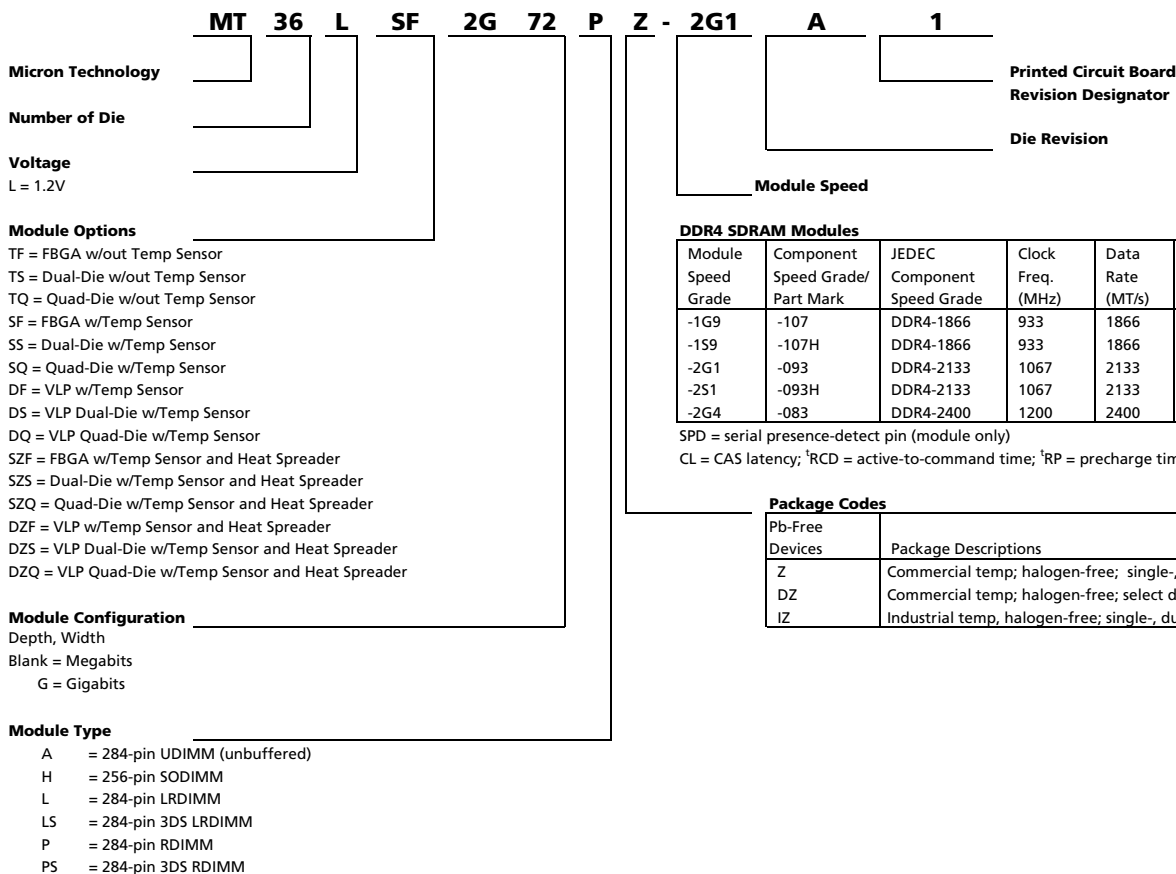


DDR4 Module Part Numbering System

The part numbering system is available at www.micron.com/numbering

DDR4 SDRAM modules



DDR4 SDRAM Modules

Module Speed	Component Speed Grade/Part Mark	JEDEC Component Speed Grade	Clock Freq. (MHz)	Data Rate (MT/s)	Module Bandwidth	Module Configuration SPD (CL- ¹ RCD- ¹ RP)
-1G9	-107	DDR4-1866	933	1866	PC4-1866	13-13-13
-1S9	-107H	DDR4-1866	933	1866	PC4-1866	14-13-13
-2G1	-093	DDR4-2133	1067	2133	PC4-2133	14-14-14
-2S1	-093H	DDR4-2133	1067	2133	PC4-2133	15-14-14
-2G4	-083	DDR4-2400	1200	2400	PC4-2400	16-16-16

SPD = serial presence-detect pin (module only)

CL = CAS latency; ¹RCD = active-to-command time; ¹RP = precharge time

Package Codes

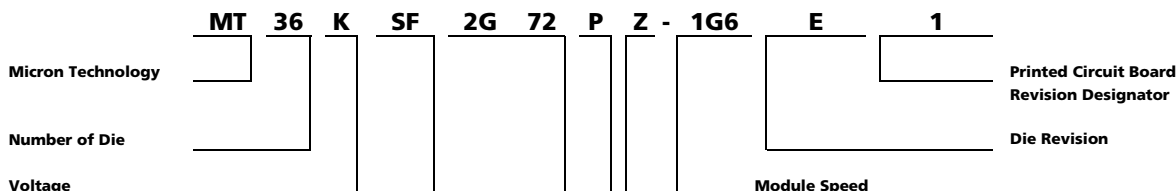
Pb-Free Devices	Package Descriptions
Z	Commercial temp; halogen-free; single-, dual-, quad- or octal-rank DIMM
DZ	Commercial temp; halogen-free; select dual-, quad- or octal-rank DIMM
IZ	Industrial temp, halogen-free; single-, dual- or quad-rank DIMM



DDR3 Module Part Numbering System

The part numbering system is available at www.micron.com/numbering

DDR3 SDRAM modules



Voltage
 J = 1.5V
 K = 1.35V
 M = 1.35V Reduced IDD6

Module Options

TF = FBGA
 TS = DDP (dual die in package)
 TQ = QDP (quad die in package)
 SF = FBGA with Temp Sensor
 SS = DDP with Temp Sensor
 SQ = QDP with Temp Sensor
 BF = VLP (17.9mm) with Temp Sensor
 BS = VLP (17.9mm) DDP with Temp Sensor
 BQ = VLP (17.9mm) QDP with Temp Sensor
 DF = VLP (18.75mm) with Temp Sensor
 DS = VLP (18.75mm) DDP with Temp Sensor
 DQ = VLP (18.75mm) QDP with Temp Sensor
 GF = 1.5U height with Temp Sensor
 HF = 2U height with Temp Sensor
 SZF = FBGA with Temp Sensor and Heat Spreader
 SZS = DDP with Temp Sensor and Heat Spreader
 SZQ = QDP with Temp Sensor and Heat Spreader
 BZF = VLP (17.9mm) with Temp Sensor and Heat Spreader
 BZS = VLP (17.9mm) DDP with Temp Sensor and Heat Spreader
 BZQ = VLP (17.9mm) QDP with Temp Sensor and Heat Spreader
 DYS = VLP (18.75mm) DDP with Temp Sensor and Alternate Heat Spreader
 DZF = VLP (18.75mm) with Temp Sensor and Heat Spreader
 DZS = VLP (18.75mm) DDP with Temp Sensor and Heat Spreader
 DZQ = VLP (18.75mm) QDP with Temp Sensor and Heat Spreader
 CZS = VLP (19.5mm) DDP with Temp Sensor and Heat Spreader
 CZQ = VLP (19.5mm) QDP with Temp Sensor and Heat Spreader

Module Configuration

Depth, Width
 Blank = Megabits
 G = Gigabits

Module Type

Blank = 240-pin registered DIMM
 A = 240-pin unbuffered DIMM
 H = 204-pin SODIMM
 P = 240-pin parity RDIMM
 L = 240-pin LRDIMM
 HS = 204-pin 3DS SODIMM
 LS = 240-pin 3DS LRDIMM
 PS = 240-pin 3DS RDIMM
 AK = 244-pin unbuffered miniDIMM
 PK = 244-pin parity miniRDIMM

DDR3 SDRAM Modules

Module Speed Grade	Component Speed Grade/ Part Mark	JEDEC Component Speed Grade	Clock Freq. (MHz)	Data Rate (MT/s)	Module Bandwidth	Module Configuration SPD (CL ¹ -RCD ² -RP)
-80B	-25	DDR3-800	400	800	PC3-6400	6-6-6
-80C	-25E	DDR3-800	400	800	PC3-6400	5-5-5
-1G0	-187	DDR3-1066	533	1066	PC3-8500	8-8-8
-1G1	-187E	DDR3-1066	533	1066	PC3-8500	7-7-7
-1G2	-187F	DDR3-1066	533	1066	PC3-8500	6-6-6
-1G3	-15	DDR3-1333	667	1333	PC3-10600	10-10-10
-1G4	-15E	DDR3-1333	667	1333	PC3-10600	9-9-9
-1S4	-15H	DDR3-1333	667	1333	PC3-10600	10-9-9
-1G5	-15F	DDR3-1333	667	1333	PC3-10600	8-8-8
-1GA**	-125	DDR3-1333	667	1333	PC3-10600	11-11-11
-1G6	-125	DDR3-1600	800	1600	PC3-12800	11-11-11
-1S6	-125H	DDR3-1600	800	1600	PC3-12800	12-11-11
-1G7	-125E	DDR3-1600	800	1600	PC3-12800	10-10-10
-1G8	-125F	DDR3-1600	800	1600	PC3-12800	9-9-9
-1G9	-107	DDR3-1866	933	1866	PC3-14900	13-13-13
-1S9	-107H	DDR3-1866	933	1866	PC3-14900	14-13-13
-1GB	-107E	DDR3-1866	933	1866	PC3-14900	12-12-12
-1GC	-107F	DDR3-1866	933	1866	PC3-14900	11-11-11
-2G1	-093	DDR3-2133	1067	2133	PC3-17000	14-14-14
-2G2	-093E	DDR3-2133	1067	2133	PC3-17000	13-13-13
-2G3	-093F	DDR3-2133	1067	2133	PC3-17000	12-12-12

** -1GA = -1333 SPD with -125 Tested DRAM

SPD = serial presence-detect pin (module only)

CL = CAS latency; ¹RCD = active-to-command time; ²RP = precharge time

Package Codes

Pb-Free Devices	Package Descriptions
Y	Commercial temp; single-, dual- or quad-rank DIMM
Z	Halogen-free; commercial temp; single-, dual-, quad- or octal-rank DIMM
IZ	Industrial temp, halogen-free; commercial temp; single-, dual- or quad-rank DIMM
DY	Commercial temp; select dual- or quad-rank DIMM
DZ	Halogen-free; commercial temp; select dual-, quad- or octal-rank DIMM

Rev. 04/2/2012

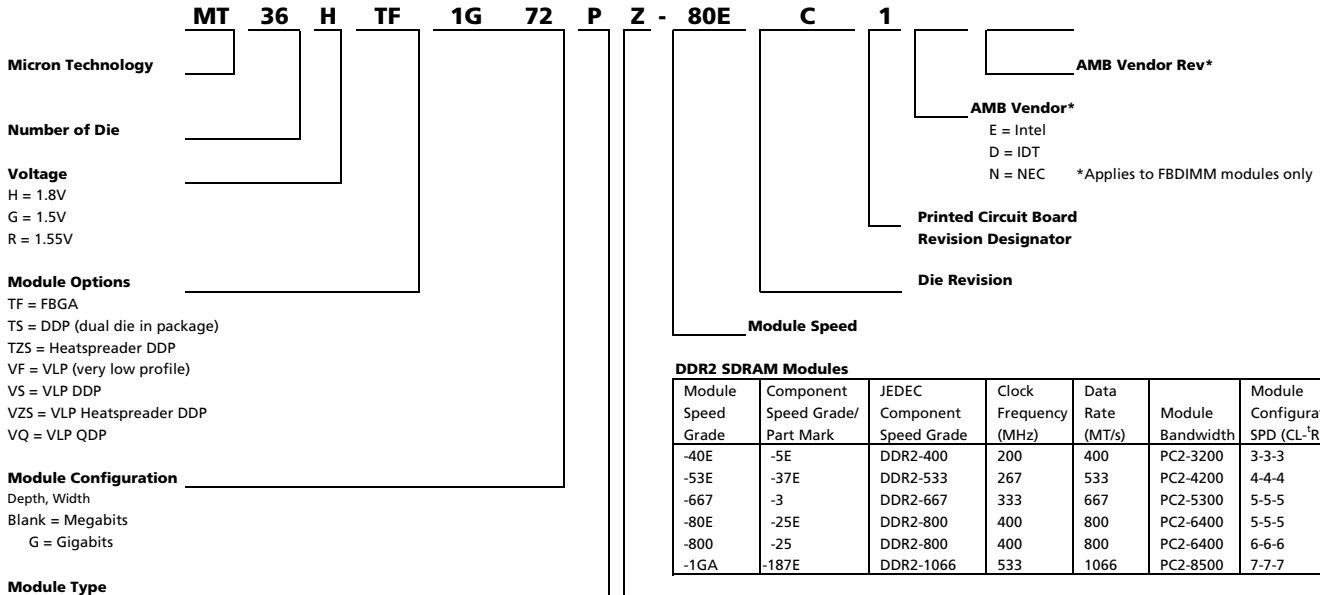
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DDR2 Module Part Numbering System

The part numbering system is available at www.micron.com/numbering

DDR2 SDRAM modules



DDR2 SDRAM Modules

Module Speed	Component Speed Grade/Part Mark	JEDEC Component Speed Grade	Clock Frequency (MHz)	Data Rate (MT/s)	Module Bandwidth	Module Configuration SPD (CL ¹ RCD ¹ RP)
-40E	-5E	DDR2-400	200	400	PC2-3200	3-3-3
-53E	-37E	DDR2-533	267	533	PC2-4200	4-4-4
-667	-3	DDR2-667	333	667	PC2-5300	5-5-5
-80E	-25E	DDR2-800	400	800	PC2-6400	5-5-5
-800	-25	DDR2-800	400	800	PC2-6400	6-6-6
-1GA	-187E	DDR2-1066	533	1066	PC2-8500	7-7-7

SPD = serial presence-detect pin (module only)

CL = CAS latency; ¹RCD = active-to-command time; ¹RP = precharge time

Package Codes

Pb-Free Devices	Package Descriptions
Y	Commercial temp; single- or dual-rank DIMM
Z	Halogen-free; commercial temp; single- or dual-rank DIMM
DY	Commercial temp; select dual-rank
DZ	Halogen-free; commercial temp; select dual- or quad-rank DIMM
IY	Industrial temp; select single and dual-rank DIMM
TY	Industrial temp; select dual and quad-rank DIMM
IZ	Halogen Free, Industrial temp, select single and dual-rank DIMM
TZ	Halogen Free, Industrial temp; select dual and quad-rank DIMM

Rev. 02/01/12

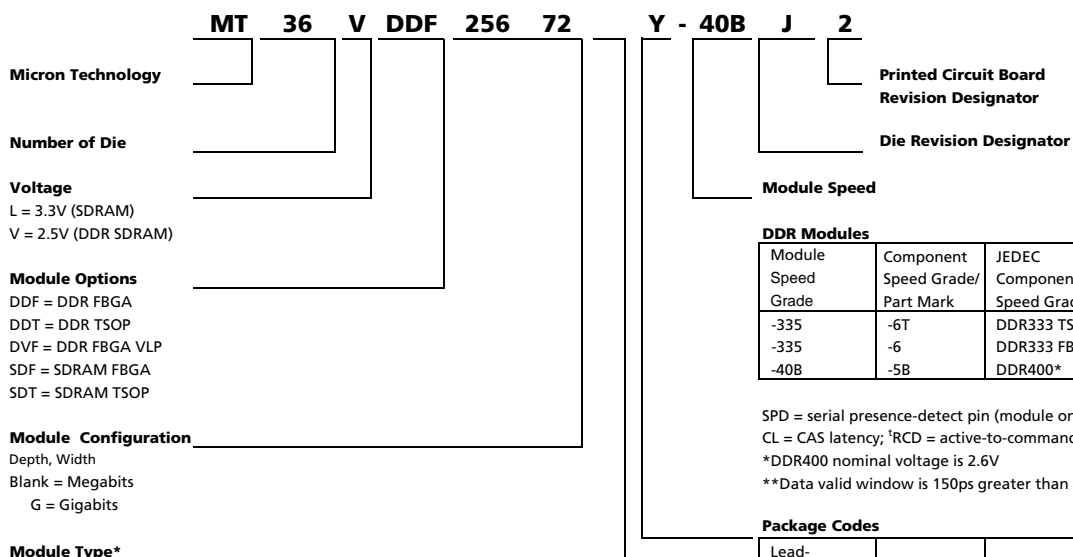
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DDR/SDRAM Module Part Numbering System

The part numbering system is available at www.micron.com/numbering

DDR/SDRAM modules



DDR Modules

Module Speed	Component Speed Grade/ Part Mark	JEDEC Component Speed Grade	Clock Frequency (MHz)	Data Rate (MT/s)	Module Bandwidth	Module Configuration SPD (CL ¹ -RCD ¹ - ¹ RP)
-335	-6T	DDR333 TSOP	167	333	PC2700	2.5-3-3
-335	-6	DDR333 FBGA	167	333	PC2700	2.5-3-3**
-40B	-5B	DDR400*	200	400	PC3200	3-3-3

SPD = serial presence-detect pin (module only)
CL = CAS latency; ¹RCD = active-to-command time; ¹RP = precharge time
*DDR400 nominal voltage is 2.6V
**Data valid window is 150ps greater than -6T

Package Codes

Lead-Plated Devices	Pb-Free Devices	Package Descriptions
G	Y	Commercial temp; single- or dual-rank DIMM
DG	DY	Commercial temp; select dual-rank
I	IY	Industrial temp DIMM
T	TY	Industrial temp; select dual-rank DIMM

SDR Modules

Module Speed	Allowable Component Speed	CL ¹ -RCD ¹ - ¹ RP
-133	-6A, -75, -7E	3-3-3
-13E	-7E	2-2-2

DDR Modules

Module Speed	Allowable Component Speed
-335	-6, -6T, -5B
-40B	-5B

Rev. 02/01/2012

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