



Samsung Semiconductor, Inc.
Product Selection Guide

Memory and Storage
January 2009




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

DRAM

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

FLASH

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

SRAM

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

MCP

FUSION MEMORY

Page 28

FUSION MEMORY

www.samsung.com/semi/fusion

- OneNAND™
- Flex-OneNAND™
- moviNAND™
- OneDRAM™

FUSION

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

STORAGE

SLC NAND FLASH

Family	Density	Tech	Part Number	Package Type	Org.	Vol(V)	MOQ		Remarks
							Tray	T/R	
							-xxxx0xx	-xxx0Txx	
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	
	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

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														Pre-Program Version
NAND Flash														Customer Bad Block
Small Classification														Temp
Density														Package
Density														---
Organization														Generation
Organization														Mode
Vcc														

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)