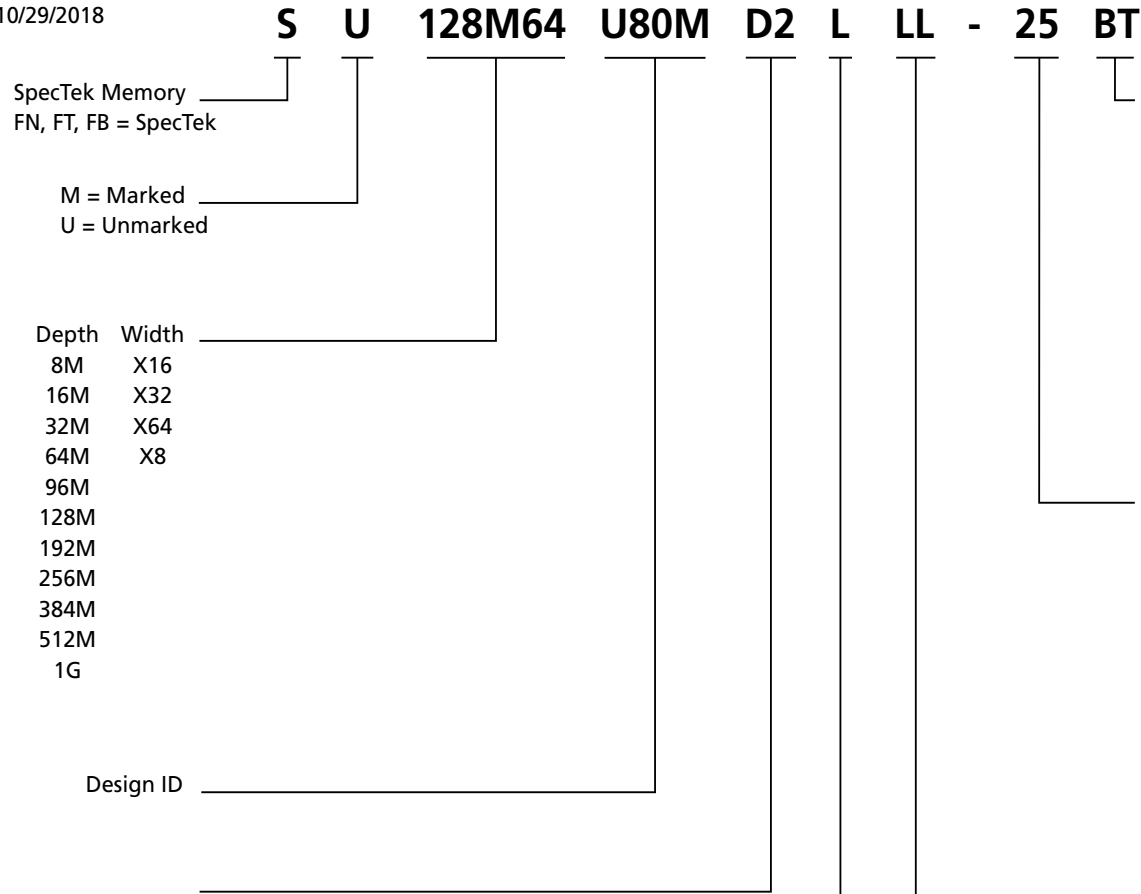


SpecTek Mobile DRAM Part Numbering System



Last update: 10/29/2018



Depth	Width
8M	X16
16M	X32
32M	X64
64M	X8
96M	
128M	
192M	
256M	
384M	
512M	
1G	

Product Grade
 BL = SpecTek Post Electrical Rejects (25%)
 BT = Fully Tested at 70 degrees (100%)
 BU = Untested (50%)
 DG = Dongle Grade (75%)
 FT = Fully Tested at 90 degrees (100%)
 PT = High IDD (90%)
 S8 = Partially Tested SS (85%)
 SS = Partially Tested (25%)
 TG = Tablet Grade (85%)
 TP = Tablet Grade (95%) – probe fallout

Speed

DRAM Technology	Speed Grade	Max Clock Frequency	CL- ^t RC-D- ^t RP
LPDDR4	-053	1866 MHz	
	-062	1600 MHz	
	-075	1333 MHz	
	-083	1200 MHz	
LPDDR3	-15	667 MHz	10-10-10
	-107	933MHz	
	-125	800 MHz	12-12-12
LPDDR2	-5	200 MHz	
	-37	266 MHz	
	-3	333 MHz	
	-25	400 MHz	
	-18	533 MHz	
Mobile DDR SDRAM	-75	133 MHz	
	-6	167 MHz	
	-54	185 MHz	
	-5	200 MHz	

Package Code (see next page)

Voltage
 A = 1.5V
 B = 1.1V
 D = 1.1V SV / 0.6V I/O SV
 L = 1.2V
 M = 1.8V

# of die	Access Mode/Features
11	1 DDR3
D1	1 4-n Prefetch
LF	1 Standard Addressing
LG	1 Reduced Page-Size Addressing
D2	2 4-n Prefetch
L2	2 Standard Addressing
D3	3 4-n Prefetch
D4	4 4-n Prefetch
D6	6 Standard Addressing
L4	4 Standard Addressing
D8	8 Standard Addressing

Package Code

Code	Package Description	Code	Package Description
B5	VFBGA 90/135-ball, 8.0x13.0x1.0	LD	VFBGA 220/729-ball, 14.0x14.0x1.0
B7	VFBGA 60/90-ball, 10.0x10.0x1.0	LE	VFBGA 168/529-ball, 12.0x12.0x1.0 .35mm ball
BF	VFBGA 54-ball, 8.0x9.0x1.0	LF	WFBGA 168/529-ball, 12.0x12.0x0.75 .35mm ball
BG	TFBGA 78-ball, 9.0x10.6x1.2	LG	WFBGA 168/529-ball, 12.0x12.0x0.8 .35mm ball
BQ	VFBGA 90/135-ball, 8.0x13.0x1.0 SAC305	LH	UFGA 216/841-ball, 12.0x12.0x0.65
C2	WFBGA 426/1480-ball, 13.5x14.5x0.74	LK	WFBGA 216/841-ball, 12.0x12.0x0.8 LPDDR2
C3	WFBGA 456/1677-ball, 14.0x15.5x0.66	LL	WFBGA 216/841-ball, 12.0x12.0x0.8
C4	WFBGA 426/1677-ball, 15.5x14.0x0.66	LM	VFBGA 216/841-ball, 12.0x12.0x1.0
C5	WFBGA 280/1360-ball, 14.0x16.5x0.76	LN	WFBGA 272-ball, 14.0x15.5x0.68
C6	WFBGA 244/1054-ball, 13.0x14.0x0.68	LP	VFBGA 216/841-ball, 12.0x12.0x0.82
C7	WFBGA 504-841-ball, 15.0x15.0x0.7	LR	WFBGA 216/841-ball, 15.0x15.0x0.8
CK	VFBGA 60/90-ball, 10.0x11.5x1.0	LS	WFBGA 256-ball, 14.0x14.0x0.75
CM	VFBGA 90/135-ball, 10.0x13.0x 1.0	LT	VFBGA 216/841-ball, 15.0x15.0x1.0
CX	VFBGA 90/135-ball, 9.0x13.0x 1.0	LV	WFBGA 216-ball, 12.0x12.0x0.75
DS	WFBGA 200/264-ball, 10.0x14.5x0.8 LPDDR4 0.325 ball	LW	WFBGA 256/1156-ball, 14.0x14.0x0.8
DT	VFBGA 200/264-ball, 10.0x14.5x0.95 LPDDR4	LY	TFBGA 96/144-ball, 7.5x13.5x1.2
EL	WFBGA 178-ball, 11.0x11.5x0.8	LZ	WFBGA 216/841-ball, 12.0x12.0x0.8 LPDDR3
EM	VFBGA 178-ball, 11.0x11.5x0.9	MA	WFBGA 168/529-ball, 12.0x12.0x0.7
EN	VFBGA 253-ball, 11.5x11.5x0.9	MC	VFBGA 240/729-ball, 14.0x14.0x0.8
ER	TFBGA 253-ball, 11.5x11.5x0.9	MG	TFBGA 134/170-ball, 11.5x11.5x1.2
EV	TFBGA 253-ball, 11.0x11.0x1.2	MH	VFBGA 134/170-ball, 11.0x11.5x1.0
EZ	WFBGA 342/992-ball, 14.5x15.0x0.73	MP	WFBGA 220/729-ball, 14.0x14.0x0.8
FS	FBGA 96/144-ball, 9.0x14.0x1.2	MV	VFBGA 253/289-ball, 11.0x11.0x1.0 LPDDR3
G1	UFBGA 426/1480-ball, 13.5x14.5x0.64	MZ	VFBGA 178/221-ball, 12.5x11.5x1.0
GL	VFBGA 220/729-ball, 14.0x14.0x0.99	NC	VFBGA 168/529-ball, 12.0x12.0x0.82
GN	WFBGA 256/1156-ball, 14.0x14.0x0.7 LPDDR3	NH	WFBGA 272/1296-ball, 15.0x15.0x0.7 LPDDR4
GU	WFBGA 134/170-ball, 10.0x11.5x0.7	NJ	WFBGA 272/1296-ball, 15.0x15.0x0.8 LPDDR4
H1	VFBGA 253/289-ball, 11x11x0.85	NK	WFBGA 366/841-ball, 15.0x15.0x0.7 LPDDR4
H2	TFBGA 134/170-ball, 11.5x13.0x1.2	NL	UFBGA 450/1640-ball, 14.46x14.8x0.61 LPDDR4
H3	WFBGA 134/170-ball, 11.5x11.5x0.8	NP	WFBGA 200/264-ball, 10.0x14.5x0.8 LPDDR4
H4	VFBGA 168/529-ball, 12.0x12.0x0.92	NQ	VFBGA 200/264-ball, 10.0x14.5x0.95 LPDDR4
H5	TFBGA 168/529-ball, 12.0x12.0x1.02	NW	VFBGA 432/675-ball, 15.0x15.0x0.85 LPDDR4
H6	TFBGA 178/221-ball, 11.5x13.0x1.1	PD	WFBGA 216/841-ball, 15.0x15.0x0.72 LPDDR3
H7	VFBGA 178/221-ball, 11.5x12.0x0.9	PE	VFBGA 216/841-ball, 15.0x15.0x0.82 LPDDR3
H8	VFBGA 178/221-ball, 11.5x12.5x1.0	PF	VFBGA 178/221-ball, 11.0x11.5x0.85 LPDDR3
H9	BFBGA 261/441-ball, 10.0x10.0x0.77	PG	VFBGA 178/221-ball, 12.0x11.5x1.0 LPDDR3
HA	TFBGA 96/144-ball, 9.0x14.0x1.2	PP	WFBGA 253/289-ball, 11.0x14.0x0.7
HC	VFBGA 178/221-ball, 10.5x11.5x0.9	PQ	VFBGA 253/289-ball, 11.0x11.5x0.95 LPDDR3
HL	VFBGA 178/221-ball, 10.5x11.5x1.0	PU	WFBGA 168/529-ball, 12.0x12.0x0.80 LPDDR3
JU	VFBGA 253/289-ball, 12.5x12.5x0.95	PX	VFBGA 480/779-ball, 8.0x17.0x1.0
JV	VFBGA 168-ball, 12.0x12.0x1.0	QC	VFBGA 253/289-ball, 12.0x12.0x1.0 LPDDR3
KE	WFBGA 244/1054-ball, 13.0x14.0x0.76	QD	VFBGA 200/264-ball, 10.0x14.5x1.0 LPDDR4
KH	WFBGA 216/841-ball, 12.0x12.0x0.8	RG	TFBGA 78/117-ball, 7.5x10.6x1.2
KJ	VFBGA 216/841-ball, 12.0x12.0x1.0	RH	FBGA 78/117-ball. 9.0x10.5x1.2
KL	WFBGA 168/529-ball, 12.0x12.0x0.8	SB	TFBGA 134/170-ball, 10x11.5x1.2
KN	TFBGA 366/841-ball, 15.0x15.0x1.1 0.5mm ball *PIP*	SR	VFBGA 168-ball, 12.0x12.0x1.0 .35mm ball SAC305
KP	VFBGA 168/529-ball, 12.0x12.0x1.0 .33mm ball	TP	UFBGA 386/2346-ball, 14.2x15.5x0.61
KQ	WFBGA 168/529-ball, 12.0x12.0x0.75	TT	VFBGA 196/841-ball, 12x12x0.87 LPDDR4
KU	VFBGA 216/841-ball, 12.0x12.0x0.9	WF	WFBGA 376/1156-ball, 14.0x14.0x0.7 LPDDR4