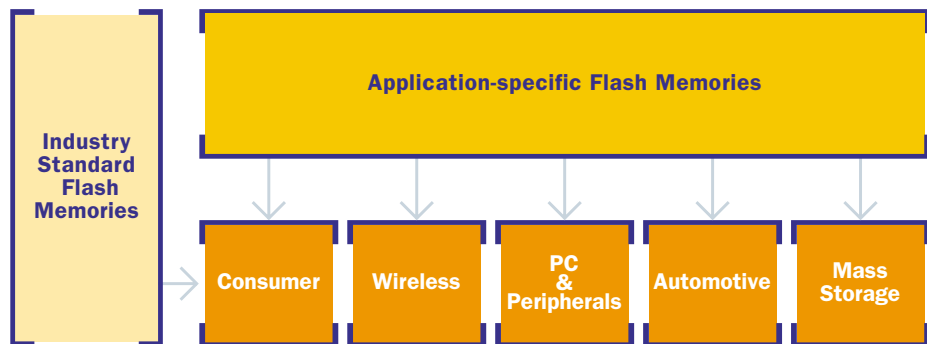
In order to meet the growing demand of current and emerging applications for easy-to-use cost-efficient Flash memories, ST offers a broad range of Industry Standard products, which are channeled through distributors. With densities from 1 to 64Mb, they are optimized solutions for a wide range of applications, such as mobile communications, automotive, industrial, computer and peripherals as well as consumer.

ST portfolio also includes application-specific Flash memories, designed to respond to the needs of all application segments, in terms of cost, performance and high memory density.

This selection guide is intended to give an exhaustive overview of ST Industry Standard Flash memories portfolio and to support designers' choice among the broad range of ST standard Flash memories. This guide also includes some highlights on ST application-specific products portfolio.

In order to ensure that the product meets the requirements of your application, please, check the parameters in the appropriate datasheet available at www.st.com/flash

If you are interested in receiving more information about industry standard or application-specific memory products, or if you have any technical enquiry, please, contact the ST sales office in your area or send an e-mail to ask.memory@st.com



Industry Standard Flash Memories portfolio

ST's Industry Standard Flash Family is our dependable and reliable portfolio moving to 4 generations of backward compatibility, providing the broadest range of products available on the market. State of the art technology leads to the best cost/performance on the market. ST's products provide the best in class access speed performance, fitting the most demanding application needs. Second source availability guarantees further flexibility.

	1Mb	2Mb	4Mb	8Mb	16Mb	32Mb	64Mb
Single Supply 3V							
x8 Uniform	M29W010B		M29W040B		M29W017D		
x8/x16 Boot		M29W200B	M29W400B	M29W800D	M29W160D	M29W320D	
x16 Boot	M29W102B						
Dual Bank 3V							
x8/x16 Boot						M29DW323D	
x8/x16 Boot						M29DW324D	
Single Supply 5V							
x8 Uniform	M29F010B		M29F040B	M29F080D	M29F016D	M29F032D	
x8 Boot		M29F002B					
x8/x16 Boot		M29F200B	M29F400B	M29F800D			
x16 Boot	M29F102B						
Dual Supply 3V							
x16 Boot				M28W800C	M28W160C	M28W320C	M28W640EC
High Performance							
x8/x16						M58LW032D	M58LW064D

ST Industry Standard Flash Memories product selector

Industry Standard Flash Memories, Single Supply 5V

Size	Ref	Description	Packages
1Mb	M29F010B	1Mb (x8), 45-90ns, Uniform Block	TSOP32, PLCC32
	M29F102BB	1Mb (x16), 35-70ns, Bottom Boot	TSOP40, PLCC44
2Mb	M29F002BT	2Mb (x8), 45-90ns, Top Boot	TSOP32, PLCC32
	M29F002BB	2Mb (x8), 45-90ns, Bottom Boot	TSOP32, PLCC32
	M29F200BT	2Mb (x8/x16), 45-90ns, Top Boot	TSOP48, SO44
	M29F200BB	2Mb (x8/x16), 45-90ns, Bottom Boot	TSOP48, SO44
4Mb	M29F040B	4Mb (x8), 45-90ns, Uniform Block	TSOP32, PLCC32
	M29F400BT	4Mb (x8/x16), 45-90ns, Top Boot	TSOP48, SO44
	M29F400BB	4Mb (x8/x16), 45-90ns, Bottom Boot	TSOP48, SO44
8Mb	M29F080D	8Mb (x8), 55-70ns, Uniform Block	TSOP40, SO44
	M29F800DT	8Mb (x8/x16), 55-70ns, Top Boot	TSOP48, SO44
	M29F800DB	8Mb (x8/x16), 55-70ns, Bottom Boot	TSOP48, SO44
16Mb	M29F016D	16Mb (x8), 55-70ns, Uniform Block	TSOP40, SO44
32Mb	M29F032D	32Mb (x8), 70ns, Uniform Block	TSOP40

Industry Standard Flash Memories, Single Supply 3V

Size	Ref	Description	Packages
1Mb	M29W010B	1Mb (x8), 45-70ns, Uniform Block	TSOP32, PLCC32
	M29W102BT	1Mb (x16), 45-70ns, Top Boot	TSOP40
	M29W102BB	1Mb (x16), 45-70ns, Bottom Boot	TSOP40
2Mb	M29W200BT	2Mb (x8/x16), 55-90ns, Top Boot	TSOP48, SO44
	M29W200BB	2Mb (x8/x16), 55-90ns, Bottom Boot	TSOP48, SO44
4Mb	M29W040B	4Mb (x8), 55-90ns, Uniform Block	TSOP32, PLCC32
	M29W400BT	4Mb (x8/x16), 55-90ns, Top Boot	TSOP48, SO44, TFBGA48
	M29W400BB	4Mb (x8/x16), 55-90ns, Bottom Boot	TSOP48, SO44, TFBGA48
8Mb	M29W800DT	8Mb (x8/x16), 70-90ns, Top Boot	TSOP48, SO44, TFBGA48
	M29W800DB	8Mb (x8/x16), 70-90ns, Bottom Boot	TSOP48, SO44, TFBGA48
	M29W160DT	16Mb (x8/x16), 70ns, Top Boot	TSOP48, SO44, TFBGA48
16Mb	M29W160DB	16Mb (x8/x16), 70ns, Bottom Boot	TSOP48, SO44, TFBGA48
	M29W017D	16Mb (x8), 70ns, Uniform Block	TSOP40, TFBGA48
	M29W320DT	32Mb (x8x16), 70-90ns, Top Boot	TSOP48, TFBGA63
32Mb	M29W320DB	32Mb (x8x16), 70-90ns, Bottom Boot	TSOP48, TFBGA63
	M29W641D	64Mb (x16), 70-90ns, Uniform Block	TSOP48
	M29W640DT	64Mb (x8/x16), 70-90ns, Top Boot	TSOP48, SO44, TFBGA63
64Mb	M29W640DB	64Mb (x8/x16), 70-90ns, Bottom Boot	TSOP48, SO44, TFBGA63

Industry Standard Flash Memories, Dual Bank 3V

Size	Ref	Description	Packages
32Mb	M29DW323DB	32Mb (x8/x16), 70-90ns, Top Boot, Dual Bank	TSOP48, TFBGA63
	M29DW323DT	32Mb (x8/x16), 70-90ns, Bottom Boot, Dual Bank	TSOP48, TFBGA63
	M29DW324DB	32Mb (x8/x16), 70-90ns, Top Boot, Dual Bank	TSOP48, TFBGA63
	M29DW324DT	32Mb (x8/x16), 70-90ns, Bottom Boot, Dual Bank	TSOP48, TFBGA63

Industry Standard Flash Memories, Dual Supply 3V

Size	Ref	Description	Packages
8Mb	M28W800CT	8Mb (x16), 70-90ns, Top Boot	TSOP48, TFBGA46
	M28W800CB	8Mb (x16), 70-90ns, Bottom Boot	TSOP48, TFBGA46
16Mb	M28W160CT	16Mb (x16), 70-90ns, Top Boot	TSOP48, TFBGA46
	M28W160CB	16Mb (x16), 70-90ns, Bottom Boot	TSOP48, TFBGA46
32Mb	M28W320CT	32Mb (x16), 70-90ns, Top Boot	TSOP48, TFBGA47, µBGA47
	M28W320CB	32Mb (x16), 70-90ns, Bottom Boot	TSOP48, TFBGA47, µBGA47
64Mb	M28W640ECT	64Mb (x16), 90ns, Top Boot	TSOP48, TFBGA48
	M28W640ECB	64Mb (x16) 90ns, Bottom Boot	TSOP48, TFBGA48

Industry Standard Flash Memories, High Performance

Size	Ref	Description	Packages
32Mb	M58LW032D	32Mb (x8/x16), Uniform Block	TSOP56, TFBGA64
64Mb	M58LW064D	64Mb (x8/x16), Uniform Block	TSOP56, TFBGA64

Application-specific Flash memories highlights

STMicroelectronics application-specific Flash memories are an applications-driven range of products providing state of the art solutions to our customers.

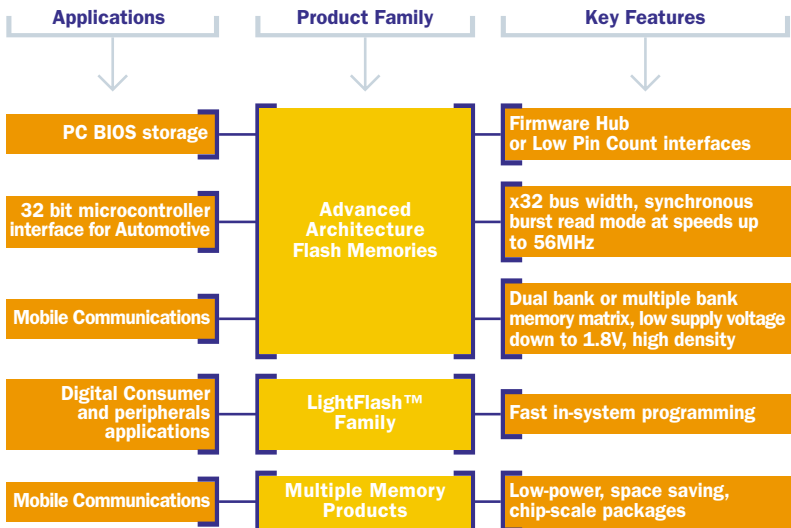
Here are the main areas where ST has already developed and is developing solutions:

Advanced Architecture Flash memories - product family with advanced features, such as very fast asynchronous read mode, synchronous burst mode, low power consumption, specific memory architecture (dual, multiple or flexible bank) and specific block security function.

LightFlash™ memories - compromise between performance and cost for basic code storage applications.

Multiple Memory Products - combination of Advanced Architecture Flash memories features with low-power SRAMs in a small single package.

High Performances memories - high density and high performance memories for dedicated code and data storage applications.



ST Flash memories part numbering scheme



Device Family

M28 = Dual Supply
 M29 = Single Supply
 M50 = Firmware Hub/Low Pin Count
 M58 = High Performance

Device Identifier

Blank = Standard
 C = Dual Bank, Burst Mode
 D = Dual Bank, Page Mode
 F = Firmware Hub
 L = High Performance
 LP = Low Pin Count
 W = Multiple Bank

Operating voltage

R = 1.8V
 W = 2.7V - 3.6V
 F = 5V +/- 10%

M28 Family

800C = 8M, x16, Boot Block
 160C = 16M, x16, Boot Block
 320C = 32M, x16, Boot Block
 640C = 64M, x16, Boot Block

M58 Family

032D = 32M, x8/x16, Uniform
 064D = 64M, x8/x16, Uniform

M29 Family

010B = 1M, x8, Uniform
 102B = 1M, x16, Boot Block
 002B = 2M, x8, Boot Block
 200B = 2M, x8/x16, Boot Block
 040B = 4M, x8, Uniform
 400B = 4M, x8/x16, Boot Block
 080A = 8M, x8, Uniform
 800A = 8M, x8/x16, Boot Block
 016D = 16M, x8, Boot Block
 017D = 16M, x8, Uniform
 160D = 16M, x8/x16, Boot Block
 032D = 32M, x8, Boot Block
 320D = 32M, x8/x16, Boot Block
 323D = 32M, x8/x16, Boot Block
 324D = 32M, x8/x16, Boot Block
 640D = 64M, x8/x16, Boot Block

Version

Silicon version or architecture option
 A
 B
 C
 D

Array Matrix

Blank = Uniform
 B = Bottom Boot
 T = Top Boot

Option

Blank = Tray tube
 T = Tape and Reel

Temperature Range

1 = Commercial (0°C to +70°C)
 3 = Extended (-40°C to +125°C)
 6 = Industrial (-40°C to +85°C)

Package

K = PLCC32
 N = TSOP
 M = S044
 Zx = FBGA

Speed

45 = 45ns
 55 = 55ns
 70 = 70ns
 90 = 90ns
 100 = 100ns
 110 = 110ns

Size	AMD Part Number	Voltage	Organization	Description	ST Equivalent	Comments
1Mb	Am29F010B	5V	x8	Uniform 16Kb sector	M29F010B	Note 1
	Am29LV001B	3V	x8	Boot Block	M29W010B	Note 1
	Am29LV010B	3V	x8	Uniform 16Kb sector	M29W010B	Note 1
2Mb	Am29F002B	5V	x8	Boot Block	M29F002B	Note 1
	Am29F002NB	5V	x8	Boot Block	M29F002BN	Note 1
	Am29F200B	5V	x8/x16	Boot Block	M29F200B	Note 1
	Am29LV002B	3V	x8	Boot Block	M29W002B	Note 1
	Am29LV200B	3V	x8/x16	Boot Block	M29F200B	Note 1
4Mb	Am29F040B	5V	x8	Uniform 64Kb sector	M29F040B	Note 1
	Am29F400B	5V	x8/x16	Boot Block	M29F400B	Note 1
	Am29LV004B	3V	x8	Boot Block	M29W004B	Note 1
	Am29LV404B	3V	x8	Uniform 64Kb sector	M29W404B	Note 1
	Am29LV400B	3V	x8/x16	Boot Block	M29W400B	Note 1
	Am29DL400B	3V	x8/x16	Dual Bank, Boot Block	M29W400B	Note 2
8Mb	Am29F080B	5V	x8	Uniform 64Kb sector	M29F080D	Note 1
	Am29F800B	5V	x8/x16	Boot Block	M29F800D	Note 1
	Am29LV008B	3V	x8	Boot Block	M29W008A	Note 1
	Am29LV800B	3V	x8/x16	Boot Block	M29W800A	Note 1
	Am29DL800B	3V	x8/x16	Dual Bank, Boot Block	AM59DR008	Note 1
16Mb	Am29F016D	5V	x8	Uniform 64Kb sector	M29F016D	Note 1
	Am29F017D	5V	x8	Uniform 64Kb sector	M29F016D	Note 1
	Am29F160D	5V	x8/x16	Boot Block	M29F160D	Note 1
	Am29LV017D	3V	x8	Uniform 64Kb sector	M29W017D	Note 1
	Am29LV160B	3V	x8/x16	Boot Block	M29W160D	Note 1
	Am29LV160D	3V	x8/x16	Boot Block	M29W160D	Note 1
	Am29DL162D	3V	x8/x16	Dual Bank, Boot Block	M29W160D	Note 2
	Am29DL163D	3V	x8/x16	Dual Bank, Boot Block	M29W160D	Note 2
	Am29DL164D	3V	x8/x16	Dual Bank, Boot Block	M29W160D	Note 2
32Mb	Am29F032B	5V	x8	Uniform 64Kb sector	M29F032D	Note 1
	Am29LV320D	3V	x8/x16	Boot Block	M29W320D	Note 1, 3
	Am29DL322D	3V	x8/x16	Dual Bank, Top/Bottom Boot Block	M29W320D	Note 1, 3
	Am29DL323D	3V	x8/x16	Dual Bank, Top/Bottom Boot Block	M29DW323D	Note 1
	Am29DL324D	3V	x8/x16	Dual Bank, Top/Bottom Boot Block	M29W320D	Note 1, 3
	Am29DL320G	3V	x8/x16	Dual Bank, Top/Bottom Boot Block	M29W320D	Note 1, 3
	Am29DL322G	3V	x8/x16	Dual Bank, Top/Bottom Boot Block	M29W320D	Note 1, 3
	Am29DL323G	3V	x8/x16	Dual Bank, Top/Bottom Boot Block	M29DW324D	Note 1
	Am29DL324G	3V	x8/x16	Dual Bank, Top/Bottom Boot Block	M29W320D	Note 1, 3

NOTES

Note 1 = Same package, pin-out and software command. Need to change device ID code

Note 2 = Drop in replacement if dual bank feature is not used

Note 3 = Different sector size

Package Cross Reference

AMD	Package Type	ST	Package Type
Wx	FBGA	Zx	FBGA
E	TSOP	E	TSOP
J	PLCC	K	PLCC
S	SO	M	SO

Temperature Range Cross Reference

AMD	Range Definition	ST	Range Definition
C	0°C to +70°C	1	0°C to +70°C
I	-40°C to +85°C	6	-40°C to +85°C
E	-55°C to +125°C	3	-40°C to +125°C

ATMEL vs ST Cross Reference

Size	ATMEL Part Number	Voltage	Organization	Description	ST Equivalent	Comment
1Mb	AT49F010	5V	x8	Bulk, Boot Block option	M29F010B	Note 1
	AT49HF010	5V	x8	Bulk, Boot Block option	M29F010B	Note 1
	AT49F1024	5V	x16	Bulk, Boot Block option	M29F102B	Note 1
	AT49BV010	3V	x8	Bulk, Boot Block option	M29W010B	Note 1
	AT49LV010	3V	x8	Bulk, Boot Block option	M29W010B	Note 1
	AT49HLV010	3V	x8	Bulk, Boot Block option	M29W010B	Note 1
	AT49HBV010	3V	x8	Bulk, Boot Block option	M29W010B	Note 1
	AT49F002	5V	x8	Boot Block	M29F002B	Note 1
2Mb	AT49F020	5V	x8	Bulk, Boot Block option	M29F002B	Note 1
	AT49F2048A	5V	x16	Boot Block	M29F200B	Note 1
	AT49F040	5V	x8	Bulk, Boot Block option	M29F040B	Note 1
4Mb	AT49F4096A	5V	x8/x16	Boot Block	M29F400BB	Note 1
	AT49LV040	3V	x8	Bulk, Boot Block option	M29W004B	Note 1
	AT49BV040	3V	x8	Bulk, Boot Block option	M29W004B	Note 1
	AT49LV4096	3V	x8/x16	Boot Block	M29W400B	Note 1
	AT49BV4096	3V	x8/x16	Boot Block	M29W400B	Note 1
	AT49F8192A	5V	x8/x16	Boot Block	M29F800D	Note 1
8Mb	AT49F080	5V	x8	Bulk, Boot Block option	M29F080D	Note 1
	AT49F8011	5V	x8/x16	Dual Bank, Boot Block	M20F800D	Note 2
	AT49BV8192A	3V	x8/x16	Boot Block	M29W800D	Note 1
	AT49LV8011	3V	x8/x16	Dual Bank, Boot Block	M29W800D	Note 2
	AT49BV8011	3V	x8/x16	Dual Bank, Boot Block	M29W800D	Note 2
	AT49LV161	3V	x8/x16	Boot Block	M29W160D	Note 1
16Mb	AT49BV161	3V	x8/x16	Boot Block	M29W160D	Note 1
	At49LV1614A	3V	x8/x16	Dual Bank, Boot Block	M29W160D	Note 2
	At49BV1614A	3V	x8/x16	Dual Bank, Boot Block	M29W160D	Note 2
	AT49LV321	3V	x8/x16	Boot Block	M29W320D	Note 1
32Mb	AT49BV321	3V	x8/x16	Boot Block	M29W320D	Note 1
	AT49BV3218	3V	x8/x16	Dual Bank, Boot Block	M29DW323D	Note 1

NOTES

Note 1 = Same package, pin-out and software command. Need to change device ID code, different sector sizes

Note 2 = Drop and replacement if dual bank feature is not used

Package Cross Reference

ATMEL	Package Type	ST	Package Type
Cx	CBGA	Zx	FBGA
T	TSOP (8x20mm)	N	TSOP
V	TSOP (8x14mm)		
J	PLCC	K	PLCC

Temperature Range Cross Reference

ATMEL	Range Definition	ST	Range Definition
C	0°C to +70°C	1	0°C to +70°C
I	-40°C to +85°C	6	-40°C to +85°C

Flash Memories Cross Reference

FUJITSU vs ST Cross Reference

Size	FUJITSU Part Number	Voltage	Organization	Description	ST Equivalent	Comments
2Mb	MBM29F002C	5V	x8	Boot Block	M29F002B	Note 1
	MBM29F200C	5V	x8/x16	Boot Block	M29F200B	Note 1
	MBM29LV200C	3V	x8/x16	Boot Block	M29W200B	Note 1
4Mb	MBM29F040C	5V	x8	Uniform 64Kb sector	M29F040B	Note 1
	MBM29F400C	5V	x8/x16	Boot Block	M29F400T	Note 1
	MBM29LV004C	3V	x8	Boot Block	M29W004B	Note 1
	MBM29LV400C	3V	x8/x16	Boot Block	M29W400B	Note 1
	MBM29DL400C	3V	x8/x16	Dual Bank, Boot Block	M29W400B	Note 2, 3
8Mb	MBM29F080A	5V	x8	Uniform 64Kb sector	M29F080A	Note 1
	MBM29F800A	5V	x8/x16	Boot Block	M29F800D	Note 1
	MBM29DL800TA	3V	x8/x16	Dual Bank, Boot Block	M29W800D	Note 2, 3
	MBM29LV800A	3V	x8/x16	Boot Block	M29W800D	Note 1
16Mb	MBM29F016A	5V	x8	Uniform 64Kb sector	M29F016B	Note 1
	MBM29LV017	3V	x8	Uniform 64Kb sector	M29W017D	Note 1
	MBM29DL16xD	3V	x8/x16	Dual Bank, Boot Block	M29W160D	Note 2, 3, 4
	MBM29DL16xE	3V	x8/x16	Dual Bank, Boot Block	M29W160D	Note 2, 3, 4
	MBM29LV160	3V	x8/x16	Boot Block	M29W160D	Note 1
	MBM29LV160E	3V	x8/x16	Boot Block	M29W160D	Note 1
32Mb	MBM29F033C	5V	x8	Uniform 64Kb sector	M29F032D	Note 5
	MBM29DL32xD	3V	x8/x16	Dual Bank, Top/Bottom Boot Block	M29W320D	Note 2, 3
	MBM29DL32xE	3V	x8/x16	Dual Bank, Top/Bottom Boot Block	M29W320D	Note 2, 3
	MBM29DL323E	3V	x8/x16	Dual Bank, Top/Bottom Boot Block	M29DW323D	Note 1
	MBM29DL323D	3V	x8/x16	Dual Bank, Top/Bottom Boot Block	M29DW323D	Note 1
	MBM29LV320E	3V	x8/x16	Boot Block	M29W320D	Note 3
64Mb	MBM29LV650UE	3V	x16	Uniform 32KW sector	M29W641D	Note 1
	MBM29LV651UE	3V	x16	Uniform 32KW sector	M29W641D	Note 1
	MBM29LV652UE	3V	x16	Uniform 32KW sector	M29W641D	Note 1

Note 1 = Same package, pin-out and software command. Need to change device ID code

Note 2 = Drop in replacement if dual bank feature is not used

Note 3 = Different sector size

Note 4 = Different functionality of WP pin (in Fujitsu it acts also as Acc pin)

Note 5 = Same package and pin-out. Slight difference for software command ("address don't care" for 1st cycle of some instruction in case of Fujitsu). Need to change device ID code

Package Cross Reference

FUJITSU	Package Type	ST	Package Type
PBT	FBGA	Zx	FBGA
TN / PFTN	TSOP	N	TSOP
PD	PLCC	K	PLCC
PF	SOP	M	SO

Temperature Range Cross Reference

No information on Fujitsu product temperature range

INTEL vs ST Cross Reference

Size	INTEL Part Number	Voltage	Organization	Description	ST Equivalent	Comment
8Mb	28F800B3	3V	x16	Boot Block	M28W800B	Note 1
	28F800C3	3V	x16	Advanced Boot Block	M28W800C	Note 1
16Mb	28F160B3	3V	x16	Boot Block	M28W160B	Note 1
	28F160C3	3V	x16	Advanced Boot Block	M28W160C	Note 1
32Mb	28F320B3	3V	x16	Boot Block	M28W320B	Note 1
	28F320B3	3V	x16	Boot Block	M28W320B	Note 1
	28F320C3	3V	x16	Advanced Boot Block	M28W320C	Note 1
	28F320C3	3V	x16	Advanced Boot Block	M28W320C	Note 1
64Mb	28F640C3	3V	x16	Advanced Boot Block	M28W640C	Note 1
	28F640W18	1.8V	x16	Multibanking	M58WR064	Note 1
	28F320J3A	3V	x8/x16	Equal sector	M58LW032D	Note 2
	28F640J3A	3V	x8/x16	Equal sector	M58LW064D	Note 2

Note 1 = Same package, pin-out and software. Need to change device ID code. For μ BGA, FBGA and VFBGA package dimensions should be taken into account for board room design

Note 2 = Fully compatible. Need to change manufacturer ID code

Package Cross Reference

INTEL	Package Type	ST	Package Type	INTEL	Package Type	ST	Package Type
0°C to 70°C		0°C to 70°C (1)		-40°C to 85°C		-40°C to 85°C (6)	
RC	Easy BGA	Zx1	FBGA	GE	VF BGA	Zx6	FBGA
E	TSOP	N1	TSOP	RC	Easy BGA		
DA	SSOP	M1	SO	TE	TSOP	N6	TSOP
				DT	SSOP	M6	SO

MICRON vs ST Cross Reference

Size	MICRON Part Number	Voltage	Organization	Description	ST Equivalent	Comment
8Mb	MT28F800B3	3V	x16	Boot Block	M28W800B	Note 1
16Mb	MT28F160A3	3V	x16	Boot Block	M28W160B	Note 1
	MT28F160C3	3V	x16	Advanced Boot Block	M28W160C	Note 1
	MT28F160C34					
32Mb	MT28F320A3	3V	x16	Boot Block	M28W320B	Note 1
	MT28F320C3	3V	x16	Advanced Boot Block	M28W320C	Note 1
	MT28F320C32					
	MT28F320A3	3V	x16	Boot Block	M28W320B	Note 1
	MT28F320C3	3V	x16	Advanced Boot Block	M28W320C	Note 1
	MT28F320C32					
64Mb	MT28F322D18	1.8V	x16	Advanced Boot Block	M58CR032	Note 1
	MT28F322D20					
	MT28F622D18	1.8V	x16	Advanced Boot Block	M58CR064	Note 1
	MT28F622D20					

Note 1 = Same package, pin-out and software. Need to change device ID code. For μ BGA, FBGA and VFBGA packages, dimension should be taken into account for board room design

Package Cross Reference

MICRON	Package Type	ST	Package Type
Fx	FBGA	Zx	FBGA
RG	TSOP56		
WG	TSOP48	N	TSOP
VG	TSOP40		
SG	SOP	M	SO

Temperature Range Cross Reference

MICRON	Range Definition	ST	Range Definition
blank	0°C to +70°C	1	0°C to +70°C
ET	-40°C to +85°C	6	-40°C to +85°C

Size	SST Part Number	Voltage	Organization	Description	ST Equivalent	Comment
1Mb	SST39SF010	5V	x8	Uniform, 4 Kbyte sector	M29F010B	Note 2
	SST39LF010	3V	x8	Uniform, 4 Kbyte sector	M29W010B	Note 2
	SST39VF010	3V	x8	Uniform, 4 Kbyte sector	M29W010B	Note 2
2Mb	SST39SF020	5V	x8	Uniform, 4 Kbyte sector	M29F002B	Note 2
	SST39LF200A	3V	x16	Uniform 32 Kword sectors	M29W200B	Note 3
	SST39VF200A	3V	x16	Uniform 32 Kword sectors	M29W200B	Note 3
4Mb	SST39SF040	5V	x8	Uniform 4 Kbyte sectors	M29F040B	Note 2
	SST39LF040	3V	x8	Uniform 4 Kbyte sectors	M29W040B	Note 2
	SST39VF040	3V	x8	Uniform 4 Kbyte sectors	M29W040B	Note 2
	SST39LF400A	3V	x16	Uniform 32 Kword sectors	M29W400B	Note 3
	SST39VF400A	3V	x16	Uniform 32 Kword sectors	M29W400B	Note 3
8Mb	SST39LF080	3V	x8	Uniform 64 Kbyte sectors	M29W080A	Note 2
	SST39VF080	3V	x8	Uniform 64 Kbyte sectors	M29W080A	Note 2
	SST39LF800A	3V	x16	Uniform 32 Kword sectors	M29W800D	Note 3
	SST39VF800A	3V	x16	Uniform 32 Kword sectors	M29W800D	Note 3
16Mb	SST39LF160	3V	x8	Uniform 64 Kbyte sectors	M29W017D	Note 2
	SST39VF160	3V	x8	Uniform 64 Kbyte sectors	M29W017D	Note 2
	SST39LF160	3V	x16	Uniform 32 Kword sectors	M29W160D	Note 3
	SST39VF160	3V	x16	Uniform 32 Kword sectors	M29W160D	Note 3
Firmware Hub/ Low Pin Count	SST49LF002A	3V	FWH	2Mb Firmware Hub Interface	M50F002	Note 4
	SST49LF004A	3V	FWH	4Mb Firmware Hub Interface	M50F004	Note 4
	SST49LF008A	3V	FWH	8Mb Firmware Hub Interface	M50F008	Note 4
	SST49LF020	3V	LPC	2Mb Standard LPC Interface	M50LPW002	Note 4
	SST49LF040A	3V	LPC	4Mb Standard LPC Interface	M50LPW040	Note 4

NOTES

Note 1 = Pin compatible functional cross for READ OPERATION only. Need software change for in-system reprogramming

Note 2 = Same package, pin-out and software command. Need to change device ID code. Different sector sizes

Note 3 = Same package, pin-out and software command. Need to change device ID code. Different sector sizes. Need to connect byte# to Vcc

Note 4 = Need software change, only compatible in PLCC32 package

Package Cross Reference

SST	Package Type	ST	Package Type
Bx	FBGA	Zx	FBGA
E	TSOP (8x20mm)	N	TSOP
W	TOSP (8x14mm)		
N	PLCC	K	PLCC
S	SOIC	M	SO

Temperature Range Cross Reference

SST	Range Definition	ST	Range Definition
C	0°C to +80°C	1	0°C to +70°C
I	-40°C to +85°C	6	-40°C to +85°C



Information furnished is believed to be accurate and reliable. However, STMicroelectronics assumes no responsibility for the consequences of use of such information nor for any infringement of patents or other rights of third parties which may result from its use. No license is granted by implication or otherwise under any patent or patent rights of STMicroelectronics. Specifications mentioned in this publication are subject to change without notice. This publication supersedes and replaces all information previously supplied. STMicroelectronics products are not authorized for use as critical components in life support devices or systems without express written approval of STMicroelectronics.

© STMicroelectronics - August 2002 - Printed in Italy - All rights reserved.

The STMicroelectronics corporate logo is a registered trademark of the STMicroelectronics group of companies.

All other names are the property of their respective owners.

LightFlash is a trademark of STMicroelectronics. Trademark applications are pending.

For selected STMicroelectronics sales offices fax:

France +33 1 55489569; Germany +49 89 4605454; Italy +39 02 8250449; Japan +81 3 57838216; Singapore +65 64815124;
Sweden +46 8 7504950; Switzerland +41 22 9292900; United Kingdom and Eire +44 1628 890391; USA +1 781 861 2678

Full product information at www.st.com

