

NOR-Flash Code Information(1/5)

Last Updated : October 2008

K	8	X	X	X	X	X	X	X	X	-	X	X	X	X	X	X	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18

1. Memory (K)

2. NOR Flash : 8

3. Small Classification

- 5 : Dual Bank Die Stack
- 6 : Single Bank Die Stack
- 7 : Multiplexed DDP
- 8 : De-Multiplexed DDP
- A : De-Multiplexed Burst
- B : Single Bank Boot Block
- C : MLC De-Muxed
- D : Dual Bank Boot Block
- E : ECC Muxed
- F : MLC Muxed
- G : MLC De-Multiplexed DDP
- H : MLC Multiplexed DDP
- J : MLC, Simple Command Type, Muxed
- K : MLC, Simple Command Type, Demuxed
- M : ECC Demuxed
- P : Page Mode
- Q : Page Mode DDP
- S : Multiplexed Burst
- U : Single Bank Uniform Block

4~5. Density

- Dual Bank Die Stack
 - 64 : 64M, 3232 / 824
 - 65 : 64M, 3232 / 1616
- Single Bank Die Stack
 - 27 : 128M, 2CS
 - 64 : 64M, 32M / 32M
- Multiplexed DDP
 - 11 : 512M, 1CS / 32Bank
 - 13 : 512M, 2CS
 - 56 : 256M, 16Bank
 - 1G : 1G, 16Bank
- De-Multiplexed DDP
 - 12 : 512M, 16Bank
 - 13 : 512M, 2CS
 - 56 : 256M, 16Bank
 - 1G : 1G, 16Bank

- De-Multiplexed Burst

- 12 : 512, 16Bank
- 26 : 128M, 8M / 16Bank / 6⁶⁾
- 27 : 128M, 8M / 16Bank / 7⁷⁾
- 28 : 128M, 8M / 16Bank
- 29 : 128M, 8M / 16Bank / 8⁸⁾
- 30 : 32M, 2M / 16Bank / 6⁶⁾
- 31 : 32M, 2M / 16Bank / 7⁷⁾
- 32 : 32M, 2M / 16Bank
- 33 : 32M, 2M / 16Bank / 8⁸⁾
- 56 : 256M, 16Bank
- 62 : 64M, 4M / 16Bank / 6⁶⁾
- 63 : 64M, 4M / 16Bank / 7⁷⁾
- 64 : 64M, 4M / 16Bank
- 65 : 64M, 4M / 16Bank / 8⁸⁾

- Single Bank Boot Block

- 16 : 16M
- 27 : 128M, 2CS
- 28 : 128M
- 32 : 32M
- 64 : 64M
- 80 : 8M

- MLC De-Muxed

- 10 : 512M, 16Bank / 3³⁾
- 11 : 512M, 16Bank / 4⁴⁾
- 12 : 512M, 16Bank / 1¹⁾
- 13 : 512M, 16Bank / 2²⁾
- 54 : 256M, 16Bank / 3³⁾
- 55 : 256M, 16Bank / 4⁴⁾
- 56 : 256M, 16Bank / 1¹⁾
- 57 : 256M, 16Bank / 2²⁾
- 1G : 1G, 16Bank

- Dual Bank Boot Block (Bank1, Bank2)

- 15 : 16M, 2M / 14M
- 16 : 16M, 4M / 12M
- 17 : 16M, 8M / 8M
- 32 : 32M, 8M / 24M
- 33 : 32M, 16M / 16M
- 62 : 64M, 8M / 56M
- 63 : 64M, 16M / 48M
- 64 : 64M, 24M / 40M
- 65 : 64M, 32M / 32M

Notes

- 1) Frequency : 66/83 MHz
 - 2) Frequency : 108/133 MHz
 - 3) Frequency : 66/83 MHz, MRS Sync Burst
 - 4) Frequency : 108/133 MHz, MRS Sync Burst
 - 5) Frequency : 54 MHz
 - 6) MRS Sync burst only
 - 7) Enhanced block protection only
 - 8) MRS Sync burst & Enhanced block protection
- * CS : Chip Select

NOR-Flash Code Information(2/5)

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K 8 X X X X X X X X - X X X X X X X X
 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18

- MLC Muxed

10 : 512M, 16Bank / 3³⁾ 11 : 512M, 16Bank / 4⁴⁾
 12 : 512M, 16Bank / 1¹⁾ 13 : 512M, 16Bank / 2²⁾
 54 : 256M, 6Bank / 3³⁾ 55 : 256M, 16Bank / 4⁴⁾
 56 : 256M, 16Bank / 1¹⁾ 57 : 256M, 16Bank / 2²⁾
 1G : 1G, 16Bank

- MLC De-Multiplexed DDP

11 : 512M, 1CS / 32Bank / 1¹⁾
 12 : 512M, 1CS / 32Bank / 2²⁾
 13 : 512M, 2CS / 1¹⁾ 14 : 512M, 2CS / 2²⁾

- MLC Multiplexed DDP

11 : 512M, 1CS / 32Bank / 1¹⁾
 12 : 512M, 1CS / 32Bank / 2²⁾
 13 : 512M, 2CS / 1¹⁾
 14 : 512M, 2CS / 2²⁾

- Flex-NOR Muxed

11 : 512M, 8Bank / 5⁵⁾ 12 : 512M, 8Bank / 1¹⁾
 13 : 512M, 8Bank / 2²⁾ 55 : 256M, 8Bank / 5⁵⁾
 56 : 256M, 8Bank / 1¹⁾ 57 : 256M, 8Banks / 2²⁾
 1F : 1G, 8Bank / 5⁵⁾ 1G : 1G, 8Bank / 1¹⁾
 1H : 1G, 8Bank / 2²⁾

- Flex-NOR Demuxed

11 : 512M, 8Bank / 5⁵⁾ 12 : 512M, 8Bank / 1¹⁾
 13 : 512M, 8Bank / 2²⁾ 55 : 256M, 8Bank / 5⁵⁾
 56 : 256M, 8Bank / 1¹⁾ 57 : 256M, 8Bank / 2²⁾
 1F : 1G, 8Bank / 5⁵⁾ 1G : 1G, 8Bank / 1¹⁾
 1H : 1G, 8Bank / 2²⁾

Notes

- 1) Frequency : 66/83 MHz
- 2) Frequency : 108/133 MHz
- 3) Frequency : 66/83 MHz, MRS Sync Burst
- 4) Frequency : 108/133 MHz, MRS Sync Burst
- 5) Frequency : 54 MHz
- 6) MRS Sync burst only
- 7) Enhanced block protection only
- 8) MRS Sync burst & Enhanced block protection

* CS : Chip Select

- Page Mode

16 : 16M, 4Bank 17 : 16M, 8Bank
 28 : 128M, 4Bank
 29 : 128M, 2CS / 4Bank 32 : 32M, 4Bank
 33 : 32M, 8Bank 55 : 256M, 1Bank
 56 : 256M, 4Bank 64 : 64M, 4Bank
 65 : 64M, 8Bank

- Page Mode DDP

28 : 128M, 8Bank

- Multiplexed Burst

12 : 512M, 16Bank
 26 : 128M, 8M / 16Bank / 6
 27 : 128M, 8M / 16Bank / 7
 28 : 128M, 8M / 16Bank
 29 : 128M, 8M / 16Bank / 8
 30 : 32M, 2M / 16Bank / 6
 31 : 32M, 2M / 16Bank / 7
 32 : 32M, 16Bank
 33 : 32M, 2M / 16Bank / 8
 56 : 256M, 16Bank
 62 : 64M, 4M / 16Bank / 6
 63 : 64M, 4M / 16Bank / 7
 64 : 64M, 4M / 16Bank
 65 : 64M, 4M / 16Bank / 8

- Single Bank Uniform Block

16 : 16M 27 : 128M, 2CS 28 : 128M
 32 : 32M 64 : 64M 80 : 8M

- ECC Muxed

12 : 512M, 16Bank/1 13 : 512M, 16Bank/2

6~7. Organization

08 : x8 15 : x16
 16 : x8 / x16 32 : x16 / x32

NOR-Flash Code Information(3/5)

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<u>K</u>	<u>8</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>-</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18

8. Vcc

8 : 1.8V (1.7~1.9V) E : 1.8V (1.7V~1.95V)
 F : 1.8V / Vio3.0V (2.2~3.3V)
 K : 2.8V (2.5V~3.1V) L : 1.8V (1.65V~1.95V)
 R : 2.0V (1.8V~2.2V) S : 2.5V (2.3V~2.7V)
 U : 3.0V / 3.3V (2.7V~3.6V) V : 3.0V (2.7~3.1V)
 Y : 3.0V (2.7V~3.3V)

9. Device Type

1 : 4M SRAM MCP
 2 : 8M SRAM MCP
 3 : 16M SRAM MCP
 4 : 128M SDR H-Die MCP
 5 : 16M UtRAM MCP
 6 : 32M UtRAM MCP
 7 : 128M DDR MCP
 8 : OneNAND, SDRAM MCP
 9 : 128M MDD
 A : 8M Boot Block MCP (Top)
 B : Bottom Boot Block
 C : BootBlock (Chip1-bot, Chip-2-top)
 D : 16M Boot Block MCP (Top)
 E : 16M Boot Block MCP (Bottom)
 F : 16M Dual Bank MCP (Top)
 G : 16M Dual Bank MCP (Bottom)
 H : 32M Dual Bank MCP (Top)
 I : 32M Dual Bankxxxx MCP (Bottom)
 J : 64M Dual Bank MCP (Top)
 K : 64M Dual Bank MCP (Bottom)
 L : 4M Boot Block MCP (Top)
 M : Top Boot Block in DDP
 N : Bottom Boot Block in DDP
 P : 256M DDR MCP
 Q : Top and Bottom Boot Block
 R : Uniq ID (Top Boot Block)
 S : Uniq ID (Bottom Boot Block)
 T : Top Boot Block
 U : Uniform Block (New Process)
 V : Uniform Block, Low Block Protection
 Y : 64M UtRAM MCP
 Z : Uniform Block

10. Generation

M : 1st Generation A : 2nd Generation
 B : 3rd Generation C : 4th Generation
 D : 5th Generation E : 6th Generation
 F : 7th Generation

11. "—"

12. Package

1 : MCP C : CHIP BIZ
 D : FBGA (Lead-Free)
 E : FBGA (Lead-Free, 1.0mm pitch)
 F : FBGA
 H : FBGA (Lead-Free, OSP, Halogen-Free)
 L : TBGA (Lead-Free)
 P : TSOP1 (Lead-Free)
 S : FBGA (Lead-Free, OSP) T : TBGA
 U : FBGA (OSP) W : WAFER
 Y : TSOP1

13. Temp

0 : NONE C : Commercial
 E : Extended I : Industrial

NOR-Flash Code Information(4/5)

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<u>K</u>	<u>8</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	-	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18

14~15. Speed

- | | |
|--|-----------|
| 03 : 85ns | 07 : 70ns |
| 08 : 80ns | 09 : 90ns |
| 12 : 120ns | |
| 1A : 100ns (C/F 40MHz) | |
| 1B : 100ns (C/F 54MHz) | |
| 1C : 100ns (C/F 66MHz) | |
| 1D : 100ns (C/F 83MHz) | |
| 1E : 100ns (C/F 108MHz) | |
| 1F : 100ns (C/F 133MHz) | |
| 2A : 70ns/20ns (Page) | |
| 2B : 80ns/25ns (Page) | |
| 2C : 90ns/30ns (Page) | |
| 2D : 85ns/25ns (Page) | |
| 4A : 55ns/20ns (Page) | |
| 4B : 60ns/25ns (Page) | |
| 4C : 65ns/25ns (Page) | |
| 4D : 70ns/30ns (Page) | |
| 4E : 80ns/30ns (Page) | |
| 5A : 96ns (J/K 54MHz) | |
| 5B : 96ns (J/K 66MHz) | |
| 5C : 96ns (J/K 83MHz) | |
| 5D : 96ns (J/K 108MHz) | |
| 5E : 96ns (J/K 133MHz) | |
| 6F : 66ns (C/F 133MHz) | |
| 7A : 70ns (C/F 75MHz) | |
| 7B : 88.5ns (C/F 54MHz) | |
| 7C : 70ns (C/F 66MHz) | |
| 7D : 70ns (C/F 80MHz) | |
| 7E : 70ns (C/F 108MHz) | |
| 9A : 90ns (C/F 40MHz) | |
| 9B : 95ns (C/F 66MHz) | |
| 9C : 90ns (C/F 54MHz) | |
| 9D : 90ns (C/F 80MHz) | |
| DS : Daisychain Sample | |
| 00 : NONE (Containing Exception handling code) | |

NOR-Flash Code Information(5/5)

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<u>K</u>	<u>8</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>-</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18

16. Packing Type

- Common to all products, except of Mask ROM
- Divided into TAPE & REEL(In Mask ROM, divided into TRAY, AMMO Packing Separately)

Divide	Packing Type	New Marking
Component	TAPE & REEL	T
	Other (Tray, Tube, Jar)	0 (Number)
	Stack	S
Module	MODULE TAPE & REEL	P
	MODULE Other Packing	M

17~18. Customer "Customer List Reference"