

## Part Number Decoding Rule – DRAM

EM	6	G	C	16	E	WX	C	-	12H
P/N	Definition	Option	Option Description						
EM	Head		n/a						
6	Memory	5~8	6:DRAM, 7:Flash, 8:MCP, 5:SRAM						
G	Voltage	G/H/8/A/3	G:1.5V, H:1.35V, 8:1.8V, A:2.5V, 3:3.3V						
C	Density	6~E	E:4Gb, D:2Gb, C:1Gb, B:512Mb, A:256Mb 9:128Mb, 8:64Mb, 6:16Mb						
16	Bus Width	16/08/32	16:x16, 08:x8, 32:x32						
E	Type	E/C/0/5	E:DDR3, C:DDR2, 0:DDR, 5:SDR						
WX	Package	Wx/Bx/ TS/GD	Wx:WBGA, Bx:TFBGA, TS:TSOP II, GD:KGD x:BGA Size Code						
C	Generation	A~Z	Sequentially assigned for new projects						
-	n/a								
12H	Speed		Refer to speed code table				Etron 鈺創科技 Etron Technology, Inc.		

## Speed Code Reference

Part Number	-	Speed Code	Grade Code	ROHS Code
EMxxxxxxxxx	-	xx	-//A/B	H/G
Speed	Min. tCK	Max. Freq.	CL-tRCD-tRP	Major Supported DRAM Type
10	1.072ns	933MHz	13-13-13	DDR3/3L-1866
12	1.25ns	800MHz	11-11-11	DDR3/3L-1600
15	1.50ns	667MHz	9-9-9	DDR3/3L-1333, DDR2-1333*
18	1.875ns	533MHz	7-7-7	DDR2-1066
25	2.50ns	400MHz	5-5-5	DDR2-800
3	3ns	333MHz	5-5-5	DDR2-667
4	4ns	250MHz	3-4-4	3.3/2.5V DDR-500
5	5ns	200MHz	3-3-3	DDR-400**, 3.3V SDR-200
6	6ns	166MHz	3-3-3	SDR-166, 1.8V DDR-333

\* : Standard DDR2 support CL=3~7. Only specially designed DDR2 support CL=8, 9

\*\* : Non-specified DDR & SDR could be 3.3V, 2.5V and/or 1.8V

Special specification products please contact sales Etron 鈺創科技

## Grade & Package Code

Grade Code	Definition	SDR/DDR (Ta) Ambient Temperature	DDR2/DDR3 (Tc) Case Temperature
-	Commercial	0C ~ 70C	0C ~ 95C*
I	Industrial	-40C ~ 85C	-40C ~ 95C*
A	AEC-Q100 Grade 3	-40C ~ 85C	-40C ~ 95C*
B**	AEC-Q100 Grade 2	-40C ~ 105C**	-40C ~ 105C**

\* : Standard Refresh Rate (7.8us) @ 0~85C, Double Refresh Rate (3.9us) @ 85~95C

\*\* : AEC-Q100 Grade 2 products are produced by demand, 4X Refresh Rate @ 95~105C

Package ROHS Code	Applied Package Type	Definition
H	BGA	Green & Halogen Free for BGA package
G	TSOP	Green & Halogen Free for TSOP package