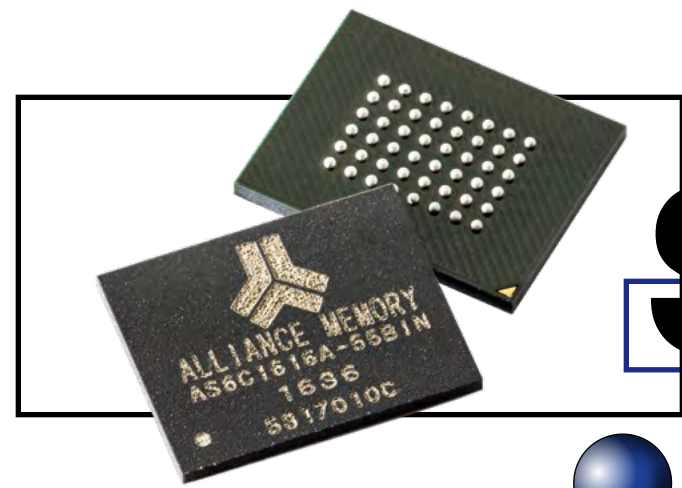




PRODUCT CATALOG 2020

Worldwide Leader in Legacy Memory - SRAM, DRAM, and SDRAM ICs

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SRAM

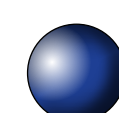
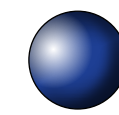
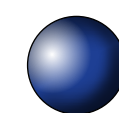
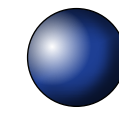
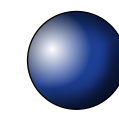
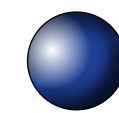
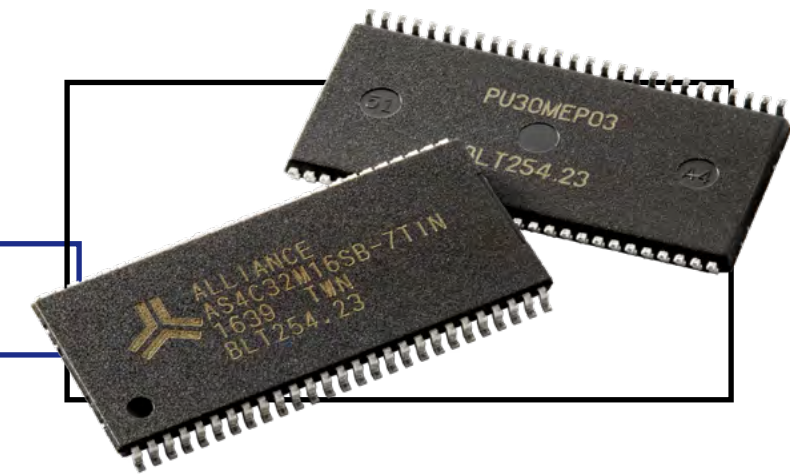
- *FAST Asynchronnous SRAM*

- Low Power Asynchronnous SRAM

- Parallel NOR Flash

- Psuedo SRAM

DRAM



Synchronous DRAM

3.3V (x4, x8, x16 and x32)

DENSITY	ORG	VCC	PACKAGE	CLOCK FREQUENCY (MHz)	TEMPERATURE	ALLIANCE
16M	1M x 16	3.3V	50pin TSOP II	143/166 MHz	Commercial, Industrial	AS4C1M16S-6/7 TxN
64M	4M x 16	3.3V	54pin TSOP II	143/166/200 MHz	Commercial, Industrial, Automotive	AS4C4M16SA-5/6/7 TxN
64M	4M x 16	3.3V	54-ball FBGA / 60-ball FBGA	143/166 MHz	Commercial, Industrial, Automotive	AS4C4M16SA-6/7 BxN, B2xN
64M	2M x 32	3.3V	90-ball TFBGA	143/166 MHz	Commercial, Industrial	AS4C2M32S-6/7 BxN
64M	2M x 32	3.3V	86pin TSOP II	143/166 MHz	Commercial, Industrial	AS4C2M32SA-6/7 TxN
128M	8M x 16	3.3V	54pin TSOP II/54-ball FBGA	143/166 MHz	Commercial, Industrial, Automotive	AS4C8M16SA-6/7 TxN/BxN
128M	4M x 32	3.3V	90-ball TFBGA	143/166 MHz	Commercial, Industrial	AS4C4M32S-6/7 BxN
128M	4M x 32	3.3V	86pin TSOP II	143/166 MHz	Commercial, Industrial	AS4C4M32SA-6/7 TxN
256M	16M x 16	3.3V	54pin TSOP II/54-ball FBGA	143/166 MHz	Commercial, Industrial, Automotive	AS4C16M16SA-6/7 TxN/BxN
256M	8M x 32	3.3V	86pin TSOP II	143/166 MHz	Commercial, Industrial	AS4C8M32S-6/7 TxN
256M	8M x 32	3.3V	90-ball TFBGA	143/166 MHz	Commercial, Industrial	AS4C8M32SA-6/7 BxN
256M	32M x 8	3.3V	54pin TSOP II	143/166 MHz	Commercial, Industrial	AS4C32M8SA-6/7 TxN
256M	64M x 4	3.3V	54pin TSOP II	143/166 MHz	Commercial, Industrial	AS4C64M4SA-6/7 TxN
512M	32M x 16	3.3V	54-ball FBGA	143 MHz	Commercial, Industrial	AS4C32M16SA-7BxN
512M	32M x 16	3.3V	54pin TSOP II	143 MHz	Commercial, Industrial	AS4C32M16SA-7TxN
512M	32M x 16	3.3V	54pin TSOP II	143 MHz/166 MHz	Commercial, Industrial	AS4C32M16SB-6/7 TxN
512M	32M x 16	3.3V	54pin TSOP II	143 MHz	Industrial	AS4C32M16SC-7TIN
512M	16M x 32	3.3V	86pin TSOP II	143 MHz	Industrial	AS4C16M32SC-7TIN
512M	64M x 8	3.3V	54pin TSOP II	143 MHz	Industrial	AS4C64M8SC-7TIN
512M	64M x 8	3.3V	54pin TSOP II	133 MHz	Commercial, Industrial	MT48LC64M8A2P-75:C

* x=Temperature Range

C=0 ~ +70 °C I=-40 ~ +85 °C A=-40 ~ +105 °C



SDRAM Cross Reference

DENSITY	ORG	ALLIANCE	SAMSUNG (EOL)	MICRON	SK HYNIX (EOL)	ISSI	WINBOND	NANYA (EOL)	ELITE (ESMT)	ELPIDA (EOL)
16M	1M x 16	AS4C1M16S-6/7TxN	K4S161622E	MT48LC1M16A1	HY57V161610	IS42S16100	W9816G6TH	NT56V1616AOT	M12L16161A-xTG2Q	EDS1616AGTA
64M	4M x 16	AS4C4M16SA-6/7TxN	K4S641632N-UCxx	MT48LC4M16A2P	HY57V641620	IS42S16400	W9864G6JH	NT56V6620C0T-xxB	M12L64164A-xTG2U	uPD4564163G5-Axx
64M	4M x 16	AS4C4M16SA-6/7BxN		MT48LCM16A2B4(F4)	HY5V66D	IS42S16400	W9864G6JT		M12L64154A-xBG2C	
64M	4M x 16	AS4C4M16SA-7B2CN				IS42S16400	W9864G6JB-7			
64M	2M x 32	AS4C2M32S-6/7BxN		MT48LC2M32B2B5-x	HY5V62	IS42S32200	W9864G2IB-x			EDS6432AFBH
64M	2M x 32	AS4C2M32SA-6/7TxN	K4S643232H-Ucxx	MT48LC2M32B2P-x	HY57V643220	IS42S32200	W9864G2J(G,I)H-x		M12L64322A-xTG2U	EDS6432AFTA
128M	8M x 16	AS4C8M16SA-6/7TxN	K4S281632K-UCxx	MT48LC8M16A2P	HY57V281620	IS42S16800	W9812G6K(G,I)H	NT5SV8M16AT-xxB	M12L128168A-xTG2N	uPD45128163G5-Axx
128M	8M x 16	AS4C8M16SA-6/7BxN	K4S281632D-RL75	MT48LC8M16A2B4(F4)	HY5V26	IS42S16800	W9812G6JB		M12L128168A-xBG2N	
128M	4M x 32	AS4C4M32S-6/7BxN		MT48LC4M32B2B5-x	HY5V22	IS42S32400	W9812G21(G)B-x		M12L128324-xBG2E	EDS1232AHBH
128M	4M x 32	AS4C4M32SA-6/7TxN		MT48LC4M32B2P-x	HY57V283220T	IS42S32400	W9812G2GH			EDS1232AHTA
256M	16M x 16	AS4C16M16SA-6/7TxN	K4S561632N-UCxx	MT48LC16M16A2P	H57V2562GTR	IS42S16160	W9825G6K(D,E,J)H	NT5SV16M16AT-xxB	M12L2561616A-xTG2A	EDS2516AP(AF,AC)TA-xx
256M	16M x 16	AS4C16M16SA-6/7BxN	K4S561632D-RL75	MT48LC16M16A2B4	HY5V56	IS42S16160	W9825G6JB		M12L2561616A-xBG2A	EDS2516EE(JE)BH
256M	8M x 32	AS4C8M32S-6/7BxN		MT48LC8M32B2B5-x	HY5V52	IS42S32800	W9825G2J(D)B-x			EDS2532EEBH
256M	8M x 32	AS4C8M32SA-6/7BxN		MT48LC8M32B2B5-x	HY5V52	IS42S32800	W9825G2J(D)B-x			EDS2532EEBH
256M	32M X 8	AS4C32M8SA-6/7TxN		MT48LC32M8A2P		IS42S32800				
256M	64M x 4	AS4C64M4SA-6/7TxN		MT48LC64M4A2P						
512M	32M x 16	AS4C32M16SA-7TxN	K4S511632M-TC75	MT48LC32M16A2		IS42S16320				EDS5116ABTA
512M	32M x 16	AS4C32M16SA-7BxN				IS42S16320				
512M	32M x 16	AS4C32M16SB-7TxN	K4S511632M-TC75	MT48LC32M16A2		IS42S16320				EDS5116ABTA
512M	32M x 16	AS4C32M16SC-7TIN	K4S511632M-TC75	MT48LC32M16A2		IS42S16320				EDS5116ABTA
512M	16M x 32	AS4C16M32SC-7TIN								
512M	64M x 8	AS4C64M8SC-7TIN		MT48LC64M8A2P-75:C		IS42S86400				
512M	32M x 16	MT48LC32M16A2P-75	K4S511632M-TC75	MT48LC32M16A2P-75		IS42S16320				EDS5116ABTA
512M	64M x 8	MT48LC64M8A2P-75:C		MT48LC64M8A2P-75:C		IS42S86400				



DDR1 2.5V DRAM

DENSITY	ORG	VCC	PACKAGE	CLOCK FREQUENCY (MHz)	DATA RATE	TEMPERATURE OPTIONS	ALLIANCE
64M	4M x 16	2.5V	66pin TSOP II	200 MHz	400Mbps/pin	Commercial, Industrial,Automotive	AS4C4M16D1A-5TxN
64M	2M x 32	2.5V	144-ball FBGA	200 MHz	400Mbps/pin	Commercial, Industrial	AS4C2M32D1A-5BxN
128M	8M x 16	2.5V	66pin TSOP II	200 MHz	400Mbps/pin	Commercial, Industrial	AS4C8M16D1A-5TxN
128M	8M x 16	2.5V	60-ball FBGA	200 MHz	400Mbps/pin	Commercial, Industrial	AS4C8M16D1-5BxN
128M	4M x 32	2.5V	144-ball FBGA	200 MHz	400Mbps/pin	Commercial, Industrial	AS4C4M32D1A-5BxN
256M	16M x 16	2.5V	66pin TSOP II	200 MHz	400Mbps/pin	Commercial, Industrial	AS4C16M16D1A-5TxN
256M	16M x 16	2.5V	60-ball FBGA	200 MHz	400Mbps/pin	Commercial, Industrial	AS4C16M16D1-5BxN
256M	32M x 8	2.5V	66pin TSOP II	200 MHz	400Mbps/pin	Commercial, Industrial	AS4C32M8D1-5TxN
512M	32M x 16	2.5V	66pin TSOP II	200 MHz	400Mbps/pin	Commercial, Industrial,Automotive	AS4C32M16D1A-5TxN
512M	32M x 16	2.5V	60-ball FBGA	200 MHz	400Mbps/pin	Commercial, Industrial,Automotive	AS4C32M16D1-5BxN
512M	64M x 8	2.5V	66pin TSOP II, 60-ball FBGA	200 MHz	400Mbps/pin	Commercial, Industrial	AS4C64M8D1-5TxN/5BxN
1GB	64M x 16	2.5V	66pin TSOP II	166 MHz	333Mbps/pin	Commercial, Industrial	AS4C64M16D1-6TxN AS4C64M16D1A-6TxN
1GB	128M x 8	2.5V	66pin TSOP II	166 MHz	333Mbps/pin	Industrial	AS4C128M8D1-6TIN

* x=Temperature Range
C=0 ~ +70 °C I= -40 ~ +95 °C A=-40 ~ +105 °C



DDR1 2.5V Cross Reference

DENSITY	ALLIANCE	SAMSUNG	MICRON	ISSI	HYNIX - ALL EOL	WINBOND	NANYA	ELITE (ESMT)	ELPIDA
64M	AS4C4M16D1A-5TxN	K4H641638N	MT46V4M16TG	IS43R16400B-5TL		W9464G6K(I,J)H		M13S64164A-5TG2Y	
64M	AS4C2M32D1-5BxN								
128M	AS4C8M16D1-5BXN	K4H281638D		IS43R16800E-5BL		W9412G6JB		M13S128168A-5BG2N	EDD1216A
128M	AS4C8M16D1A-5TxN	K4H281638D	MT46V8M16	IS43R16800E-5TL	HY5DU1281622	W9412G6K(I,J)H		M13S128168A-5TG2N	EDD1216A
128M	AS4C4M32D1A-5BxN		MT46V4M32FK	IS43R32400E-5BL		W9412GIB		M13S128324A-5BG2M	EDD1232A
256M	AS4C32M8D1-5TxN	K4H560838N	MT46V32M8P	IS43R83200	HY5DU56822		NT5DS32M8ES		EDD2508A
256M	AS4C16M16D1-5BxN	K4H561638D	MT46V16M16CY-5B	IS43R16160	HY5DU561622	W9425G6JB		M13S2561616A-xBG2A	
256M	AS4C16M16D1A-5TxN	KH561638D	MT46V16M16P	IS43R16160	HY5DU561622	W945G6K(D,E,J)H		M13S2561616A-xTG2A	EDD2516A
512M	AS4C32M16D1-5BxN	K4H511638J	MT46V32M16-CY	IS43R16320	HY5DU121622				EDD5116
512M	AS4C32M16D1A-5TxN	K4H511638J	MT46V32M16P	IS43R16320	HY5DU121622		NT5DS32M16ES	M13S5121632A-5TG2S	EDD5116A
512M	AS4C64M8D1-5TxN	K4H510838J	MT46V64M8P	IS43R86400	HY5DU12822		NT5DS64M8ES		EDD5108A
512M	AS4C64M8D1-5BxN	K4H510838J	MT46V64M8CY(BN)	IS43R86400	HY5DU12822				
1GB	AS4C64M16D1-6TxN		MT46V64M16P						
1GB	AS4C64M16D1A-6TxN		MT46V64M16P						
1GB	AS4C128M8D1-6TIN	K4H1G0838A-UCxx							



DDR2 1.8V DRAM

DENSITY	ORG	VCC	PACKAGE	CLOCK FREQUENCY (MHz)	DATA RATE	TEMPERATURE OPTIONS	ALLIANCE
256M	16M x 16	1.8V	84-ball FBGA	400 MHz	800 Mbps/pin	Commercial, Industrial	AS4C16M16D2-25BxN
512M	32M x 16	1.8V	84-ball FBGA	400 MHz	800Mbps/pin	Commercial, Industrial,Automotive	AS4C32M16D2A-25BxN
512M	64M x 8	1.8V	60-ball FBGA	400 MHz	800Mbps/pin	Commercial, Industrial,Automotive	AS4C64M8D2-25BxN
1G	64M x 16	1.8V	84-ball FBGA	400 MHz	800Mbps/pin	Commercial, Industrial,Automotive	AS4C64M16D2A-25BxN
1G	64M x 16	1.8V	84-ball FBGA	400 MHz	800Mbps/pin	Commercial	AS4C64M16D2B-25BCN
1G	128M x 8	1.8V	60-ball FBGA	400 MHz	800Mbps/pin	Commercial, Industrial	AS4C128M8D2-25BxN AS4C128M8D2A-25BxN
2G	128M x 16	1.8V	84-ball FBGA	400 MHz	800Mbps/pin	Commercial, Industrial	AS4C128M16D2-25BxN
2G	128M x 16	1.8V	84-ball FBGA	400 MHz	800Mbps/pin	Commercial, Industrial	AS4C128M16D2A-25BxN
2G	256M x 8	1.8V	60-ball FBGA	400 MHz	800Mbps/pin	Commercial, Industrial	AS4C256M8D2-25BxN

* x=Temperature Range
C=0 ~ +70 °C I=-40 ~ +95 °C A=-40 ~ +105 °C



DDR2 1.8V Cross Reference

DENSITY	ALLIANCE	SAMSUNG	MICRON	ISSI	WINBOND	NANYA	ELITE (ESMT)	ELPIDA	HYNIX
256M	AS4C16M16D2-25BxN	K4T56163QO	MT47H16M16BG	IS43DR16160	W9725G6K(J)B	NT5TU16M16BG	M14D2561616A-2.5BG	EDE2516A	HY5PS561621(EOL)
512M	AS4C32M16D2A-25BxN	K4T51163QJ	MT47H32M16HR(NF)-25E	IS43DR16320	W9751G6K(J)B	NT5TU32M16GG	M14D5121632A-2.5BG	EDE5116	HY5PS121621
512M	AS4C64M8D2-25BxN	K4T51083QJ	MT47H64M8CF(SH)-25E	IS43DR86400	W9751G8K(J)B	NT5TU64M8EE		EDE5108	H5PS5182KFR
1G	AS4C64M16D2A-25BxN	K4T1G164Q	MT47H64M16HR(NF)-25E	IS43DR16640	W971GG6JB	NT5TU64M16HG	M14D1G1664A-2.5BG	EDE1116	H5PS1G63
1G	AS4C64M16D2B-25BCN	K4T1G164Q	MT47H64M16HR(NF)-25E	IS43DR16640	W971GG6JB	NT5TU64M16HG	M14D1G1664A-2.5BG	EDE1116	H5PS1G63
1G	AS4C128M8D2-25BxN	K4T1G084Q	MT47H128M8SH-25E	IS43DR81280	W971GG8JB	NT5TU128M8HE		EDE1108A	H5PS1G83
1G	AS4C128M8D2A-25BxN	K4T1G084Q	MT47H128M8SH-25E	IS43DR81280	W971GG8JB	NT5TU128M8HE		EDE1108A	H5PS1G83
2G	AS4C128M16D2-25BxN		MT47H128M16RT-25E	IS43DR16128	W972GG6JB			EDE2116AEBG	
2G	AS4C128M16D2A-25BxN		MT47H128M16RT-25E	IS43DR16128	W972GG6JB			EDE2116AEBG	
2G	AS4C256M8D2-25BxN		MT47H256M8EB-25E	IS43DR82560	W972GG8JB			EDE2108AEBG	



DDR3 SDRAM

DDR3 1.5V

DENSITY	ORG	VCC	PACKAGE	CLOCK FREQUENCY	DATA RATE	TEMPERATURE OPTIONS	ALLIANCE
512M	32M x 16	1.5V	96-ball FBGA	800 MHz	DDR3-1600bps/pin	Commercial, Industrial	AS4C32M16D3-12BxN
512M	64M x 8	1.5V	78-ball FBGA	800 MHz	DDR3-1600bps/pin	Commercial, Industrial	AS4C64M8D3-12BxN
1G	64M x 16	1.5V	96-ball FBGA	800 MHz	DDR3-1600bps/pin	Commercial, Industrial, Automotive	AS4C64M16D3B-12BxN
1G	128M x 8	1.5V	78-ball FBGA	800 MHz	DDR3-1600bps/pin	Commercial, Industrial, Automotive	AS4C128M8D3B-12BxN
2G	128M x 16	1.5V	96-ball FBGA	800 MHz	DDR3-1600bps/pin	Commercial	AS4C128M16D3B-12BCN
4G	256M x 16	1.5V	96-ball FBGA	800 MHz	DDR3-1600bps/pin	Commercial	AS4C256M16D3B-12BCN

DDR3L 1.35V

DENSITY	ORG	VCC	PACKAGE	CLOCK FREQUENCY	DATA RATE	TEMPERATURE OPTIONS	ALLIANCE
512M	32M x 16	1.35V	96-ball FBGA	800 MHz	DDR3-1600bps/pin	Commercial, Industrial	AS4C32M16D3L-12BxN
512M	64M x 8	1.35V	78-ball FBGA	800 MHz	DDR3-1600bps/pin	Commercial, Industrial	AS4C64M8D3L-12BxN
1G	64M x 16	1.35V	96-ball FBGA	800 MHz	DDR3-1600bps/pin	Commercial, Industrial, Automotive	AS4C64M16D3LB-12BxN
1G	128M x 8	1.35V	78-ball FBGA	800 MHz	DDR3-1600bps/pin	Commercial, Industrial, Automotive	AS4C128M8D3LB-12BxN
2G	128M x 16	1.35V	96-ball FBGA	800 MHz	DDR3-1600bps/pin	Commercial, Industrial	AS4C128M16D3LB-12BxN
2G	256M x 8	1.35V	78-ball FBGA	800 MHz	DDR3-1600bps/pin	Commercial, Industrial, Automotive	AS4C256M8D3LB-12BxN
4G	256M x 16	1.35V	96-ball FBGA	800 MHz	DDR3-1600bps/pin	Commercial, Industrial, Automotive	AS4C256M16D3LB-12BxN
4G	512M x 8	1.35V	78-ball FBGA	800 MHz	DDR3-1600bps/pin	Commercial, Industrial, Automotive	AS4C512M8D3LB-12BxN
8G	512M x 16	1.35V	96-ball FBGA	800 MHz	DDR3-1600bps/pin	Commercial, Industrial	AS4C512M16D3L-12BxN
8G	1G x 8	1.35V	78-ball FBGA	800 MHz	DDR3-1600bps/pin	Commercial	AS4C1G8MD3L-12BCN

* x=Temperature Range
C=0 ~ +95 °C (Extended) I=-40 ~ +95 °C A=-40 ~ +105 °C



DDR3/DDR3L Cross Reference

DENSITY	ALLIANCE	MICRON	SAMSUNG	ISSI	HYNIX	WINBOND	ELITE (ESMT)	ELPIDA	NANYA
512M	AS4C32M16D3-12BxN							EDJ5316BASE	
512M	AS4C64M8D3-12BxN							EDJ5308BASE	
512M	AS4C32M16D3L-12BxN							EDJ5316BASE	
512M	AS4C64M8D3L-12BxN							EDJ5308BASE	
1G	AS4C64M16D3B-12BxN	MT41J64M16JT(TW)-125	K4B1G1646E(G)	IS43TR16640	H5TQ1G63D	W631GG6KB-x	M15F1G1664A	EDJ1116DJ(BA)BG	NT5CB64M16F(G)P
1G	AS4C64M16D3LB-12BxN	MT41K64M16JT(TW)-125		IS43TR16640A(B)L	H5TC1G63EFR (EOL)	W631GU6KB-x	M15T1G1664A-(2C)	EDJ1116EJBG	NT5CC64M16F(G)P-DI
1G	AS4C128M8D3B-12BxN	MT41J128M8JP(DA)-125	K4B1G0864E(F,G)	IS43TR81280	H5TQ1G83	W631GG8KB-x		EDJ1108DJ(BA)BG	NT5CB128M8F(G)N-DI
1G	AS4C128M8D3LB-12BxN	MT41K128M8JP(DA)-125	K4B1G0864G-BY	IS43TR81280A(B)L	H5TC1G83EFR (EOL)	W631GU8KB-x		EDJ1108EJBG	NT5CC128M8F(G)N-DI
2G	AS4C128M16D3B-12BCN	MT41J128M16JT(TW)-125	K4B2G1646E-B	IS43TR16128	H5TQ2G63	W632GG6KB-x	M15F2G16128A	EDJ2116DEBG	NT5CB128M16I(F)P-DI
2G	AS4C128M16D3LB-12BxN	MT41K128M16JT-125	K4B2G1646Q-B	IS43TR16128A(B,C)L	H5TC2G63	W632GU6KB-x		EDJ2116EEBG	NT5CC128M16I(F)P-DI
2G	AS4C256M8D3LB-12BxN	MT41J256M8DA-125	K4B2G0846Q-BCK	IS43TR82560A-xBL	H5TQ2G83FFR-x	W632GG8KB-x		EDJ2108DEBG	NT5CB256M8IN-FL
2G	AS4C512M4D3LB-12BxN	MT41J512M4JE-15E:A							
4G	AS4C256M16D3B-12BxN	MT41J256M16HA-125	K4B4G1646B(D)	IS43TR16256A	H5TQ4G63		M15F4G16256A	EDJ4216BFBG(BASE)	NT5CB256M16C(D,E)P-DI
4G	AS4C256M16D3LB-12BxN	MT41K256M16HA(RE)-125	K4B4G1646E(Q)	IS43TR16256AL	H5TC4G63			EDJ4216EFBG	NT5CC256M16C(D,E)P-DI
4G	AS4C512M8D3LB-12BxN	MT41K512M8RH(RA)-125	K4B4G0846B(C,D)	IS43TR85120AL	H5TC4G83			EDJ4208EFBG	NT5CC512M8C(D,E)N-DI
8G	AS4C512M16D3L-12BxN	MT41K512M16HA-125		IS43TR16512					
8G	AS4C1G8MD3L-12BCN	MT41K1G8SN-125:E		IS43TR81024					



DDR4 SDRAM

DENSITY	ORG	VCC	PACKAGES	CLOCK FREQUENCY	DATA RATE	TEMPERATURE OPTIONS	ALLIANCE
4G	256M x 16	1.2V	96-ball FBGA	1200 MHz	2400/2666	Commercial, Industrial, Automotive	AS4C256M16D4-83BxN
4G	512M x 8	1.2V	78-ball FBGA	1200 MHz	2400/2667	Commercial, Industrial, Automotive	AS4C512M8D4-83BxN
4G	256M x 16	1.2V	96-ball FBGA	1333 MHz	2400/2666	Commercial, Industrial, Automotive	AS4C256M16D4-75BxN
4G	512M x 8	1.2V	78-ball FBGA	1333 MHz	2400/2667	Commercial, Industrial, Automotive	AS4C512M8D4-75BxN



DDR4 Cross Reference



DENSITY	ORG	ALLIANCE	MICRON	NANYA	SAMSUNG	HYNIX
4G	256M x 16	AS4C256M16D4-83BxN	MT40A256M16GE	NT5AD256M16D4	K4A4G165WE	H5AN4G6NBJR
4G	512M x 8	AS4C512M8D4-83BxN	MT40A512M8RH	NT5AD512M8D4	K4A4G085WE	H5AN4G8NBJR
4G	256M x 16	AS4C256M16D4-75BxN	MT40A256M16GE	NT5AD256M16D4	K4A4G165WE	H5AN4G6NBJR
4G	512M x 8	AS4C512M8D4-75BxN	MT40A512M8RH	NT5AD512M8D4	K4A4G085WE	H5AN4G8NBJR



MOBILE LOW POWER SDRAM



MOBILE LOW POWER SDRAM

DENSITY	ORG	VCC	PACKAGE	CLOCK FREQUENCY	TEMPERATURE OPTIONS	ALLIANCE
128M	8M x 16	1.7V ~ 1.95V	54-ball FBGA (8 x 8mm)	166 MHz	Industrial -40°C ~ +85°C	AS4C8M16MSA-6BIN
128M	4M x 32	1.7V ~ 1.95V	90-ball FBGA (8 x 13mm)	166 MHz	Industrial -40°C ~ +85°C	AS4C4M32MSA-6BIN
256M	16M x 16	1.7V ~ 1.95V	54-ball FBGA (8 x 8mm)	166 MHz	Industrial -40°C ~ +85°C	AS4C16M16MSA-6BIN
256M	8M x 32	1.7V ~ 1.95V	90-ball FBGA (8 x 13mm)	166 MHz	Industrial -40°C ~ +85°C	AS4C8M32MSA-6BIN
512M	32M x 16	1.7V ~ 1.95V	54-ball FBGA (8 x 9mm)	166 MHz	Industrial -40°C ~ +85°C	AS4C32M16MSA-6BIN
512M	16M x 32	1.7V ~ 1.95V	90-ball FBGA (8 x 13mm)	166 MHz	Industrial -40°C ~ +85°C	AS4C16M32MSA-6BIN

MOBILE LOW POWER DDR

DENSITY	ORG	VCC	PACKAGE	CLOCK FREQUENCY	DATA RATE	TEMPERATURE OPTIONS	ALLIANCE
256M	16M x 16	1.8V	60-ball FBGA	166 MHz	333Mbps/pin	Extended -30°C ~ +85°C	AS4C16M16MD1-6BCN
512M	32M x 16	1.8V	60-ball FPBGA	200 MHz	400Mbps/pin	Extended -30°C ~ +85°C	AS4C32M16MD1A-5BCN
512M	16M x 32	1.8V	90-ball FPBGA	200 MHz	400Mbps/pin	Extended -25°C ~ +85°C Industrial -40°C ~ +85°C	AS4C16M32MD1-5BxN
1G	64M x 16	1.8V	60-ball FPBGA	200 MHz	400Mbps/pin	Industrial -40°C ~ +85°C	AS4C64M16MD1A-5BIN
1G	32M x 32	1.8V	90-ball FPBGA	200 MHz	400Mbps/pin	Industrial -40°C ~ +85°C	AS4C32M32MD1A-5BIN
2G	64M x 32	1.8V	90-ball FPBGA	200 MHz	400Mbps/pin	Extended -25°C ~ +85°C Industrial -40°C ~ +85°C	AS4C64M32MD1-5BxN

MOBILE LOW POWER DDR2

DENSITY	ORG	VCC	PACKAGE	CLOCK FREQUENCY (MHz)	DATA RATE	TEMPERATURE OPTIONS	ALLIANCE
256M	8M X 32	1.2V/1.8V	134-ball FBGA	400 MHz	800Mbps/pin	Extended -25°C ~ +85°C	AS4C8M32MD2A-25BCN
256M	8M X 32	1.2V/1.8V	168-ball FBGA	400 MHz	800Mbps/pin	Extended -25°C ~ +85°C	AS4C8M32MD2A-25B2CN
1G	64M x 16	1.2V/1.8V	134-ball FBGA	400 MHz	800Mbps/pin	Industrial -40°C ~ +85°C	AS4C64M16MD2A-25BIN
1G	32M x 32	1.2V/1.8V	134-ball FBGA	400 MHz	800Mbps/pin	Industrial -40°C ~ +85°C	AS4C32M32MD2A-25BIN
2G	128M x 16	1.2V/1.8V	134-ball FBGA	400MHz	800Mbps/pin	Industrial -40°C ~ +85°C	AS4C128M16MD2A-25BIN
2G	64M x 32	1.2V/1.8V	134-ball FBGA	400 MHz	800Mbps/pin	Industrial -40°C ~ +85°C	AS4C64M32MD2A-25BIN
4G	128M x 32	1.2V/1.8V	134-ball FBGA	533 MHz	1066Mbps/pin	Industrial -40°C ~ +85°C	AS4C128M32MD2A-18BIN
4G	128M x 32	1.2V/1.8V	134-ball FBGA	400 MHz	800Mbps/pin	Industrial -40°C ~ +85°C	AS4C128M32MD2A-25BIN



MOBILE LOW POWER Cross Reference

MOBILE LOW POWER SDRAM

DENSITY	ALLIANCE	MICRON	ISSI	NANYA	WINBOND
128M	AS4C8M16MSA-6BIN	NA	IS42VM16800H	NA	W987D6HBGX
128M	AS4C4M32MSA-6BIN	NA	IS42VM32400H	NA	W987D2HBJX
256M	AS4C16M16MSA-6BIN	MT48H16M16LFBF (EOL)	IS42VM16160K	NA	W988D6FBGX
256M	AS4C8M32MSA-6BIN	MT48H8M32LFB5 (EOL)	IS42VM32800K	NA	W988D2FBJX
512M	AS4C32M16MSA-6BIN	MT48H32M16LFB4-6 IT	IS42VM16320E	NT6SM32M16BG-S1	W989D6DBGX
512M	AS4C16M32MSA-6BIN	MT48H16M32LFB5-6 IT	IS42VM32160E	NT6SM16M32BK-S1	W989D2DBJX

MOBILE LOW POWER DDR

DENSITY	ALLIANCE	MICRON	SAMSUNG	ISSI	HYNIX	NANYA	ELITE (ESMT)	WINBOND
256M	AS4C16M16MD1-6BCN	MT46H16M16LFBF-6	K4X56163SPN	IS43LR16160	HY5MS5B6/ H5MS2562	NT6DM16M16AD-T1	M53D2561616A-6BG2F	W948D6FBHX
512M	AS4C32M16MD1A-5BCN	MT46H32M16LFBF-5	K4X51163PI	IS43R16320B	HY5MS7B6/ H5MS5162	NT6DM32M16A(B)D-T1	M53D5121632A-5BG2T	W949D6DBHX
512M	AS4C16M32MD1-5BxN	MT46H16M32LFB5-5	K4X51323PI	IS43LR32160B	H5MS5132/ H5MS5122	NT6DM16M32A(B)C-T1	M53D5123216A-5BG2S	W949D2DBJX
1G	AS4C64M16MD1A-5BIN	MT46H64M16LFBF	K4X1G163PE	IS43LR16640A	H5MS1G62			
1G	AS4C32M32MD1A-5BIN	MT46H32M32LFB5-5	K4X1G323PF	IS43LR32320B	H5MS1G22	NT6DM32M32BC-T1	M53D1G3232A	W94AD2KBJX
2G	AS4C64M32MD1-5BxN	MT46H64M32LFBKQ-5	K4X2G323PC	IS43LR32640A	H5M52G22			

MOBILE LOW POWER DDR2

DENSITY	ALLIANCE	MICRON	SAMSUNG	ISSI	HYNIX	NANYA	ELITE (ESMT)	WINBOND
256M	AS4C8M32MD2A-25B(2)CN			IS43LD32800A-25BL				W978H2KBVX2E
1G	AS4C64M16MD2A-25BIN	MT42L64M16D1HE-25		IS43LD16640C/A		NT6TL64M16BA(I)-G0		W97AH6KBVX2
1G	AS4C32M32MD2A-25BIN	MT42L32M32D1HE-25		IS43LD32320C/A		NT6TL32M32BI(A)-G0		W97AH2KBVX2
2G	AS4C128M16MD2A-25BIN	MT42L128M16D1TK-25		IS43LD16128B		NT6TL128M16CI(A)-G0		W97BH6KBVX2
2G	AS4C64M32MD2A-25BIN	MT42L64M32D1TK-25		IS43LD32640B		NT6TL64M32CI(A)-G0		W97BH2KBVX2
4G	AS4C128M32MD2A-18BIN	MT42L128M32D1GU-18		IS43LD32128A		NT6TL128M32BI(A)-G0		
4G	AS4C128M32MD2A-25BIN	MT42L128M32D1GU-18		IS43LD32128A		NT6TL128M32BI(A)-G0		



Fast Asynchronous SRAM

5V Fast Asynchronous SRAM

DENSITY	ORG	VCC	PACKAGES	SPEED (NS)	ALLIANCE
64K	8K x 8	5V	SOJ (28pin),Skinny PDIP (28pin-300mil)	15	AS7C164A
256K	32K x 8	5V	SOJ (28pin), TSOP I (28pin)	10/12/15/20	AS7C256A
256K	32K x 8	5V	PDIP (28pin)	15	AS7C256B
512K	32K x 16	5V	SOJ (44), TSOP II (44)	12/15	AS7C513B
1M	128K x 8	5V	SOJ (32.3 & 32.4), TSOP I (32)	12/15/20	AS7C1024B
1M	128K x 8	5V	SOJ (32.3 & 32.4)	12	AS7C1024C
1M	128K x 8	5V	SOJ (32.3 & 32.4)	10/12/15	AS7C1025B AS7C1025C
1M	64K x 16	5V	SOJ (44), TSOP II (44)	10/12/15/20	AS7C1026B AS7C1026C
4M	512K x 8	5V	SOJ (36), TSOP II (44)	12/15/20	AS7C4096A
4M	256K x 16	5V	SOJ (44), TSOP II (44)	12/15/20	AS7C4098A



Fast Asynchronous SRAM

3.3V Fast Asynchronous SRAM

DENSITY	ORG	VCC	PACKAGES	SPEED (NS)	ALLIANCE
256K	32K x 8	3.3V	SOJ (28), TSOP I (28)	10/12/15/20	AS7C3256A
512K	32K x 16	3.3V	SOJ (44), TSOP II (44)	10/12/15/20	AS7C3513B
1M	128K x 8	3.3V	SOJ (32.3 & 32.4), TSOP I (32)	10/12/15/20	AS7C31024B
1M	128K x 8	3.3V	SOJ (32.3 & 32.4)	10/12/15/20	AS7C31025B
1M	128K x 8	3.3V	SOJ (32.4), TSOP II (32)	12	AS7C31025C
1M	64K x 16	3.3V	SOJ (44), TSOP II (44)	10/12/15/20	AS7C31026B
1M	64K x 16	3.3V	48 ball BGA, TSOP II (44), SOJ (44)	12	AS7C31026C
2M	128K x 16	3.3V	TSOP II (44)	10/12/15/20	AS7C32098A
2M	256K x 8	3.3V	TSOP II (44)	10/12/15/20	AS7C32096A
4M	512K x 8	3.3V	SOJ (36), TSOP II (44), TFBGA (36)	8/10/12/15/20	AS7C34096A / AS7C34096B
4M	256K x 16	3.3V	SOJ (44), TSOP II (44), TFBGA (48)	8/10/12/15/20	AS7C34098A / AS7C34098B
8M	1024K x 8	3.3V	TFBGA (48), TSOP II (44)	10	AS7C38096A / AS7C38096B
8M	512K x 16	3.3V	TFBGA (48), TSOP II (44)	10	AS7C38098A
8M	256K x 32	3.3V	TFBGA (90)	10	AS7C32563
16M	512K x32	3.3V	TFBGA (90)	10	AS7C351232
16M	1M x 16	3.3V	TFBGA (48), TSOP I (48), TSOP II (54)	10	AS7C316098A / AS7C316098B
16M	2M x 8	3.3V	TFBGA (48), TSOP I (48), TSOP II (54), TSOP II (44)	10	AS7C316096A / AS7C316096B / AS7C316096C



Fast Asyn SRAM Cross Reference

64K FAST

ORG	VCC	PACKAGE	SPEED (NS)	ALLIANCE	SAMSUNG	CYPRESS (EOL)	IDT	ISSI
8K x 8	5V	28pin SOJ (300mil)	15	AS7C164A-15JxN		CY7C185-15VI (EOL)	IDT7164SXXYG	IS61C64AL-XXJLI
8K x 8	5V	28pin Skinny PDIP 300mil	15	AS7C164A-15PxN		CY7C185-20PXC (EOL)		

256K FAST

ORG	VCC	PACKAGE	SPEED (NS)	ALLIANCE	SAMSUNG	CYPRESS (EOL)	IDT	ISSI
32K x 8	5V	28pin SOJ	10,12,15,20	AS7C256A-xxJCN/JIN	K6E0808C (EOL)	CY7C199D-XXVXI	IDT71256SAXXYG	IS61C256AL-XXJL
32K x 8	5V	28pin TSOP I	10,12,15,20	AS7C256A-xxTCN/TIN		CY7C199D-XXZXI	IDT71256SAXXPZG	IS61C256AL-XXTL
32K x 8	3.3V	28pin SOJ	10,12,15,20	AS7C3256A-xxJCN/JIN	K6E0808V	CY7C1399BN-12VXC	IDT71V256SAXXYG	IS61LV256AL-10JL
32K x 8	3.3V	28pin TSOP I	10,12,15,20	AS7C3256A-xxTCN/TIN		CY7C1399BN-XXZXI	IDT71V256SAXXPZG	IS61LV256AL-10TL
32K x 8	5V	28pin DIP	15	AS7C256B-xxPIN	(EOL)	CY7C199CN-15PXC (EOL)	IDT71256SAXXTPG	

512K FAST

ORG	VCC	PACKAGE	SPEED (NS)	ALLIANCE	SAMSUNG	CYPRESS	IDT	ISSI
32K x 16	5V	44pin SOJ (400MIL)	15	AS7C513B-xxJCN		CY7C1020D-10VXI		IS61C321AL-12KLI
32K x 16	5V	44pin TSOP II (400MIL)	12,15	AS7C513B-xxTCN		CY7C1020D-10ZSXI		IS61C3216AL-12TLI
32K x 16	3.3V	44pin TSOP II (400MIL)	12,15,20	AS7C3513B-xxTCN		CY7C1020DV33-10ZSXI		IS61WV3216BLL-12TLI
32K x 16	3.3V	44pin SOJ (400MIL)	10,12,15	AS7C3513B-xxJCN		CY7C1020DV33-10VXI		



Fast Asyn SRAM Cross Reference

1M FAST

ORG	VCC	PACKAGE	SPEED (NS)	ALLIANCE	SAMSUNG (EOL)	CYPRESS	IDT	ISSI	GSI (EOL)
128K x 8	5V	32pin SOJ (400MIL)	12,15,20	AS7C1025B-xxJCN/JIN	K6R1008C1D-KI10		IDT71124SXXYG		
128K x 8	3.3V	32pin SOJ (400MIL)	10,12,15,20	AS7C31025B-xxJCN/JIN	K6R1008V1D-KI10	CY7C1019DV33-10VXI	IDT71V124SAXXYG	IS63WV1024L-10KLI	
128K x 8	3.3V	32pin TSOP II	12	AS7C31025C-12TIN	K6R1008V1D-UIXX	CY7C1019DV33-XXZSXI	IDT71V124SAXXPHG	IS63WV1288DBLLXXTLI	
128K x 8	5V	32pin SOJ (300MIL)	10,12,15,20	AS7C1025B-xxTJCN		CY7C1019D-10VXI			
128K x 8	5V	32pin SOJ (400MIL)	15	AS7C1025C-15JIN					
128K x 8	3.3V	32pin SOJ (400MIL)	12	AS7C31025C-12JIN					
128K x 8	3.3V	32pin SOJ (300MIL)	10,12,15,20	AS7C31025B-xxTJCN		CY7C1018DV33-10VXI	IDT71V124SAXXTYG	IS63WV1288DBLL-10JLI	
128K x 8	5V	32pin SOJ (400MIL)	12,15,20	AS7C1024B-xxJCN/JIN		CY7C109D-10VXI	IDT71024SXXYG	IS61C1024AL-12KLI	
128K x 8	5V	32pin TSOP I	12,15,20	AS7C1024B-xxTCN		CY7C109D-10ZXI		IS61C1024AL-12TLI	
128K x 8	5V	32pin SOJ (300MIL)	12,15,20	AS7C1024B-xxTJCN		CY7C1009D-10VXI	IDT71024SXXTYG	IS61C1024AL-12JLI	
128K x 8	5V	32pinSOJ(300MIL/400MIL)	12	AS7C1024C-12JIN		CY7C1019D-10VXI		IS61C1024AL-12KLI	
128K x 8	3.3V	32pin SOJ (400MIL)	12,15,20	AS7C31024B-xxJCN		CY1019DV33-10VXI		IS63WV1288DBLL-10KLI	
128K x 8	3.3V	32pin TSOP I	10,12,15,20	AS7C31024B-xxTCN				IS63WV1288DBLL-10HLI	
128K x 8	3.3V	32pin SOJ (300MIL)	10,12,15,20	AS7C31024B-xxTJCN		CY7C1018DV33-10VXI		IS63WV1288DBLL-10JLI	
64K x 16	5V	44pin SOJ (400MIL)	10,12,15,20	AS7C1026B/C-xxJCN/JIN	K6R1016C1D-KI10	CY7C1021D-XXVXC	IDT71016SXXYG	IS61C6416AL-12KLI	
64K x 16	5V	44pin TSOP II (400MIL)	10,12,15,20	AS7C1026B/C-xxTCN/TIN	K6R1016C1D-UI10	CY7C1021D-XXZSXI	IDT71016SXXPHG	IS61C6416AL-12TLI	
64K x 16	3.3V	44pin SOJ (400MIL)	10,12,15,20	AS7C31026B/C-xxJCN/TIN	K6R1016V1D-KI10	CY7C1021DV33-XXVXI	IDT71V016SAXXYG	IS61WV6416DBLL-10KLI	
64K x 16	3.3V	44pin TSOP II (400MIL)	10,12,15,20	AS7C31026B/C-xxTCN/TIN	K6R1016V1D-UI10	CY7C1021DV33-XXZSXI	IDT71V016SAXXPHG	IS61WV6416DBLL-10TLI	GS71116AGP-XX
64K x 16	3.3V	48 ball BGA	12	AS7C31026C-12BIN					

2M FAST

ORG	VCC	PACKAGE	SPEED (NS)	ALLIANCE	SAMSUNG	CYPRESS	IDT	ISSI	GSI
128K x 16	3.3V	44pin TSOP II	10,12,15,20	AS7C32098A-xxTxN		CY7C1011DV33-10ZSXI		IS61WV12816DBLL-10TL	GS72116AGP-XX
256K x 8	3.3V	44pin TSOP II	10,12,15,20	AS7C32096A-xxTxN		CY7C1010DV33-10ZSXI		IS61WV256EDBLL-10TLI	GS72108AGP-XX



Fast Asyn SRAM Cross Reference

4M FAST

ORG	VCC	PACKAGE	SPEED (NS)	ALLIANCE	SAMSUNG	CYPRESS	IDT	ISSI	GSI
512K x 8	5V	36pin SOJ (400MIL)	12,15,20	AS7C4096A-xxJxN	K6R4008C1D-KI10	CY7C1049D-10VXI		IS61C5128AL-10KLI	
512K x 8	5V	44pin TSOP II (400MIL)	12,15,20	AS7C4096A-xxTxN	K6R4008C1D-UI10			IS61C5128AL-10TLI	
512K x 8	3.3V	36pin SOJ (400MIL)	8,10,12,15,20	AS7C34096A-xxJxN	K6R4008V1D-KI10	CY7C1049DV33-10VXI	IDT71V424SXXYG	IS61WV5128EDBLL-10KLI	
512K x 8	3.3V	44pin TSOP II (400MIL)	10,12,15,20	AS7C34096A-xxTxN	K6R4008V1D-UI10	CY7C1049DV33-10ZSI	IDT71V424SXXPHG	IS61WV5128EDBLL-10TLI	GS74108AGP-XX
512K x 8	2.7 ~ 3.6V	44pin TSOP II	10	AS7C34096B-10TIN					
512K x 8	2.7 ~ 3.6V	36ball TFBGA	10	AS7C34096B-10BIN					
256K x 16	5V	44pin SOJ (400MIL)	12,15,20	AS7C4098A-xxJxN	K6R4016C1D-KI10	CY7C1041D-10VXI		IS61C25616AL-10KLI	
256K x 16	5V	44pin TSOP II (400MIL)	12,15,20	AS7C4098A-xxTxN	K6R4016C1D-UI10	CY7C1041D-10ZSXI		IS61C25616AL-10TL	
256K x 16	3.3V	44pin SOJ (400MIL)	10,12,15,20	AS7C34098A-xxJxN	K6R4016V1D-KI10	CY7C1041DV33-10VXI	IDT71V416SXXYG	NA	
256K x 16	3.3V	44pin TSOP II (400MIL)	8,10,12,15,20	AS7C34098A-xxTxN	K6R4016V1D-UI10	CY7C1041DV33-10ZSXI	IDT71V416SXXPHG	IS61WV25616EDBLL-10TLI	GS74116AGP-XX
256K x 16	3.3V	48ball TFBGA	10	AS7C34098A-xxBIN		CY7C1041DV33-10BVXI	IDT71V416SXXBE	IS61WV25616EDBLL-10BLI	GS75116AGX-XX
256K x 16	2.7 ~ 3.6V	44pin TSOP II	10	AS7C34098B-10TIN					
256K x 16	2.7 ~ 3.6V	48ball TFBGA	10	AS7C34098B-10BIN					

8M FAST

ORG	VCC	PACKAGE	SPEED (NS)	ALLIANCE	SAMSUNG	CYPRESS	IDT	ISSI	GSI
512K x 16	3.3V	44pin TSOP II	10	AS7C38098A-10TIN		CY7C1051DV33-10ZSXI		IS61WV51216BLL-XXTLI	
512K x 16	3.3V	48ball TFBGA	10	AS7C38098A-10BIN		CY7C1051DV33-10BAXI		IS61WV51216BLL-10MLI	
256K x 32	3.3V	90ball TFBGA	10	AS7C325632-10BIN				IS61WV25632BLL-10BLI	
1M x 8	3.3V	44pin TSOP II	10	AS7C38096A-10TIN		CY7C1059DV33-10ZSXI		IS61WV10248BLL-10TLI	
1M x 8	3.3V	48ball TFBGA (different pinout)	10	AS7C38096A-10BIN					
1M x 8	3.3V	48ball TFBGA (different pinout)	10	AS7C38096B-10BIN				IS61WV10248BLL-10MLI	



Fast Asyn SRAM Cross Reference

16M FAST

ORG	VCC	PACKAGE	SPEED (NS)	ALLIANCE	SAMSUNG	CYPRESS	IDT	ISSI	GSI
1M x 16	3.3V	48pin TSOP I	10	AS7C316098A-10TIN		CY7C1061GN30-10ZXI		IS61WV102416FBLL-10TLI	
1M x 16	3.3V	48ball TFBGA	10	AS7C316098A-10BIN		CY7C1061GN30-10BV1XI		IS61WV102416FBLL-10BLI	
1M x 16	3.3V	54pin TSOP II	10	AS7C316098B-10TIN		CY7C1061GN30-10ZSXI		IS61WV102416FBLL-10T2LI	
1M x 16	3.3V	48ball TFBGA	10	AS7C316098B-10BIN					
2M x 8	3.3V	48pin TSOP I	10	AS7C316096A-10TIN		CY7C1069GN30-10ZSXI		IS61WV20488FBLL-10T2LI	
2M x 8	3.3V	54pin TSOP II	10	AS7C316096B-10TIN		CY7C1069DV33-10ZSXI			
2M x 8	3.3V	44pin TSOP II	10	AS7C316096C-10TIN				IS61WV20488FBLL-10TLI	
2M x 8	3.3V	48ball TFBGA (1CE)	10	AS7C316096C-10BIN				IS61WV20488FBLL-10BLI	
2M x 8	3.3V	48ball TFBGA (2CE)	10	AS7C316096B-10BIN		CY7C1069GN30-10BVXI			
512K x 32	3.3V	90ball TFBGA	10	A7C351232-10BIN				IS61WV51232BLL-10BLI	



Low Power Asynchronous SRAM

2.7V ~ 3.6V Low Power Asynchronous SRAM

DENSITY	ORG	VCC	PACKAGES	SPEED (NS)	ALLIANCE
256K	32K x 8	2.4 ~ 3.6V	28pin SOP (330mm)	70	AS62V256A
2M	256K x 8	2.7 ~ 3.6V	32pin 450 mil SOP, 32pin TSOP I (8 x 20mm), 32pin STSOP (8 x 13.4mm), 36ball TFBGA (6 x 8mm)	55	AS6C2008
4M	512K x 8	2.7 ~ 3.6V	32pin SOP (450mil), 32pin TSOP I (8 x 20mm), 32pin TSOP II (8 x 20mm), 32pin STSOP (8 x 13.4mm), 36ball TFBGA (6 x 8mm)	55	AS6C4008A
4M	256K x 16	2.7 ~ 3.6V	44pin TSOP II, 48ball TFBGA (6 x 8mm)	45	AS6C4016A
8M	1M x 8	2.7 ~ 3.6V	44pin TSOP II, 48ball TFBGA (6 x 8mm)	45	AS6C8008A
8M	512K x 16	2.7 ~ 3.6V	44pin TSOP II / 48pin TSOP I,48ball TFBGA (8 x 10mm*)**	55	AS6C8016 / AS6C8016A
16M	1M x 16	2.7 ~ 3.6V	48ball TFBGA (6 x 8mm), 48pin TSOP I (12 x 20mm)	55/70	AS6C1616 / AS6C1616A
16M	2M x 8	2.7 ~ 3.6V	44pin TSOP II, 48ball TFBGA	55	AS6C1608
32M	2M x 16	2.7 ~ 3.6V	48pin TSOP I (12 x 20mm)	55	AS6C3216A-55TIN
32M	2M x 16	2.7 ~ 3.6V	48ball TFBGA (6 x 8mm)	55	AS6C3216 / AS6C3216A
64M	4M x 16 / 8M x 8	2.7 ~ 3.6V	48pin TSOP I (dual chip select 4M x 16 or 8M x 8)	55	AS6C6416-55TIN
64M	4M x 16 / 8M x 8	2.7 ~ 3.6V	48ball TFBGA (6 x 8mm) (dual chip select 4M x 16 or 8M x 8)	55	AS6C6416-55BIN



Low Power Asynchronous SRAM

2.7V ~ 5.5V Low Power Asynchronous SRAM

DENSITY	ORG	VCC	PACKAGES	SPEED (NS)	ALLIANCE
64K	8K x 8	2.7 ~ 5.5V	28pin 600 mil PDIP, 28pin 330 mil SOP, 28pin sTSOP (8x13.4mm)	55	AS6C6264
256K	32K x 8	2.7 ~ 5.5V	28pin 600 mil PDIP, 28pin 330 mil SOP, 28pin sTSOP (8x13.4mm)	55	AS6C62256
1M	64K x 16	2.7 ~ 5.5V	44pin 400 mil TSOP II TFBGA (48)	55	AS6C1016
1M	128K x 8	2.7 ~ 5.5V	32pin 450 mil SOP, 32pin TSOP I (8 x 20mm), 32pin sTSOP (8 x 13.4mm), TFBGA (36), 32pin PDIP	55	AS6C1008
2M	256K x 8	2.7 ~ 5.5V	32pin 450 mil SOP, 32pin TSOP I (8 x 20mm) 32pin sTSOP (8 x 13.4mm), TFBGA (36)	55	AS6C2008A
2M	128K x 16	2.7 ~ 5.5V	44pin 400 mil TSOP II, TFBGA (48)	55	AS6C2016
4M	512K x 8	2.7 ~ 5.5V	32pin 450 mil SOP, 32pin TSOP I (8 x 20mm), 32pin sTSOP (8 x 13.4mm), TFBGA (48), 32pin 600 mil PDIP, 32pin TSOP II	55	AS6C4008
4M	256K x 16	2.7 ~ 5.5V	44pin TSOP II, TFBGA (48)	55	AS6C4016
8M	1024K x 8	2.7 ~ 5.5V	44pin TSOP II, TFBGA (48)	55	AS6C8008
8M	512K x 16	2.7 ~ 5.5V	44pin TSOP II, 48ball TFBGA (6 x 8mm*) one chip select pins:B5**	55	AS6C8016

* = AS6C8016A TFBGA PART'S DIE SIZE IS 8X10MM – WHICH IS BIGGER THAN AS6C8016 TFBGA PACKAGE WHICH IS 6X8MM BUT THEIR LEAD PITCH ARE THE SAME.

** = AS6C8016A TFBGA PART HAS TWO CHIP SELECT PINS: B5 AND A6. THE VALID LEVEL FOR B5 PIN IS LOW LEVEL, THE VALID LEVEL FOR A6 PIN IS HIGH LEVEL IF CUSTOMER REPLACES A SINGLE CS PIN PART LIKE AS6C8016 WITH AS6C8016A NEED TO PULL UP A6 PIN.



Low Power Asyn SRAM Cross Reference



64K LOW POWER

ORG	VCC	PACKAGE	ALLIANCE	ZMD	CYPRESS (EOL)	HITACHI (EOL)	NEC (EOL)	HYNIX (EOL)
8K x 8	2.7V ~ 5.5V	28pin 600mil DIP	AS6C6264-55PCN	U6264BDC07LLG1		HM6264BLP		HY6264P
8K x 8	2.7V ~ 5.5V	28pin 330mil SOP	AS6C6264-55SCN	U6264BS2C07LLG1	CY6264-55SNXI	HM6264BLFP	uPD4464	HY6264G
8K x 8	2.7V ~ 5.5V	28pin STSOP (8 x 13.4 mm)	AS6C6264-55STCN					

256K LOW POWER

ORG	VCC	PACKAGE	ALLIANCE	ZMD	SAMSUNG (EOL)	CYPRESS (EOL)	RENESAS	BRILLIANCE (EOL)	ISSI
32K x 8	2.7V ~ 5.5V	28pin 600mil DIP	AS6C62256-55PCN	U62256ADC07LLG1	K6X0808C1D-DF55	CY62256NLL-70PXC		BS62LV256PCP-55	
32K x 8	2.7V ~ 5.5V	28pin 330mil SOP	AS6C62256-55SxN	U62256AS2C07LLG1	K6X0808C1D-BF55	CY62256NLL-55SNXI	R1LP5256ESP-5S	BS62LV256SCP-55	IS62C256AL-45ULI
32K x 8	2.4V ~ 3.6V	28pin 330mil SOP	AS62V256-70SIN			CY62256NVLL-70SNXI	R1LV5256ESP-5S	BS62LV256SCP-55	IS62LV256AL-45ULI
32K x 8	2.7V ~ 5.5V	28pin STSOP (8 x 13.4 mm)	AS6C62256-55STxN		K6X0808C1D-LF55	CY62256NLL-55ZRXI	R1LP5256ESA-5S	BS62LV256STCP-55	IS62LV256AL-45TLI

1M LOW POWER

ORG	VCC	PACKAGE	ALLIANCE	SAMSUNG (EOL)	CYPRESS	RENESAS	RENESAS	BRILLIANCE (EOL)	NEC (EOL)	ISSI
128K x 8	2.7V ~ 5.5V	32pin 600mil DIP	AS6C1008-55PCN	K6X1008C2D-DB55				BS62LV1027PCP-55	uPD431000ACZ-70L	
128K x 8	2.7V ~ 5.5V	32pin 450mil SOP	AS6C1008-55SIN	K6X1008C2D-GF55(Lead)/BF	CY62128ELL-45SXI	M5M51008DFP-55HI	R1LP0108ESP-5SI	BS62LV1027SIP-55	uPD431000AGW-70L	IS62C1024AL-35QLI
128K x 8	2.7V ~ 5.5V	32pin TSOP I (8 x 20 mm)	AS6C1008-55TIN	K6X1008C2D-TF55 or PF	CY62128ELL-45ZXI	M5M51008DVP-55HI	R1LP0108ESF-5SI	BS62LV1027TIP-55	uPD431000AGZ-70LL-KKH	IS62C1024AL-35TLI
128K x 8	2.7V ~ 5.5V	32pin STSOP (8 x 13.4 mm)	AS6C1008-55STIN		CY62128ELL-45ZAXI	M5M51008DKV-55HI	R1LP0108ESA-5SI	BS62LV1027STIP-55	uPD431000AGU-B10-9JH	IS62C1024AL-45HLI
64K x 16	2.7V ~ 5.5V	48ball TFBGA	AS6C1016-55BIN	K6F1016U4C-EF55	CY62127DV30LL-55BVXI			BS616LV1010AI-70		IS62WV6416DBLL-45BLI
64K x 16	2.7V ~ 5.5V	44pin TSOP II	AS6C1016-55ZIN		CY62126EV30LL-45SXIT			BS616LV1010EI-70		IS62WV6416DBLL-45TLI

2M LOW POWER

ORG	VCC	PACKAGE	ALLIANCE	SAMSUNG (EOL)	CYPRESS	RENESAS	RENESAS	BRILLIANCE (EOL)	ISSI
256K x 8	3.3V	32pin 450mil SOP	AS6C2008-55SIN		CY62138FV30LL-45SXI			BS62LV2006SIP-55	
256K x 8	3.3V	32pin TSOP I (8 x 20 mm)	AS6C2008-55TIN		CY62138FV30LL-45ZXI			BS62LV2006TIP-55	IS62WV2568BLL-55TLI
256K x 8	3.3V	32pin STSOP (8 x 13.4 mm)	AS6C2008-55STIN	K6F2008V2E-LF70000	CY62138FV30LL-45ZAXI	M5M5V208AKV-55HI	R1LV0208BSA-5SI	BS62LV2006STIP-55	IS62WV2568BLL-55HLI
256K x 8	3.3V	36ball TFBGA (6mm x 8mm)	AS6C2008-55BIN		CY62138FV30LL-45BVXI				IS62WV2568BLL-55B2LI
128K x 16	2.7V ~ 5.5V	44pin TSOP II	AS6C2016-55ZIN		CY62136FVLL-70ZSXI	M5M5V216ATP-70HI	R1LV0216-BSB-5SI	BS616LV2016EIP-55	IS62WV12816BLL-55TLI
128K x 16	3.3V	48ball TFBGA	AS6C2016-55BIN	K6F2016U4E-EF55000	CY62136FVLL-70BVXI			BS616LV2019AIG-55	IS62WV12816BLL-55B2LI
256K x 8	2.7V ~ 5.5V	32pin 450mil SOP	AS6C2008A-55SIN		CY2138FV30LL-45SXI			BS62LV2006SIP-55	
256K x 8	2.7V ~ 5.5V	32pin TSOP I (8 x 20mm)	AS6C2008A-55TIN		CY2138FV30LL-45ZXI			BS62LV2006TIP-55	IS62WV256BLL-55TLI
256K x 8	2.7V ~ 5.5V	36ball TFBGA (6mm x 8mm)	AS6C2008A-55BIN		CY62138FV30LL-45BVXI				IS62WV256BLL-55B2LI



Low Power Asyn SRAM Cross Reference



4M LOW POWER

ORG	VCC	PACKAGE	ALLIANCE	SAMSUNG (EOL)	CYPRESS	RENESAS	BRILLIANCE (EOL)	ISSI
512K x 8	2.7 ~ 5.5V	32pin 600mil DIP	AS6C4008-55PCN	K4X4008C1F-DB55			BS62LV4006PCP-55	
512K x 8	2.7 ~ 5.5V	32pin 450mil SOP	AS6C4008-55SIN	K6X4008C1F-GF55 or BF	CY62148ELL-55SXI	R1LV0408CSP-5SI	BS62LV4006SIP-55	IS62C5128BLL-45QLI
512K x 8	3.3V	32pin 450mil SOP	AS6C4008A-55SIN	K6X4008T1F-GF55 or BF	CY62148EV30LL-55SXI	R1LV0408CSP-5SI	BS62LV4006SIP-55	IS62WV5128DBLL-45QLI
512K x 8	2.7 ~ 5.5V	32pin TSOP I (8 x 20mm)	AS6C4008A-55TIN				BS62LV4006ECP-55	IS62WV5128EBLL-45QLI
512K x 8	2.7 ~ 5.5V	32pin STSOP (8 x 13.4mm)	AS6C4008-55STIN		CY62148ELL-55ZAXI	R1LV0408DSA-5SI	BS62LV4006STIP-55	IS62C512BL-45HLI
512K x 8	3.3V	32pin STSOP (8 x 13.4mm)	AS6C4008A-55STIN	K6X4008T1F-YF55 or LF	CY62148EV30LL-55ZAXI	R1LV0408DSA-5SI	BS62LV4006STIP-55	IS62WV5128DBLL-45HLI
512K x 8	2.7 ~ 5.5V	32pin TSOP II	AS6C4008-55ZIN	K6X4008C1F-VF55	CY62148ELL-45ZSXI	R1LV0408DSB-5SI	BS62LV4006ECP55	IS62WV5128DBLL-45T2LI
512K x 8	3.3V	32pin TSOP II	AS6C4008A-55ZIN		CY62148DV30			IS62WV5128DBLL-55T2L1
512K x 8	2.7 ~ 5.5V	36pin TFBGA (6mm x 8mm)	AS6C4008-55BIN		CY62148EV30LL-55BVXI	RILV0408DBG-5SI		IS62WV5128EBLL-45BLI
512K x 8	3.3V	36pin TFBGA (6mm x 8mm)	AS6C4008A-55BIN		CY62148DV30-55BVXI	R1LV0408DBG-5SI	BS62LV4006HIG-55	IS62WV5128EBLL-45BLI
256K x 16	2.7 ~ 5.5V	44pin TSOP II	AS6C4016-55ZIN	K6X4016C3F-TF70000	CY62146ELL-45ZSXI		BS616LV4017EIP-55	IS62WV5128BLL-55TLI
256K x 16	3.3V	44pin TSOP II	AS6C4016A-55ZIN	K6X4016T3F-TF70000	CY62147EV30LL-45ZSXI	R1LV0414DSB-5SI	BS616LV4017EIP-55	IS62C25616BL-45T2LI
256K x 16	3.3V	48ball TFBGA	AS6C4016A-55BIN	K6F4016U6G-EF70000	CY62147EV30LL-45BVXI	RMLV0416EGBG-4S2	BS616LV4017AIP-55	IS62WV25616DBLL-45BLI

8M LOW POWER

ORG	VCC	PACKAGE	ALLIANCE	SAMSUNG (EOL)	CYPRESS	RENESAS	RENESAS	RENESAS	BRILLIANCE	ISSI
1M x 8	2.7 ~ 5.5V	44pin TSOP II	AS6C8008-55ZIN	K6X8008(C/T)2B-UF55	CY62158EV30LL-45ZSXI		R1LV0808ASB-5SI	HM62V8100LTTI-5SL	BS62LV8001ECP-55	IS62WV1024BLL-55TLI
1M x 8	2.7 ~ 5.5V	44pin TSOP II	AS6C8008A-45ZIN	K6X8008(C/T)2B-UF55	CY62158EV30LL-45ZSXI		R1LV0808ASB-5SI	HM62V8100LTTI-5SL	BS62LV8001ECP-55	IS62WV1024BLL-55TLI
1M x 8	2.7 ~ 5.5V	48ball TFBGA	AS6C8008-55BIN		CY62158EV30LL-45BVXI	EOL		HM62V8100LBPI-5SL	BS62LV8001ECP-55	IS62WV1024BLL-55MLI
1M x 8	2.7 ~ 3.6V	48ball TFBGA	AS6C8008A-45BIN		CY62158EV30LL-45BVXI	EOL		HM62V8100LBPI-5SL	BS62LV8001FIP-55	IS62WV1024BLL-55MLI
512K x 16	2.7 ~ 5.5V	48ball TFBGA (6 x 8mm)*	AS6C8016-55BIN*	K6F8016U6G-FF55	CY62157EV30LL-55BVXI	M5M5W816WG-55HI	R1LV0816ABG-5SI		BS616LV8017ECP55	IS62WV51216BLL-55BLI
512K x 16	2.7 ~3.6V	48ball TFBGA (8 x 10mm)**	AS6C8016A-55BIN**		CY2157EV30LL-45BVXIT					
512K x 16	2.7 ~ 5.5V	44pin TSOP II	AS6C8016 -55ZIN	K6X8016(C/T)3B-UF55	CY62157EV30LL-55ZSXI	M5M5W816TP-55HI	R1LV0816ASA-5SI	HM62165114LTT-5SL	BS616LV8017FCP70	IS62WV51216BLL-55T2LI
512K x 16	3.3V	44pin TSOP II	AS6C8016A-55ZIN		CY62157EV30LL-45ZSXIT					IS62WV51216BLL-55T2LI
512K x 16	2.7 ~ 5.5V	48pin TSOP I	AS6C8016-55TIN		CY62157EV30LL-45ZXIT					IS62WV51216GBLL-45TLI

* =one chip select pin:B5
** =two chip select pins:B5 and A6



Low Power Asyn SRAM Cross Reference

16M LOW POWER

ORG	VCC	PACKAGE	ALLIANCE	SAMSUNG (EOL)	CYPRESS	RENESAS	BRILLIANCE (EOL)	ISSI
1M x 16	2.7 ~ 3.6V	48ball TFBGA	AS6C1616-55BIN					IS62WV102416EBLL-55BLI
1M x 16	2.7 ~ 3.6V	48ball TFBGA	AS6C1616-70BIN	K6F1616U6C-FF70	CY62167EV30LL-70BVI	R1LV1616RBG-7SI	BS6216LV1611FCP70	IS62WV102416EBLL-55BLI
1M x 16	2.7 ~ 3.6V	48pin TSOP I	AS6C1616-55TIN		CY62167E30LL-55ZXI	R1LV1616RSA-5SI	BS6216LV1611TCP55	
1M x 16	2.7 ~ 3.6V	48ball TFBGA	AS6C1616A-55BIN		CY62167DV30LL-55BVXIT	R1LV1616HBG-4SI		IS62WV102416EBLL-55BLI
2M x 8	2.7 ~ 3.6V	44pin TSOP I	AS6C1608-55TIN		CY62168EV30LL-55ZXI		BS6216LV1600EIP55	IS62WV20488EBLL-55BLI
2M x 8	2.7 ~ 3.6V	48ball TFBGA	AS6C1608-55BIN		CY62168DV30LL-55BVI			

32M LOW POWER

ORG	VCC	PACKAGE	ALLIANCE	CYPRESS	RENESAS
2M x 16	2.7 ~ 3.6V	48pin TSOP I	AS6C3216A-55TIN*	CY62177EV30LL-55ZXI	R1LV3216RSA-5SI
2M x 16	2.7 ~ 3.6V	48ball TFBGA	AS6C3216-55BIN AS6C3216A-55BIN	CY62177EV30LL-55BAXI	R1LV3216CSA-5SI

*48pin TSOP I (please note: dual chip select 2Mx16 or 4Mx8)

64M LOW POWER

ORG	VCC	PACKAGE	ALLIANCE	CYPRESS	RENESAS
4M x 16	2.7V ~ 3.6V	48pin TSOP I	AS6C6416-55TIN		R1WV6416RSA-5S
4M x 16	2.7V ~ 3.6V	48ball BGA	AS6C6416-55BIN	CY62187EV30LL-55BAXI	R1WV6416RBG-5S

*48pin TSOP I (please note: dual chip select 4Mx16 or 8Mx8)



Parallel NOR Flash

DENSITY	ORG	VCC	PACKAGE	Temp	SPEED (MHz)	ALLIANCE
1M	128k x 8	5V	PLCC 32	Industrial	55	AS29CF010-55CCIN
4M	512k x 8	5V	PLCC 32	Industrial	55	AS29CF040-55CCIN
8M	1M x 8	5V	TSOP 48pin	Industrial	55	AS29CF800T-55TIN
8M	1M x 8	5V	TSOP 48pin	Industrial	55	AS29CF800B-55TIN
16M	2M x 8	5V	TSOP 48pin	Industrial	55	AS29CF160B-55TIN
16M	2M x 8	5V	TSOP 48pin	Industrial	55	AS29CF160T-55TIN



Parallel NOR Flash Cross Reference

ORG	VCC	PACKAGE	SPEED (NS)	ALLIANCE	Micron	Cypress / Spansion	Macronix
128k x 8	5V	PLCC 32	55	AS29CF010-55CCIN		AM29F010B	
512k x 8	5V	PLCC 32	55	AS29CF040-55CCIN	M29F040	AM29F040B	MX29F040C
1M x 8	5V	TSOP 48pin	55	AS29CF800T-55TIN	M29F800F	AM29F800T/B	MX29F800C T/B
1M x 8	5V	TSOP 48pin	55	AS29CF800B-55TIN	M29F800F	AM29F800T/B	MX29F800C T/B
2M x 8	5V	TSOP 48pin	55	AS29CF160T-55TIN	M29F160F	AM29F160DT/B	
2M x 8	5V	TSOP 48pin	55	AS29CF160B-55TIN	M29F160F	AM29F160DT/B	



pSRAM Psuedo SRAM

DENSITY	ORG	VCC	PACKAGE	Temperature	ALLIANCE
8M	512K x 16	1.7v ~1.95v (1.8v)	6.0x7.0x1.0mm 48 FPBGA	Industrial (-30°C ~+85°C)	AS1C512K16PL-70BIN
8M	512K x 16	2.6v to 3.3v (3V)	6.0x7.0x1.0mm 48 FPBGA	Industrial (-40°C~ +85°C)	AS1C512K16P-70BIN
16M	1M X16	1.7v to 1.95v(1.8v)	6.0x7.0x1.0mm 48 FPBGA	Industrial (-40°C~ +85°C)	AS1C1M16PL-70BIN
16M	1M X16	2.6v to 3.3v (3V)	6.0x7.0x1.0mm 48 FPBGA	Industrial (-40°C~ +85°C)	AS1C1M16P-70BIN
32M	2M X16	2.6v to 3.3v (3V)	6.0x7.0x1.0mm 48 FPBGA	Industrial (-40°C~ +85°C)	AS1C2M16P-70BIN
64M	4M X16	1.7v to 1.95v(1.8v)	4.0x4.0x0.8mm 49FBGA	Industrial (-30°C ~+85°C)	AS1C4M16PL-70BIN
128M (*2-stacked die)	8M X16	1.7v to 1.95v(1.8v)	4.0x4.0x1.0mm 49FBGA	Industrial (-30°C ~+85°C)	AS1C8M16PL-70BIN



pSRAM Cross Reference

ORG	DENSITY	PACKAGE	COMMENTS/ PREV REV	ALLIANCE	JSC/JEJU	ISSI	FIDELIX	AP MEMORY
8M	512K x 16	48 FPBGA	page mode & Non-DPD	AS1C512K16PL-70BIN	EM784SP16BPP-70LF	IS66WV51216EALL-70BLI		
8M	512K x 16	48 FPBGA	Non-page mode & Non-DPD	AS1C512K16P-70BIN	JS784SU16BSP-70LFI	IS66/67WV51216EBLL-70BL	FMP0817CAx	
16M	1M X16	48 FPBGA	Non-page mode & Non-DPD	AS1C1M16PL-70BIN	EM7164SP16CSP-70LFI	IS66W1M16EALL-70BLI	FMP1617CCx	
16M	1M X16	48 FPBGA	Non-page mode & Non-DPD	AS1C1M16P-70BIN	JS164SU16BSP-70LFI	IS66/67WV1M16EBLL-70BL	FMP1617CAx	
32M	2M X16	48 FPBGA	Non-page mode & Non-DPD	AS1C2M16P-70BIN	JS7324SU16BSP-70LFI	IS66WVE2M16EBLL-70B	FMP3217CAx	
64M	4M X16	449FBGA	DPD mode	AS1C4M16PL-70BIN	EMC643SP16CKDT-70LF			
128M (*2-stacked die)	8M X16	49FBGA	DPD mode	AS1C8M16PL-70BIN	JSC283SP16ATDT-70LF			APS128XX





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