DDR3 SDRAM PART NUMBERING

H 5 T Q XX X X X X X - XX X
1 2 3 4 5 6 7 8 9 10 11 12 13 14

SK Hynix MEMORY

PRODUCT FAMILY

5 : DRAM

PRODUCT MODE

T : DDR3 SDRAM

POWER SUPPLY

Q : VDD=1.5V & VDDQ=1.5V
C : VDD=1.35V & VDDQ=1.35V

DENSITY & REFRESH

51 : 512Mb, 8K/64ms Refresh
1G : 1Gb, 8K/64ms Refresh
2G : 2Gb, 8K/64ms Refresh
4G : 4Gb, 8K/64ms Refresh
8G : 8Gb, 8K/64ms Refresh

ORGANIZATION

4 : x4
8 : x8
6 : x16

NUMBER OF BANKS

3 : 8 Banks
4 : 16 Banks

DIE GENERATION

M : 1st
A : 2nd
B : 3rd
C : 4th
D : 5th
E : 6th
F : 7th
G : 8th

OPERATING TEMPERATURE & POWER CONSUMPTION

C : Commercial Temp[1] & Normal Power
L : Commercial Temp[1] & Low Power
I : Industrial Temp[2] & Normal Power
K : Automotive Temp[3] & Normal Power
A : Commercial Temp[1] & 1.35 VDD
J : Industrial Temp[2] & Low Power

SPEED(tCL-tRCD-tRP)

TE : DDR3-2133 14-14-14
RD : DDR3-1866 13-13-13
PB : DDR3-1600 11-11-11
H9 : DDR3-1333 9-9-9
G7 : DDR3-1066 7-7-7

PACKAGE MATERIAL

P : Lead Free (ROHS[4] compliant)
R : Lead Free & Halogen Free (ROHS[4] compliant)

PACKAGE TYPE

F : FBGA SDP (Single Die Package)

Note:
1) Commercial Temperature: 0°C ~ 85°C
2) Industrial Temperature: -40°C ~ 95°C
3) Automotive Temperature: -40°C ~ 105°C
4) ROHS : Restriction Of Hazardous Substances

FOR UNDERSTANDING OPERATING TEMPERATURE & POWER CONSUMPTION

H 5 T Q XX X X X X X - XX X

The last digit has 2 different information regarding Operation Temperaure and Power Consumption. The following tables show for each combination of symbols. The main difference between 1.5V and 1.35V is the combination result of Commercial Temp and Normal Temp. "C" for 1.5V and "A" for 1.35V.

1.5V

	Commercial Temp[1)]	Industrial Temp[2)]	Automotive Temp[3)]
Normal Power	C	I	K
Low Power (Screened IDD6)	L	J	N/A

1.35V

	Commercial Temp	Industrial Temp	Automotive Temp
Normal Power	A	I	K
Low Power (Screened IDD6)	L	J	N/A

EXAMPLE 1) **1.5V DDR3 2Gb x8 D-die 1866Mbps**

	Commercial Temp	Industrial Temp	Automotive Temp
Normal Power	H5TQ2G83DFR-RDC	H5TQ2G83DFR-RDI	H5TQ2G83DFR-RDK
Low Power (Screened IDD6)	H5TQ2G83DFR-RDL	H5TQ2G83DFR-RDJ	N/A

EXAMPLE 2) **1.35V DDR3L 2Gb x8 D-die 1866Mbps**

	Commercial Temp	Industrial Temp	Automotive Temp
Normal Power	H5TC2G83DFR-RDA	H5TC2G83DFR-RDI	H5TC2G83DFR-RDK
Low Power (Screened IDD6)	H5TC2G83DFR-RDL	H5TC2G83DFR-RDJ	N/A

Note:
1) Commercial Temperature: 0°C ~ 85°C
2) Industrial Temperature: -40°C ~ 95°C
3) Automotive Temperature: -40°C ~ 105°C

DDR3 SDRAM PART NUMBERING

HY XX X XX X X X X X X X - XX X

SK Hynix MEMORY

PRODUCT FAMILY

5T : DDR3 SDRAM

PROCESS & POWER SUPPLY

Q : VDD=1.5V & VDDQ=1.5V

DENSITY & REFRESH

12 : 512Mb, 8K/64ms Refresh
1G : 1Gb, 8K/64ms Refresh
2G : 2Gb, 8K/64ms Refresh

ORGANIZATION

4 : x4
8 : x8
16 : x16

NUMBER of BANK

3 : 8 Banks
4 : 16 Banks

INTERFACE

1 : SSTL_15

TEMPERATURE

Blank : Commercial (0℃~85℃)
I : Industrial (-40℃~95℃)

SPEED(tCL-tRCD-tRP)

H7 : DDR3-1333 7-7-7
H8 : DDR3-1333 8-8-8
H9 : DDR3-1333 9-9-9
G6 : DDR3-1066 6-6-6
G7 : DDR3-1066 7-7-7
G8 : DDR3-1066 8-8-8
S5 : DDR3-800 5-5-5
S6 : DDR3-800 6-6-6

PACKAGE MATERIAL

P : All Lead Free [1)] (RoHS compliant)

PACKAGE TYPE

F : FBGA Single Die

POWER CONSUMPTION

N : Normal
L : Low Self Refresh Power
K : Reduced Power

DIE GENERATION

Z : 1st Gen.
A : 2nd Gen.
B : 3rd Gen.
C : 4th Gen.
D : 5th Gen.
E : 6th Gen.
F : 7th Gen.
G : 8th Gen.

Notes)

1. All Lead-free and RoHS compliant ~ RoHS: Restriction of Hazardous Substance

2. All DDR3 partnumber may also be changed by the result of nomenclature revision in progress