Samsung Semiconductor, Inc.

Product Selection Guide

Memory and Storage

January 2009

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DRAM — Pages 4-14

www.samsung.com/semi/dram
- DDR3 SDRAM
- DDR2 SDRAM
- DDR
- SDRAM
- Mobile SDRAM
- RDRAM
- Graphics DDR SDRAM
- DRAM Ordering Information
- OneDRAM™: see Fusion

FLASH — Pages 15-19

www.samsung.com/semi/flash
- SLC Flash
- MLC Flash
- SD and microSD Cards
- Flash Product Ordering Information
- Solid State Drive: see Storage
- OneNAND™: see Fusion
- moviNAND™: see Fusion
- Flex-OneNAND™: see Fusion

SRAM — Pages 20 -25

www.samsung.com/semi/sram
- UtRAM
- Asynchronous SRAM
- NtRAM
- Late-write R-R SRAM
- DDR / II / II+ SRAM
- QDR / II / II+ SRAM
- Synchronous SRAM Ordering Information

MULTI-CHIP PACKAGE — Pages 26-27

www.samsung.com/semi/mcp
- NAND/DRAM
- OneNAND/DRAM
- Flex-OneNAND/DRAM
- OneNAND/DRAM/OneDRAM
- moviNAND/NAND/DRAM
- NOR/UtRAM
- NOR/DRAM
- OneDRAM/OneNAND/NAND

FUSION MEMORY — Page 28

FUSION MEMORY
www.samsung.com/semi/fusion
- OneNAND™
- Flex-OneNAND™
- moviNAND™
- OneDRAM™

STORAGE — Pages 29-33

Solid State Drives
www.samsungssd.com
- Flash Solid State Drives

Hard Disk Drives
www.samsung.com/hdd
- Hard Disk Drives

Optical Disk Drives
www.samsungodd.com
- External DVD
- Internal DVD
- Internal COMBO
- Internal CD

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SLC NAND FLASH

Family	Density	Tech	Part Number	Package Type	Org.	Vol(V)	MOQ Tray -xxxx0xx	MOQ T/R -xxx0Txx	Remarks
8Gb Based 4KB/page	64Gb DSP	51nm	K9NCG08U5M-PCB0	TSOP1	x8	3.3	960	1,000	
	32Gb QDP		K9WBG08U1M-PCB0	TSOP1	x8	3.3	960	1,000	
			K9WBG08U1M-PIB0	TSOP1	x8	3.3	960	1,000	
	16Gb DDP		K9KAG08U0M-PCB0	TSOP1	x8	3.3	960	1,000	
			K9KAG08U0M-PIB0	TSOP1	x8	3.3	960	1,000	
	8G mono		K9F8G08U0M-PCB0	TSOP1	x8	3.3	960	1,000	
			K9F8G08U0M-PIB0	TSOP1	x8	3.3	960	1,000	
4Gb Based 2KB/page	16Gb QDP	63nm	K9WAG08U1A-PCB0	TSOP1	x8	3.3	960	1,000	qualify 59nm B-die: K9WAG08U1B-PCB0000; A-die EOL:LTBO due Dec'08
			K9WAG08U1A-PIB0	TSOP1	x8	3.3	960	1,000	qualify 59nm B-die: K9WAG08U1B-PIB0000; A-die EOL: LTBO due Dec'08
			K9WAG08U1A-IIB0	ULGA	x8	3.3	960	2,000	A-die EOL: LTBO due Dec'08
		59nm	K9WAG08U1B-PCB0	TSOP1	x8	3.3	960	1,000	
			K9WAG08U1B-PIB0	TSOP1	x8	3.3	960	1,000	
			K9WAG08U1B-KIB0	ULGA HF & LF	x8	3.3	960	2,000	
	8Gb DDP	63nm	K9K8G08U0A-PCB0	TSOP1	x8	3.3	960	1,000	qualify 59nm B-die: K9K8G08U0B-PCB0000; A-die EOL: LTBO due Dec'08
			K9K8G08U0A-PIB0	TSOP1	x8	3.3	960	1,000	qualify 59nm B-die: K9K8G08U0B-PIB0000; A-die EOL: LTBO due Dec'08
			K9K8G08U1A-IIB0	ULGA	x8	3.3	960	2,000	A-die EOL/LTBO due Dec'08
		59nm	K9K8G08U0B-PCB0	TSOP1	x8	3.3	960	1,000	
			K9K8G08U0B-PIB0	TSOP1	x8	3.3	960	1,000	
			K9K8G08U1B-KIB0	ULGA HF & LF	x8	3.3	960	2,000	
	4Gb	63nm	K9F4G08U0A-PCB0	TSOP1	x8	3.3	960	1,000	qualify 59nm B-die: K9F4G08U0B-PCB0000; A-die EOL: LTBO due Dec'08
			K9F4G08U0A-PIB0	TSOP1	x8	3.3	960	1,000	qualify 59nm B-die: K9F4G08U0B-PIB0000; A-die EOL: LTBO due Dec'08
			K9F4G08U0A-IIB0	ULGA	x8	3.3	960	2,000	A-die EOL: LTBO due Dec'08
		59nm	K9F4G08U0B-PCB0	TSOP1	x8	3.3	960	1,000	
			K9F4G08U0B-PIB0	TSOP1	x8	3.3	960	1,000	
			K9F4G08U0B-KIB0	ULGA HF & LF	x8	3.3	960	2,000	
2Gb	2Gb	63nm	K9F2G08U0A-PCB0	TSOP1	x8	3.3	960	1,000	qualify 59nm B-die: K9F2G08U0B-PCB0000; A-die EOL: LTBO due Dec'08
			K9F2G08U0A-PIB0	TSOP1	x8	3.3	960	1,000	qualify 59nm B-die: K9F2G08U0B-PIB0000; A-die EOL: LTBO due Dec'08
		59nm	K9F2G08U0B-PCB0	TSOP1	x8	3.3	960	1,000	
			K9F2G08U0B-PIB0	TSOP1	x8	3.3	960	1,000	
1Gb	1Gb	63nm	K9F1G08U0B-PCB0	TSOP1	x8	3.3	960	1,000	59nm C-die coming Oct'08: K9F1G08U0C-PCB0000; B-die EOL: LTBO due Mar'09
			K9F1G08U0B-PIB0	TSOP1	x8	3.3	960	1,000	59nm C-die coming Oct'08: K9F1G08U0C-PIB0000; B-die EOL: LTBO due Mar'09
			K9F1G08R0B-JIB0	63 FBGA(9.5x12)	x8	1.8	1,120	2,000	1.8v B-die supported through 2009
		59nm	K9F1G08U0C-PCB0	TSOP1	x8	3.3	960	1,000	
			K9F1G08U0C-PIB0	TSOP1	x8	3.3	960	1,000	
512Mb	512Mb	63nm	K9F1208U0C-PCB0	TSOP1	x8	3.3	960	1,000	
			K9F1208U0C-PIB0	TSOP1	x8	3.3	960	1,000	
			K9F1208R0C-JIB0	63 FBGA(8.5x13)	x8	1.8	1,120	2,000	
			K9F1208U0C-JIB0	63 FBGA(8.5x13)	x8	3.3	1,120	2,000	
256Mb	256Mb	90nm	K9F5608U0D-PCB0	TSOP1	x8	3.3	960	1,000	
			K9F5608U0D-PIB0	TSOP1	x8	3.3	1,000	1,000	
			K9F5608R0D-JIB0	63 FBGA(9x11)	x8	1.8	1,280	2,000	
			K9F5608U0D-JIB0	63 FBGA(9x11)		3.3	1,280	2,000	

Please contact your local Samsung sales representative for latest product offerings.

Note: All parts are lead free

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FLASH PRODUCT ORDERING INFORMATION

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
K	9	X	X	X	X	X	X	X	X	-	X	X	X	X
SAMSUNG Memory	NAND Flash	Small Classification	Density	Density	Organization	Organization	Vcc	Mode	Generation	---	Package	Temp	Customer Bad Block	Pre-Program Version

FLASH

1. Memory (K)

2. NAND Flash : 9

3. Small Classification

(SLC : Single Level Cell, MLC : Multi Level Cell)

7 : SLC moviNAND
8 : MLC moviNAND
F : SLC Normal
G : MLC Normal
H : MLC QDP
K : SLC DDP
L : MLC DDP
M : MLC DSP
N : SLC DSP
P : MLC 8 Die Stack
Q : SLC 8 Die Stack
S : SLC Single SM
T : SLC SINGLE (S/B)
U : 2 Stack MSP
W : SLC 4 Die Stack

4~5. Density

12 : 512M
56 : 256M
1G : 1G
2G : 2G
4G : 4G
8G : 8G
AG : 16G BG :
32G CG : 64G
DG : 128G
EG : 256G
LG : 24G
NG : 96G
ZG : 48G
00 : NONE

6~7. Organization

00 : NONE
08 : x8
16 : x16

8. Vcc

A : 1.65V~3.6V B : 2.7V (2.5V~2.9V)
C : 5.0V (4.5V~5.5V) D : 2.65V (2.4V~2.9V)
E : 2.3V~3.6V R : 1.8V (1.65V~1.95V)
Q : 1.8V (1.7V~1.95V) T : 2.4V~3.0V
U : 2.7V~3.6V V : 3.3V (3.0V~3.6V)
W : 2.7V~5.5V, 3.0V~5.5V 0 : NONE

9. Mode

0 : Normal
1 : Dual nCE & Dual R/nB
3 : Tri /CE & Tri R/B
4 : Quad nCE & Single R/nB
5 : Quad nCE & Quad R/nB
9 : 1st block OTP
A : Mask Option 1
L : Low grade

10. Generation

M : 1st Generation
A : 2nd Generation
B : 3rd Generation
C : 4th Generation
D : 5th Generation

11. " ----"

12. Package

A : COB
B : FBGA (Halogen-Free, Lead-Free)
C : CHIP BIZ D : 63-TBGA
F : WSOP (Lead-Free) G : FBGA
H : TBGA (Lead-Free)
I : ULGA (Lead-Free) (12*17)
J : FBGA (Lead-Free)
L : ULGA (Lead-Free) (14*18)
M : TLGA N : TLGA2
P : TSOP1 (Lead-Free)
Q : TSOP2 (Lead-Free)
S : TSOP1 (Halogen-Free, Lead-Free)
T : TSOP2 U : COB (MMC)
V : WSOP W : Wafer
Y : TSOP1 Z : WELP (Lead-Free)

13. Temp

C : Commercial I : Industrial
0 : NONE (Containing Wafer, CHIP, BIZ, Exception handling code)

14. Customer Bad Block

B : Include Bad Block
D : Daisychain Sample
L : 1~5 Bad Block
N : ini. 0 blk, add. 10 blk
S : All Good Block
0 : NONE (Containing Wafer, CHIP, BIZ, Exception handling code)

15. Pre-Program Version

0 : None
Serial (1~9, A~Z)

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