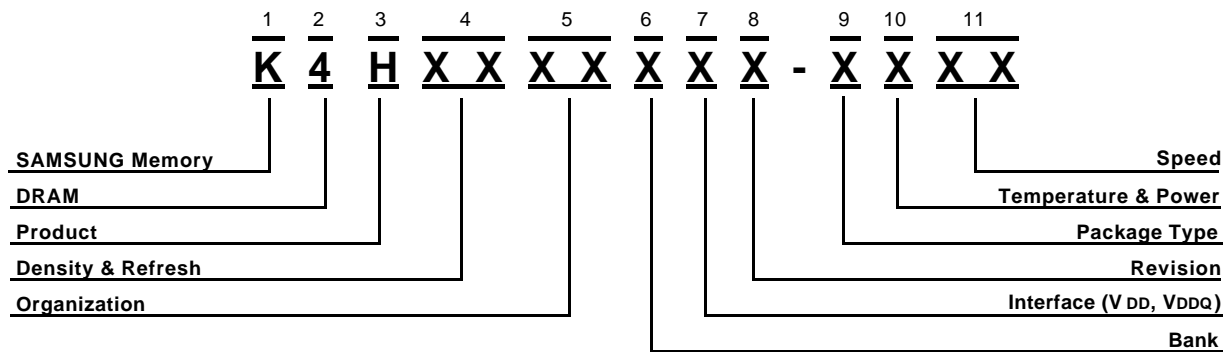


# **PC2700 Unbuffered DIMM Product Guide (PC2700 gerber base)**

**June. 2002**

**Memory Division**

## A. DDR SDRAM Component Ordering Information



## 1. SAMSUNG Memory : K

## 2. DRAM : 4

## 3. Product

H : DDR SDRAM

## 4. Density &amp; Refresh

64 : 64Mb, 4K/64ms  
 28 : 128Mb, 4K/64ms  
 56 : 256Mb, 8K/64ms  
 51 : 512Mb, 8K/64ms  
 1G: 1Gb, 8K/64ms

## 5. Organization

04 : x 4  
 06 : x 4 Stack (Flexframe)  
 07 : x 8 Stack (Flexframe)  
 08 : x 8  
 16 : x16  
 32 : x32

## 6. Bank

3 : 4 Banks

7. Interface ( V<sub>DD</sub>, V<sub>DDQ</sub>)

8 : SSTL-2 (2.5V, 2.5V)

## 8. Revision

M : 1st Gen.  
 A : 2nd Gen.  
 B : 3rd Gen.  
 C : 4th Gen.  
 D : 5th Gen.  
 E : 6th Gen.

## 9. Package Type

T : TSOP II (400mil x 875mil)  
 K : DDP TSOP II (400mil)  
 G : FBGA  
 U : 400 mil Pb free(66pin TSOP II)  
 N : sTSOP

## 10. Temperature &amp; Power

C : Commercial Normal ( 0°C ~ 70°C)  
 L : Commercial Low ( 0°C ~ 70°C)  
 E : Extended, Normal ( -25°C ~ 85°C)  
 N : Extended, Low ( -25°C ~ 85°C)  
 I : Industrial, Normal ( -40°C ~ 85°C)  
 P : Industrial, Low ( -40°C ~ 85°C)

## 11. Speed

C4 : DDR400 (200MHz @ CL=3)  
**B3** : DDR333 (166MHz @ CL=2.5)  
 A2 : DDR266A (133MHz @ CL=2)  
 B0 : DDR266B (133MHz @ CL=2.5)  
 A0 : DDR200 (100MHz @ CL=2)

## B. DDR SDRAM Component Product Guide

Density	Banks	Part Number	Power <sup>*1</sup> (-C/-L) & Speed <sup>*3</sup>	Org.	Interface	Ref.	Power (V)	PKG	Avail.	
128Mb D-die	4 Banks	K4H280838D	T <sup>*2</sup> CB3/CA2/CB0/CA0, T <sup>*2</sup> LB3/LA2/LB0/LA0 U <sup>*2</sup> CB3/CA2/CB0/CA0	16M x 8	SSTL_2	4K/ 64ms	2.5 ± 0.2V	66pin TSOP II	Now	
		K4H281638D	T <sup>*2</sup> CB3/CA2/CB0/CA0, T <sup>*2</sup> LB3/LA2/LB0/LA0	8M x 16						
256Mb D-die		K4H560838D	T <sup>*2</sup> CB3/CA2/CB0/CA0, T <sup>*2</sup> LB3/LA2/LB0/LA0	32M x 8		8K/ 64ms			Pb free (TSOP II)	Now
			U <sup>*2</sup> CB3/CA2/CB0/CA0							

Note 1:

Temperature & Power	Description
C	Commercial Temperature, Normal Power
L	Commercial Temperature, Low Power
I	Industrial Temperature, Normal Power
P	Industrial Temperature, Low Power
E	Extended Temperature, Normal Power
N	Extended Temperature, Low Power

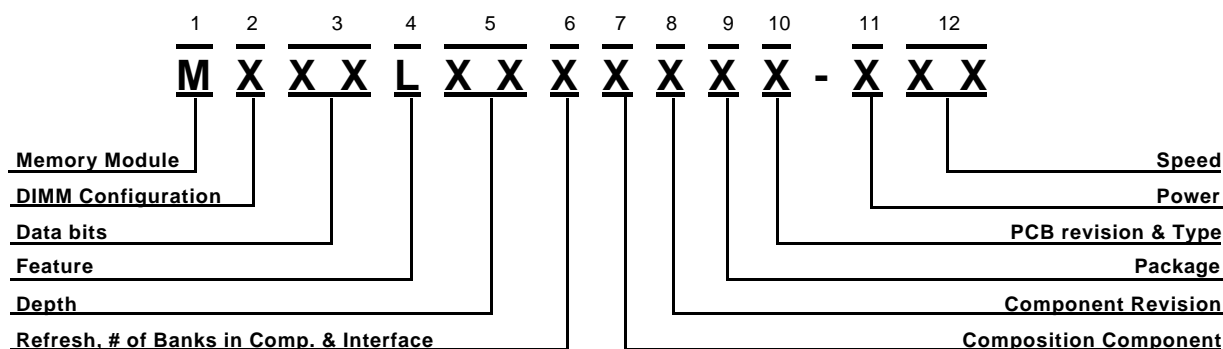
Note 2:

T : TSOP II (400mil x 875mil)  
 K : DDP TSOP II (400mil)  
 G : 60ball FBGA  
 U : 400mil Pb free(66pin TSOP II)

Note 3:

	100Mhz	133Mhz	166Mhz
CL = 2	DDR200 (A0)	DDR266A (A2)	-
CL = 2.5	-	DDR266B (B0)	DDR333 (B3)

## C. DDR SDRAM Module Ordering Information



## 1. Memory Module : M

## 2. DIMM Configuration

3 : DIMM  
4 : SODIMM

## 3. Data Bits

68 : x64 184pin Unbuffered DIMM  
81 : x72 184pin ECC unbuffered DIMM  
83 : x72 184pin Registered DIMM  
12 : x72 184pin Low Profile Registered DIMM  
70 : x64 200pin Unbuffered SODIMM  
63 : x64 172pin Unbuffered ?SODIMM  
85 : x72 200pin Unbuffered ?SODIMM

## 4. Feature

L : DDR SDRAM (2.5V VDD)

## 5. Depth

01 : 1M                      02 : 2M  
04 : 4M  
08 : 8M                      09 : 8M (for 128Mb/512Mb)  
16 : 16M                     17 : 16M (for 128Mb/512Mb)  
32 : 32M                     33 : 32M (for 128Mb/512Mb)  
64 : 64M                     65 : 64M (for 128Mb/512Mb)  
28 : 128M                    29 : 128M (for 128Mb/512Mb)  
56 : 256M

## 6. Refresh, # of Banks in comp. &amp; Interface

1 : 4K/ 64ms Ref., 4Banks & SSTL-2  
2 : 8K/ 64ms Ref., 4Banks & SSTL-2

## 7. Composition Component

0 : x 4  
3 : x 8  
4 : x16  
8 : x 4 Stack (Flexframe)

## 8. Component Revision

M : 1st Gen.                      A : 2nd Gen.  
B : 3rd Gen.                     C : 4th Gen.  
D : 5th Gen.                     E : 6th Gen.

## 9. Package

T : TSOP II (400mil x 875mil)  
K : DDP TSOP II (400mil)  
N : sTSOP

## 10. PCB Revision &amp; Type

0 : Mother PCB                      1 : 1st Rev.  
2 : 2nd Rev.                        3 : 3rd Rev.  
L/S : 4th Rev.(UB-DIMM/R-DIMM)  
M/T : 5th Rev.(UB-DIMM/R-DIMM)

## 11. Power

C : Commercial Normal ( 0°C ~ 70°C)  
L : Commercial Low ( 0°C ~ 70°C)

## 12. Speed

C4 : DDR400 (200MHz @ CL=3)  
B3 : DDR333 (166MHz @ CL=2.5)  
A2 : DDR266A (133MHz @ CL=2)  
B0 : DDR266B (133MHz @ CL=2.5)  
A0 : DDR200 (100MHz @ CL=2)

## D. PC2700 Unbuffered DIMM Product Guide(PC2700 gerber base)

Org.	Density	Part Number	Product Label	Speed	Composition	Comp. Version	Voltage	Internal Banks	External Banks	PKG	Feature	Avail.
184Pin DDR Unbuffered DIMM												
16Mx 64	128MB	M368L1624DTM	PC2700U-25330-C3	CB3	16Mx 16 * 4pcs	256Mb 5th	2.5V ±0.2V	4	1	66pin TSOP-II	SS,1250mil	Now
		M368L1713DTM	PC2700U-25330-A1	CB3	16Mx 8 * 8pcs	128Mb 5th			1		SS,1250mil	Now
16Mx 72		M381L1713DTM	PC2700U-25330-A1	CB3	16Mx 8 * 9pcs	128Mb 5th			1		SS,1250mil	Now
32Mx 64	256MB	M368L3313DTM	PC2700U-25330-B2	CB3	16Mx 8 * 16pcs	128Mb 5th			2		DS,1250mil	Now
		M368L3223DTM	PC2700U-25330-A1	CB3	32Mx 8 * 8pcs	256Mb 5th			1		SS,1250mil	Now
		M381L3313DTM	PC2700U-25330-B2	CB3	16Mx 8 * 18pcs	128Mb 5th			2		DS,1250mil	Now
		M381L3223DTM	PC2700U-25330-A1	CB3	32Mx 8 * 9pcs	256Mb 5th			1		SS,1250mil	Now
64Mx 64	512MB	M368L6423DTM	PC2700U-25330-B2	CB3	32Mx 8 * 16pcs	256Mb 5th			2		DS,1250mil	Now
64M x72		M381L6423DTM	PC2700U-25330-B2	CB3	32Mx 8 * 18pcs	256Mb 5th			2		DS,1250mil	Now