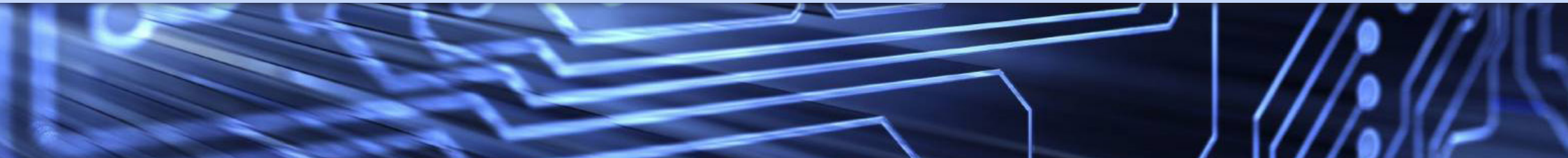


PRODUCT CATALOG 2024



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# Synchronous DRAM 3.3V ( x4, x8, x16 and x32 )



DENSITY	ORG	VCC	PACKAGE	CLOCK FREQUENCY (MHz)	TEMPERATURE OPTIONS	ALLIANCE
16Mb	1M x 16	3.3V	50pin TSOP II	143/166 MHz	Commercial, Industrial	AS4C1M16S-6/7 TxN
64Mb	4M x 16	3.3V	54pin TSOP II	143/166/200 MHz	Commercial, Industrial, Automotive	AS4C4M16SA-5/6/7 TxN
64Mb	4M x 16	3.3V	54pin TSOP II	166 MHz	Industrial	AS4C4M16SB-6TIN
64Mb	4M x 16	3.3V	54-ball FBGA	143/166 MHz	Commercial, Industrial, Automotive	AS4C4M16SA-6/7 BxN
64Mb	2M x 32	3.3V	90-ball TFBGA	143/166 MHz	Commercial, Industrial	AS4C2M32S-6/7 BxN
64Mb	2M x 32	3.3V	86pin TSOP II	143/166 MHz	Commercial, Industrial	AS4C2M32SA-6/7 TxN
128Mb	8M x 16	3.3V	54pin TSOP II/54-ball FBGA	143/166 MHz	Commercial, Industrial, Automotive	AS4C8M16SA-6/7 TxN/BxN
128Mb	8M x 16	3.3V	54pin TSOP II	166 MHz	Industrial	AS4C8M16SB-6TIN
128Mb	4M x 32	3.3V	90-ball TFBGA	143/166 MHz	Commercial, Industrial	AS4C4M32S-6/7 BxN
128Mb	4M x 32	3.3V	86pin TSOP II	143/166 MHz	Commercial, Industrial	AS4C4M32SA-6/7 TxN
256Mb	16M x 16	3.3V	54pin TSOP II/54-ball FBGA	143/166 MHz	Commercial, Industrial	AS4C16M16SA-6/7 TxN/BxN
256Mb	16M x 16	3.3V	54pin TSOP II/54-ball FBGA	143/166 MHz	Commercial, Industrial	AS4C16M16SB-6/7 TxN/BxN
256Mb	8M x 32	3.3V	86pin TSOP II	143/166 MHz	Commercial, Industrial	AS4C8M32S-6/7 TxN
256Mb	8M x 32	3.3V	90-ball TFBGA	143/166 MHz	Commercial, Industrial	AS4C8M32SA-6/7 BxN
256Mb	32M x 8	3.3V	54pin TSOP II	143/166 MHz	Commercial, Industrial	AS4C32M8SA-6/7 TxN
256Mb	64M x 4	3.3V	54pin TSOP II	143/166 MHz	Commercial, Industrial	AS4C64M4SA-6/7 TxN
512Mb	32M x 16	3.3V	54-ball FBGA	143 MHz	Industrial	AS4C32M16SB-7BIN
512Mb	32M x 16	3.3V	54pin TSOP II	143 MHz/166 MHz	Commercial, Industrial	AS4C32M16SB-6/7 TxN
512Mb	32M x 16	3.3V	54pin TSOP II	143 MHz	Industrial	AS4C32M16SC-7TIN
512Mb	16M x 32	3.3V	86pin TSOP II	143 MHz	Industrial	AS4C16M32SC-7TIN
512Mb	16M x 32	3.3V	90ball TFBGA	166MHz	Commercial, Industrial	AS4C16M32SB-6BxN
512Mb	64M x 8	3.3V	54pin TSOP II	143 MHz	Industrial	AS4C64M8SC-7TIN
512Mb	64M x 8	3.3V	54pin TSOP II	133 MHz	Commercial	AS4C64M8SD-7TCN

\*X= TEMPERATURE GRADE; C = COMMERCIAL ; I = INDUSTRIAL; A = AUTOMOTIVE

# Synchronous DRAM 3.3V Cross Reference



DENSITY	ORG	ALLIANCE	SAMSUNG (EOL)	MICRON	SK HYNIX (EOL)	ISSI	WINBOND	NANYA (EOL)	ELITE (ESMT)	ELPIDA (EOL)
16Mb	1M x 16	AS4C1M16S-6/7TxN	K4S161622E	MT48LC1M16A1	HY57V161610	IS42S16100	W9816G6TH	NT56V1616AOT	M12L16161A-xTG2Q	EDS1616AGTA
64Mb	4M x 16	AS4C4M16SA-5/6/7TxN AS4C4M16SB-6TIN	K4S641632N-UCxx	MT48LC4M16A2P	HY57V641620	IS42S16400 IS45S16400	W9864G6JH	NT56V6620C0T-xxB	M12L64164A-xTG2U	uPD4564163G5-Axx
64Mb	4M x 16	AS4C4M16SA-6/7BxN		MT48LCM16A2B4(F4)	HY5V66D	IS42S16400 IS45S16400	W9864G6JT		M12L64154A-xBG2C	
64Mb	2M x 32	AS4C2M32S-6/7BxN		MT48LC2M32B2B5-X	HY5V62	IS42S32200	W9864G2IB-X			EDS6432AFBH
64Mb	2M x 32	AS4C2M32SA-6/7TxN	K4S643232H-Ucxx	MT48LC2M32B2P-x (EOL)	HY57V643220	IS42S32200	W9864G2J(G,I)H-x		M12L64322A-xTG2U	EDS6432AFTA
128Mb	8M x 16	AS4C8M16SA-6/7TxN AS4C8M16SB-6TIN	K4S281632K-UCxx	MT48LC8M16A2P	HY57V281620	IS42S16800 IS45S16800	W9812G6K(G,I)H	NT55V8M16AT-xxB	M12L128168A-xTG2N	uPD45128163G5-Axx
128Mb	8M x 16	AS4C8M16SA-6/7BxN	K4S281632D-RL75	MT48LC8M16A2B4(F4)	HY5V26	IS42S16800 IS45S16800	W9812G6JB		M12L128168A-xBG2N	
128Mb	4M x 32	AS4C4M32S-6/7BxN		MT48LC4M32B2B5-x	HY5V22	IS42S32400	W9812G21(G)B-x		M12L128324-xBG2E	EDS1232AHBH
128Mb	4M x 32	AS4C4M32SA-6/7TxN		MT48LC4M32B2P-x (EOL)	HY57V283220T	IS42S32400	W9812G2GH			EDS1232AHTA
256Mb	16M x 16	AS4C16M16SA/B-6/7TxN	K4S561632N-UCxx	MT48LC16M16A2P	H57V2562GTR	IS42S16160 IS45S16160	W9825G6K(D,E,J)H	NT55V16M16AT-xxB	M12L2561616A-xTG2A	EDS2516AP(AF,AC) TA-xx
256Mb	16M x 16	AS4C16M16SA/B-6/7BxN	K4S561632D-RL75	MT48LC16M16A2B4	HY5V56	IS42S16160 IS45S16160	W9825G6JB		M12L2561616A-xBG2A	EDS2516EE(JE)BH
256Mb	8M x 32	AS4C8M32S-6/7TxN		MT48LC8M32B2B5-x (EOL)	HY5V52	IS42S32800	W9825G2J(D)B-x			EDS2532EEBH
256Mb	8M x 32	AS4C8M32SA-6/7BxN		MT48LC8M32B2B5-x	HY5V52	IS42S32800	W9825G2J(D)B-x			EDS2532EEBH
256Mb	32M x 8	AS4C32M8SA-6/7TxN		MT48LC32M8A2P		IS42S83200J				
256Mb	64M x 4	AS4C64M4SA-6/7TxN		MT48LC64M4A2P (EOL)		IS42S32800				
512Mb	32M x 16	AS4C32M16SB-7BIN				IS42S16320			M12L5121632A	
512Mb	32M x 16	AS4C32M16SB-6/7TxN	K4S511632M-TC75	MT48LC32M16A2 (EOL)		IS42S16320			M12L5121632A	EDS5116ABTA
512Mb	32M x 16	AS4C32M16SC-7TIN	K4S511632M-TC75	MT48LC32M16A2 (EOL)		IS42S16320			M12L5121632A	EDS5116ABTA
512Mb	16M x 32	AS4C16M32SB-6BxN		MT48LC16M32S2 (EOL)		IS42S32160				
512Mb	16M x 32	AS4C16M32SC-7TIN				IS42S32160				
512Mb	64M x 8	AS4C64M8SC-7TIN		MT48LC64M8A2P-75:C (EOL)		IS42S86400				
512Mb	64M x 8	AS4C64M8SD-7TCN		MT48LC64M8A2P-75:C (EOL)		IS42S86400				

# DDR1 2.5V DRAM

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

\* X= TEMPERATURE GRADE; C = COMMERCIAL ; I = INDUSTRIAL; A = AUTOMOTIVE

# DDR1 2.5V DRAM Cross Reference

DENSITY	ALLIANCE	SAMSUNG (EOL)	MICRON	ISSI	HYNIX - ALL EOL	WINBOND	NANYA	ELITE (ESMT)	ELPIDA
64Mb	AS4C4M16D1A-5TxN	K4H641638N	MT46V4M16TG (EOL)	IS43R16400B		W9464G6K(I,J)H		M13S64164A-5TG2Y	(EOL)
64Mb	AS4C2M32D1A-5BxN								
128Mb	AS4C8M16D1-5BxN	K4H281638D		IS43R16800E-5BL		W9412G6JB		M13S128168A-5BG2N	EDD1216A
128Mb	AS4C8M16D1A-5TxN	K4H281638D	MT46V8M16 (EOL)	IS43R16800E-5TL	HY5DU1281622	W9412G6K(I,J)H		M13S128168A-5TG2N	EDD1216A
128Mb	AS4C4M32D1A-5BxN		MT46V4M32FK (EOL)	IS43R32400E-5BL		W9412GIB		M13S128324A-5BG2M	EDD1232A
256Mb	AS4C32M8D1-5TxN	K4H560838N	MT46V32M8P (EOL)	IS43R83200	HY5DU56822		NT5DS32M8ES		EDD2508A
256Mb	AS4C16M16D1-5BxN	K4H561638D	MT46V16M16CY-5B	IS43R16160 IS46R16160	HY5DU561622	W9425G6JB		M13S2561616A-xBG2A	
256Mb	AS4C16M16D1A-5TxN	KH561638D	MT46V16M16P	IS43R16160	HY5DU561622	W945G6K(D,E,J)H		M13S2561616A-xTG2A	EDD2516A
512Mb	AS4C32M16D1-5BxN	K4H511638J	MT46V32M16CY	IS43R16320 IS46R16320	HY5DU121622				EDD5116
512Mb	AS4C32M16D1A-5TxN	K4H511638J	MT46V32M16P	IS43R16320 IS46R16320	HY5DU121622		NT5DS32M16ES	M13S5121632A-5TG2S	EDD5116A
512Mb	AS4C64M8D1-5TxN	K4H510838J	MT46V64M8P	IS43R86400	HY5DU12822		NT5DS64M8ES		EDD5108A
512Mb	AS4C64M8D1-5BxN	K4H510838J	MT46V64M8CY(BN)	IS43R86400	HY5DU12822				
1Gb	AS4C64M16D1-6TxN		MT46V64M16P (EOL)						
1Gb	AS4C64M16D1A-6BIN								

# DDR2 1.8V DRAM

DENSITY	ORG	VCC	PACKAGE	CLOCK FREQUENCY (MHz)	DATA RATE	TEMPERATURE OPTIONS	ALLIANCE
256Mb	16M x 16	1.8V	84-ball FBGA	400 MHz	800 Mbps	Commercial, Industrial	AS4C16M16D2-25BxN
512Mb	32M x 16	1.8V	84-ball FBGA	400 MHz	800Mbps	Commercial, Industrial, Automotive	AS4C32M16D2A/C-25BxN
512Mb	64M x 8	1.8V	60-ball FBGA	400 MHz	800 Mbps	Commercial, Industrial, Automotive	AS4C64M8D2-25BxN
1Gb	64M x 16	1.8V	84-ball FBGA	400 MHz	800Mbps	Commercial, Industrial, Automotive	AS4C64M16D2A-25BxN
1Gb	64M x 16	1.8V	84-ball FBGA	400 MHz	800 Mbps	Commercial	AS4C64M16D2B-25BCN
1Gb	128M x 8	1.8V	60-ball FBGA	400 MHz	800Mbps	Commercial, Industrial	AS4C128M8D2A-25BxN
2Gb	128M x 16	1.8V	84-ball FBGA	400 MHz	800 Mbps	Commercial, Industrial	AS4C128M16D2-25BxN
2Gb	128M x 16	1.8V	84-ball FBGA	400 MHz	800Mbps	Commercial, Industrial	AS4C128M16D2A-25BxN
2Gb	256M x 8	1.8V	60-ball FBGA	400 MHz	800 Mbps	Commercial	AS4C256M8D2A-25BCN

\*X= TEMPERATURE GRADE; C = COMMERCIAL ; I = INDUSTRIAL; A = AUTOMOTIVE

## DDR2 1.8V DRAM Cross Reference

DENSITY	ALLIANCE	SAMSUNG (EOL)	MICRON	ISSI	WINBOND	NANYA	ELITE (ESMT)	HYNIX (EOL)
256Mb	AS4C16M16D2-25BxN	K4T56163Q	MT47H16M16BG	IS43DR16160	W9725G6K(J)B	NT5TU16M16BG	M14D2561616A-2.5BG	HY5PS561621
512Mb	AS4C32M16D2A/C-25BxN	K4T51163Q	MT47H32M16HR(NF)-25E	IS43DR16320 IS46DR16320	W9751G6K(J)B	NT5TU32M16GG	M14D5121632A-2.5BG	HY5PS121621
512Mb	AS4C64M8D2-25BxN	K4T51083Q	MT47H64M8CF(SH)-25E	IS43DR86400 IS46DR86400	W9751G8K(J)B	NT5TU64M8EE		H5PS5182KFR
1Gb	AS4C64M16D2A-25BxN	K4T1G164Q	MT47H64M16HR(NF)-25E	IS43DR16640 IS46DR16640	W971GG6JB	NT5TU64M16HG	M14D1G1664A-2.5BG	H5PS1G63
1Gb	AS4C64M16D2B-25BCN	K4T1G164Q	MT47H64M16HR(NF)-25E	IS43DR16640	W971GG6JB	NT5TU64M16HG	M14D1G1664A-2.5BG	H5PS1G63
1Gb	AS4C128M8D2A-25BxN	K4T1G084Q	MT47H128M8SH-25E	IS43DR81280	W971GG8JB	NT5TU128M8HE	M14D1G8128A	H5PS1G83
2Gb	AS4C128M16D2-25BxN		MT47H128M16RT-25E	IS43DR16128	W972GG6JB			
2Gb	AS4C128M16D2A-25BxN		MT47H128M16RT-25E	IS43DR16128 IS46DR16128	W972GG6JB			
2Gb	AS4C256M8D2A-25BCN		MT47H256M8EB-25E	IS43DR82560	W972GG8JB			

# DDR3 1.5V SDRAM

DENSITY	ORG	VCC	PACKAGE	CLOCK FREQUENCY	DATA RATE	TEMPERATURE OPTIONS	ALLIANCE
512Mb	32M x 16	1.5V	96-ball FBGA	800 MHz	1600 Mbps	Commercial, Industrial	AS4C32M16D3-12BxN
512Mb	64M x 8	1.5V	78-ball FBGA	800 MHz	1600 Mbps	Commercial, Industrial	AS4C64M8D3-12BxN
1Gb	64M x 16	1.5V	96-ball FBGA	800 MHz	1600 Mbps	Commercial, Industrial, Automotive	AS4C64M16D3B-12BxN
1Gb	128M x 8	1.5V	78-ball FBGA	800 MHz	1600 Mbps	Commercial, Industrial, Automotive	AS4C128M8D3B-12BxN
2Gb	128M x 16	1.5V	96-ball FBGA	1066 MHz	2133 Mbps	Commercial	AS4C128M16D3C-93BCN
4Gb	256M x 16	1.5V	96-ball FBGA	800 MHz 933 MHz 1066 MHz	1600 Mbps 1866 Mbps 2133 Mbps	Commercial, Industrial	AS4C256M16D3C-12BxN AS4C256M16D3C-10BxN AS4C256M16D3C-93BxN

\* X= TEMPERATURE GRADE; C = COMMERCIAL ; I = INDUSTRIAL ; A = AUTOMOTIVE

# DDR3L 1.35V SDRAM

DENSITY	ORG	VCC	PACKAGE	CLOCK FREQUENCY	DATA RATE	TEMPERATURE OPTIONS	ALLIANCE
512Mb	32M x 16	1.35V	96-ball FBGA	800 MHz	1600 Mbps	Commercial, Industrial	AS4C32M16D3L-12BxN
512Mb	64M x 8	1.35V	78-ball FBGA	800 MHz	1600 Mbps	Commercial, Industrial	AS4C64M8D3L-12BxN
1Gb	64M x 16	1.35V	96-ball FBGA	800 MHz	1600 Mbps	Commercial, Industrial, Automotive	AS4C64M16D3LB-12BxN AS4C64M16D3LC-12BxN
1Gb	128M x 8	1.35V	78-ball FBGA	800 MHz	1600 Mbps	Commercial, Industrial, Automotive	AS4C128M8D3LB-12BxN AS4C128M8D3LC-12BxN
2Gb	128M x 16	1.35V	96-ball FBGA	800 MHz	1600 Mbps	Commercial, Industrial, Automotive	AS4C128M16D3LC-12BxN
2Gb	256M x 8	1.35V	78-ball FBGA	800 MHz	1600 Mbps	Commercial, Industrial, Automotive	AS4C256M8D3LC-12BxN
4Gb	256M x 16	1.35V	96-ball FBGA	800 MHz 933 MHz	1600 Mbps 1866 Mbps	Commercial, Industrial, Automotive	AS4C256M16D3LC-12BxN AS4C256M16D3LC-10BxN
4Gb	512M x 8	1.35V	78-ball FBGA	800 MHz 933 MHz	1600 Mbps 1866 Mbps	Commercial, Industrial, Automotive	AS4C512M8D3LC-12BxN AS4C512M8D3LC-10BAN
8Gb	512M x 16	1.35V	96-ball FBGA	933 MHz	1866 Mbps	Commercial, Industrial, Automotive	AS4C512M16D3LA-10BxN
8Gb	512M x 16	1.35V	96-ball FBGA	800 MHz	1600 Mbps	Commercial, Industrial	AS4C512M16D3LB-12BxN
8Gb	512M x 16	1.35V	96-ball FBGA	800 MHz 933 MHz	1600 Mbps 1866 Mbps	Commercial, Industrial	AS4C512M16D3LC-12BxN AS4C512M16D3LC-10BxN
8Gb	1G x 8	1.35V	78-ball FBGA	933 MHz	1866 Mbps	Commercial, Industrial, Automotive	AS4C1G8D3LA-10BxN

\* X= TEMPERATURE GRADE; C = COMMERCIAL ; I = INDUSTRIAL ; A = AUTOMOTIVE



# DDR3/L SDRAM Cross Reference

DENSITY	ALLIANCE	MICRON	SAMSUNG(EOL)	ISSI	HYNIX	WINBOND	ELITE (ESMT)	ELPIDA	NANYA
512Mb	AS4C32M16D3-12BxN					W6351G6KB-x	M15T5121632A	EDJ5316BASE	
512Mb	AS4C64M8D3-12BxN							EDJ5308BASE	
512Mb	AS4C32M16D3L-12BxN						M15T5121632A	EDJ5316BASE	
512Mb	AS4C64M8D3L-12BxN							EDJ5308BASE	
1Gb	AS4C64M16D3B-12BxN	MT41J64M16JT(TW)-125 (EOL)	K4B1G1646E(G)	IS43TR16640 IS46TR16640	H5TQ1G63D	W631GG6KB-x	M15F1G1664A	EDJ1116DJ(BA) BG	NT5CB64M16F(G)P
1Gb	AS4C64M16D3LB/C-12BxN	MT41K64M16JT(TW)-125	K4B1G1646E(G)	IS43TR16640xL IS46TR16640xL	H5TC1G63EFR (EOL)	W631GU6KB-x	M15T1G1664A-(2C)	EDJ1116EJBG	NT5CC64M16F(G)P-DI
1Gb	AS4C128M8D3B-12BxN	MT41J128M8JP(DA)-125	K4B1G0846E(F,G)	IS43TR81280 IS46TR81280	H5TQ1G83	W631GG8KB-x	M15T1G8128A	EDJ1108DJ(BA) BG	NT5CB128M8F(G)N-DI
1Gb	AS4C128M8D3LB/C-12BxN	MT41K128M8JP(DA)-125	K4B1G0846G-BY	IS43TR81280xL IS46TR81280xL	H5TC1G83EFR (EOL)	W631GU8KB-x	M15T1G8128A	EDJ1108EJBG	NT5CC128M8F(G)N-DI
2Gb	AS4C128M16D3C-93BCN	MT41J128M16JT(TW)-125	K4B2G1646E-B	IS43TR16128	H5TQ2G63	W632GG6KB-x	M15F2G16128A	EDJ2116DEBG	NT5CB128M16I(F)P-DI
2Gb	AS4C128M16D3LC-12BxN	MT41K128M16JT-125	K4B2G1646Q-B	IS43TR16128xL IS46TR16128xL	H5TC2G63	W632GU6KB-x	M15F2G16128A	EDJ2116EEBG	NT5CC128M16I(F)P-DI
2Gb	AS4C256M8D3LC-12BxN	MT41K256M8DA-125	K4B2G0846Q-BCK	IS43TR82560xL IS46TR82560xL	H5TQ2G83FFR-x	W632GG8KB-x	M15T2G8256A	EDJ2108DEBG	NT5CB256M8IN-FL
4Gb	AS4C256M16D3C-93BCN AS4C256M16D3C-10BxN AS4C256M16D3C-12BxN	MT41J256M16HA-107 MT41J256M16HA-125	K4B4G1646B(D)	IS43TR16256	H5TQ4G63	W634GG6MB/ NB	M15F4G16256A	EDJ4216BFBG (BASE)	NT5CB256M16C(D,E) P-DI
4Gb	AS4C256M16D3LC-10BxN AS4C256M16D3LC-12BxN	MT41K256M16HA-107/125 MT41K256M16TW-107/125	K4B4G1646E(Q)	IS43TR16256xL IS46TR16256xL	H5TC4G63	W634GU6MB/ NB	M15T4G16256A	EDJ4216EFBG	NT5CC256M16C(D,E) P-DI
4Gb	AS4C512M8D3LC-10BAN AS4C512M8D3LC-12BxN	MT41K512M8DA-125	K4B4G0846B(C,D)	IS43TR85120xL IS46TR85120xL	H5TC4G83	W634GU8MB/ NB	M15T4G8512A	EDJ4208EFBG	NT5CC512M8C(D,E) N-DI
8Gb	AS4C512M16D3LA-10BxN	MT41K512M16VRN-107 MT41K512M16VRP-107 MT41K512M16HA-125 (EOL)	K4B8G1646x	IS43TR16512	H5TC8G63CMR	W638GU6QB	M15T8G16512A-DE		NT5CC512T16EH-DI/A/H NT5CC512T16EH-EK/A/H
8Gb	AS4C512M16D3LB-12BxN	MT41K512M16HA-125 (EOL)	K4B8G1646x	IS43TR16512	H5TC8G63CMR	W638GU6QB	M15T8G16512A-BD		NT5CC512T16EH-DI/A/H
8Gb	AS4C512M16D3LC-10BxN AS4C512M16D3LC-12BxN	MT41K512M16VRN-107 MT41K512M16VRP-107 MT41K512M16HA-125 (EOL)	K4B8G1646x	IS43TR16512	H5TC8G63CMR	W638GU6QB	M15T8G16512A-BD M15T8G16512A-DE		NT5CC512T16EH-DI/A/H NT5CC512T16EH-EK/A/H
8Gb	AS4C1G8D3LA-10BxN	MT41K1G8SN-107/125:E	K4B8G0846x	IS43TR81024	H5TC8G83BMR				
8Gb	MT41K512M16HA-125	MT41K512M16HA-125	K4B8G1646x	IS43TR16512	H5TC8G63CMR	W638GU6QB	M15T8G16512A-BD		NT5CC512T16EH-DI/A/H

# DDR4 SDRAM

DENSITY	ORG	VCC	PACKAGES	CLOCK FREQUENCY	DATA RATE	TEMPERATURE OPTIONS	ALLIANCE
4Gb	256M x 16	1.2V	96-ball FBGA (7.5x13.5mm)	1333 MHz 1200 MHz	666 Mbps 2400 Mbps	Commercial, Industrial	AS4C256M16D4-75BxN AS4C256M16D4-83BxN
4Gb	512M x 8	1.2V	78-ball FBGA (7.5x10.6mm)	1333 MHz 1200 MHz	2666 Mbps 2400 Mbps	Commercial, Industrial	AS4C512M8D4-75BxN AS4C512M8D4-83BxN
4Gb	256M x 16	1.2V	96-ball FBGA (7.5x13mm)	1600 MHz 1333 MHz	3200 Mbps 2666 Mbps	Commercial, Industrial	AS4C256M16D4A-62BxN AS4C256M16D4A-75BxN
4Gb	512M x 8	1.2V	78-ball FBGA (7.5x11mm)	1333 MHz	2666 Mbps	Commercial, Industrial	AS4C512M8D4A-75BxN
8Gb	512M x 16	1.2V	96-ball FBGA (7.5x13mm)	1333 MHz	2666 Mbps	Commercial, Industrial	AS4C512M16D4-75BxN
8Gb	512M x 16	1.2V	96-ball FBGA (7.5x13mm)	1600 MHz	3200 Mbps	Commercial, Industrial	AS4C512M16D4A-62BxN
8Gb	512M x 16	1.2V	96-ball FBGA (7.5x13mm)	1600 MHz	3200 Mbps	Automotive Temperature -40 °C to 105 °C	AS4C512M16D4A-62BAN
8Gb	1G x 8	1.2V	78-ball FBGA (7.5x12mm)	1333 MHz	2666 Mbps	Commercial, Industrial	AS4C1G8D4-75BxN
8Gb	1G x 8	1.2V	78-ball FBGA (7.5x12mm)	1600 MHz	3200 Mbps	Commercial, Industrial	AS4C1G8D4A-62BxN
16Gb	1G x 16	1.2V	96-ball FBGA (9x13mm)	1600 MHz	3200 Mbps	Commercial	MT40A1G16KH-062E
16Gb	1G x 16	1.2V	96-ball FBGA (9x13mm)	1600 MHz	3200 Mbps	Commercial	AS4C1G16D4-062BCN

# DDR4 Cross Reference

DENSITY	ORG	ALLIANCE	MICRON	NANYA	SAMSUNG	HYNIX	ISSI
4Gb	256M x 16	AS4C256M16D4-83BxN AS4C256M16D4-75BxN	MT40A256M16GE	NT5AD256M16D4	K4A4G165WE	H5AN4G6NBJR	IS43QR16256
4Gb	512M x 8	AS4C512M8D4-83BxN AS4C512M8D4-75BxN	MT40A512M8RH	NT5AD512M8D4	K4A4G085WE	H5AN4G8NBJR	IS43QR85120
4Gb	256M x 16	AS4C256M16D4A-62BxN AS4C256M16D4A-75BxN	MT40A256M16GE	NT5AD256M16D4	K4A4G165WE	H5AN4G6NBJR	IS43QR16256
4Gb	512M x 8	AS4C512M8D4A-75BxN	MT40A512M8RH	NT5AD512M8D4	K4A4G085WE	H5AN4G8NBJR	IS43QR85120
8Gb	512M x 16	AS4C512M16D4-75BxN AS4C512M16D4A-62BxN	MT40A512M16LY/JY	NT5AD512M16C4	K4A8G165WB/C	H5AN8G6NCJR	IS43QR16512A IS46QR16512A
8Gb	1G x 8	AS4C1G8D4-75BxN AS4C1G8D4A-62BxN	MT40A1G8SA/WE	NT5AD1024M8C3	K4A8G085WB/C	H5AN8G8NCJR	IS43QR81024A
16Gb	1G x 16	MT40A1G16KH-062E AS4C1G16D4-062BCN	MT40A1G16KH/KNR		K4AAG165WA-BCWE	H5ANAG6NCMR-XNC H5ANAG6NDRM-XNC	

# MOBILE LOW POWER SDRAM

DENSITY	ORG	VCC	PACKAGE	CLOCK FREQUENCY	TEMPERATURE OPTIONS	ALLIANCE
128Mb	8M x 16	1.7V ~ 1.95V	54-ball FBGA (8x8mm)	166 MHz	Industrial -40°C ~ +85°C	AS4C8M16MSA-6BIN AS4C8M16MSB-6BIN
256Mb	16M x 16	1.7V ~ 1.95V	54-ball FBGA (8x8mm)	166 MHz	Industrial -40°C ~ +85°C	AS4C16M16MSA-6BIN AS4C16M16MSB-6BIN
256Mb	8M x 32	1.7V ~ 1.95V	90-ball FBGA (8x13mm)	166 MHz	Industrial -40°C ~ +85°C	AS4C8M32MSB-6BIN
512Mb	32M x 16	1.7V ~ 1.95V	54-ball FBGA (8x8mm)	166 MHz	Industrial -40°C ~ +85°C	AS4C32M16MSA-6BIN AS4C32M16MSB-6BIN
512Mb	16M x 32	1.7V ~ 1.95V	90-ball FBGA (8x13mm)	166 MHz	Industrial -40°C ~ +85°C	AS4C16M32MSA-6BIN AS4C16M32MSB-6BIN

## MOBILE LOW POWER SDRAM Cross Reference

DENSITY	ALLIANCE	MICRON	ISSI	NANYA	WINBOND
128Mb	AS4C8M16MSA-6BIN AS4C8M16MSB-6BIN		IS42VM16800H		W987D6HBGX
256Mb	AS4C16M16MSA-6BIN AS4C16M16MSB-6BIN	MT48H16M16LFBF (EOL)	IS42VM16160K		W988D6FBGX
256Mb	AS4C8M32MSB-6BIN	MT48H8M32LFB5 (EOL)	IS42VM32800K		W988D2FBJX
512Mb	AS4C32M16MSA-6BIN AS4C32M16MSB-6BIN	MT48H32M16LFB4-6 IT	IS42VM16320E	NT6SM32M16BG-S1	W989D6DBGX
512Mb	AS4C16M32MSA-6BIN AS4C16M32MSB-6BIN	MT48H16M32LFB5-6 IT	IS42VM32160E	NT6SM16M32BK-S1	W989D2DBJX

# MOBILE LOW POWER DDR1

DENSITY	ORG	VCC	PACKAGE	CLOCK FREQUENCY	DATA RATE	TEMPERATURE OPTIONS	ALLIANCE
256Mb	16M x 16	1.8V	60-ball FBGA (8x9mm)	166 MHz	333Mbps	Extended -30°C ~ +85°C	AS4C16M16MD1-6BCN
512Mb	32M x 16	1.8V	60-ball FBGA (8x9mm)	200 MHz	400Mbps	Extended -30°C ~ +85°C	AS4C32M16MD1A-5BCN
512Mb	16M x 32	1.8V	90-ball FBGA (8x13mm)	200 MHz	400Mbps	Extended -25°C ~ +85°C Industrial -40°C ~ +85°C	AS4C16M32MD1-5BxN
1Gb	64M x 16	1.8V	60-ball FPBGA (8x9mm)	200 MHz	400Mbps	Industrial -40°C ~ +85°C	AS4C64M16MD1A-5BIN
1Gb	32M x 32	1.8V	90-ball FBGA (8x13mm)	200 MHz	400Mbps	Industrial -40°C ~ +85°C	AS4C32M32MD1A-5BIN
2Gb	64M x 32	1.8V	90-ball FBGA (8x13mm)	200 MHz	400Mbps	Extended -25°C ~ +85°C Industrial -40°C ~ +85°C	AS4C64M32MD1-5BxN
2Gb	64M x 32	1.8V	90-ball FBGA (8x13mm)	200 MHz	400Mbps	Industrial -40°C ~ +85°C	AS4C64M32MD1A-5BIN

## MOBILE LOW POWER DDR1 Cross Reference

DENSITY	ALLIANCE	MICRON	SAMSUNG	ISSI	HYNIX	NANYA	ELITE (ESMT)	WINBOND
256Mb	AS4C16M16MD1-6BCN	MT46H16M16LFBF-6	K4X56163SPN	IS43LR16160	HY5MS5B6/ H5MS2562	NT6DM16M16AD-T1	M53D2561616A-6BG2F	W948D6FBHX
512Mb	AS4C32M16MD1A-5BCN	MT46H32M16LFBF-5	K4X51163PI	IS43R16320B	HY5MS7B6/ H5MS5162	NT6DM32M16A(B)D-T1	M53D5121632A-5BG2T	W949D6DBHX
512Mb	AS4C16M32MD1-5BxN	MT46H16M32LFB5-5	K4X51323PI	IS43LR32160B	H5MS5132/ H5MS5122	NT6DM16M32A(B)C-T1	M53D5123216A-5BG2S	W949D2DBJX
1Gb	AS4C64M16MD1A-5BIN	MT46H64M16LFBF	K4X1G163PE	IS43LR16640A	H5MS1G62			
1Gb	AS4C32M32MD1A-5BIN	MT46H32M32LFB5-5	K4X1G323PF	IS43LR32320B	H5MS1G22	NT6DM32M32BC-T1	M53D1G3232A	W94AD2KBJX
2Gb	AS4C64M32MD1-5BxN	MT46H64M32LFBQ-5	K4X2G323PC	IS43LR32640A	H5M52G22			
2Gb	AS4C64M32MD1A-5BIN	MT46H64M32LFBQ-5	K4X2G323PC	IS43LR32640A	H5M52G22			

# MOBILE LOW POWER DDR2

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

# MOBILE LOW POWER DDR2 Cross Reference

DENSITY	ALLIANCE	MICRON	SAMSUNG	ISSI	HYNIX	NANYA	ELITE (ESMT)	WINBOND
256Mb	AS4C8M32MD2A-25B(PC)N			IS43LD32800A-25BLx IS43LD32800B-25BLx				W978H2KBVX2E
1Gb	AS4C64M16MD2A-25BIN	MT42L64M16D1HE-25		IS43LD16640C/A		NT6TL64M16BA(I)-GO		W97AH6KBVX2
1Gb	AS4C32M32MD2A-25BIN	MT42L32M32D1HE-25		IS43LD32320C/A		NT6TL32M32BI(A)-GO		W97AH2KBVX2
2Gb	AS4C128M16MD2A-25BIN	MT42L128M16D1TK-25		IS43LD16128B		NT6TL128M16CI(A)-GO		W97BH6KBVX2
2Gb	AS4C64M32MD2A-25BIN	MT42L64M32D1TK-25		IS43LD32640B		NT6TL64M32CI(A)-GO		W97BH2KBVX2
4Gb	AS4C128M32MD2A-18BIN	MT42L128M32D1GU-18		IS43LD32128A		NT6TL128M32BI(A)-GO		
4Gb	AS4C128M32MD2A-25BIN	MT42L128M32D1GU-18		IS43LD32128A		NT6TL128M32BI(A)-GO		



# LPDDR4

DENSITY	ORG	VDD1 / VDD2 / VDDQ	PACKAGES	CLOCK FREQUENCY	DATA RATE	TEMPERATURE OPTIONS	ALLIANCE	REMARKS
2Gb	128M x 16	1.8V / 1.1V / 1.1V	200b TFBGA (10x14.5mm)	1600 MHz	3200 Mbps	Automotive A2 (-40°C to 105°C)	AS4C128M16MD4-062BAN	With ECC
2Gb	64M x 32	1.8V / 1.1V / 1.1V	200b TFBGA (10x14.5m)	1600 MHz	3200 Mbps	Automotive A2 (-40°C to 105°C)	AS4C64M32MD4-062BAN	With ECC
4Gb	128M x 32	1.8V / 1.1V / 1.1V	200b TFBGA (10x14.5m)	1600 MHz	3200 Mbps	Automotive A2 (-40°C to 105°C)	AS4C128M32MD4-062BAN	With ECC
4Gb	256M x 16	1.8V / 1.1V / 1.1V	200b TFBGA (10x14.5m)	1600 MHz	3200 Mbps	Automotive A2 (-40°C to 105°C)	AS4C256M16MD4-062BAN	With ECC
8Gb	256M x 32	1.8V / 1.1V / 1.1V	200b TFBGA (10x14.5m)	1600 MHz	3200 Mbps	Automotive A2 (-40°C to 105°C)	AS4C256M32MD4-062BAN	With ECC

# LPDDR4X

DENSITY	ORG	VDD1 / VDD2 / VDDQ	PACKAGES	CLOCK FREQUENCY	DATA RATE	TEMPERATURE OPTIONS	ALLIANCE	REMARKS
2Gb	128M x 16	1.8V / 1.1V / 0.6V	200b TFBGA (10x14.5mm)	1600 MHz	3200 Mbps	Automotive A2 (-40°C to 105°C)	AS4C128M16MD4V-062BAN	With ECC
4Gb	256M x 16	1.8V / 1.1V / 0.6V	200b TFBGA (10x14.5mm)	1600 MHz	3200 Mbps	Automotive A2 (-40°C to 105°C)	AS4C256M16MD4V-062BAN	With ECC
8Gb	256M x 32	1.8V / 1.1V / 0.6V	200b TFBGA (10x14.5mm)	1600 MHz	3200 Mbps	Automotive A2 (-40°C to 105°C)	AS4C256M32MD4V-062BAN	With ECC
8Gb	512M x 16	1.8V / 1.1V / 0.6V	200b TFBGA (10x15mm)	1866 MHz	3733 Mbps	Industrial (-40C to 85C)	AS4C512M16MD4V-053BIN	without ECC
16Gb	512M x 32	1.8V / 1.1V / 0.6V	200b TFBGA (10x15mm)	1866 MHz	3733 Mbps	Industrial (-40C to 85C)	AS4C512M32MD4V-053BIN	without ECC
16Gb	512M x 32	1.8V / 1.1V / 0.6V	200b TFBGA (10x15mm)	2133 MHz	4266 Mbps	Industrial (-40C to 95C)	AS4C512M32MD4V-046BIN	without ECC
32Gb	1Gb x 32	1.8V / 1.1V / 0.6V	200b TFBGA (10x15mm)	2133 MHz	4266 Mbps	Industrial (-40C to 95C)	AS4C1G32MD4V-046BIN	without ECC

# LPDDR4 Cross Reference

DENSITY	ORG	ALLIANCE	MICRON	SAMSUNG	HYNIX	NANYA	ISSI	WINBOND	IM
2Gb	128M x 16	AS4C128M16MD4-062BAN	MT53E128M16D1DS		H9HCNNNBKUMMLXR/HR	NT6AN128M16AV	IS43/46LQ16128A IS43/46LQ16128EA	W66BL6NBU W66BP6NBU	
2Gb	64M x 32	AS4C64M32MD4-062BAN					IS43/46LQ32640A IS43/46LQ32640EA	W66CL2NQU W66CP2NQU W66CP2NQQ	
4Gb	128M x 32	AS4C128M32MD4-062BAN	MT53B128M32D1DS MT53E128M32D2DS MT53E128M32D2FW	K4F4E3S4HF-GFCJ K4F4E3S4HF-GHCJ		NT6AN128T32AV	IS43/46LQ32128A IS43/46LQ32128EA	W66CL2NQU W66CP2NQU	IME4G32L4HABG
4Gb	256M x 16	AS4C256M16MD4-062BAN	MT53E256M16D1DS MT53E256M16D1FW		H9HCNNN4KUMMLHR	NT6AN256M16AV	IS43/46LQ16256A IS43/46LQ16256EA	W66CP6NBU W66CL6NBU	
8Gb	256M x 32	AS4C256M32MD4-062BAN	MT53B256M32D1DS MT53E256M32D2DS MT53E256M32D2FW	K4F8E304HB-MGCJ K4F8E3S4HB-MFCJ K4F8E3S4HB-MHCJ	H9HCNNN8KUMMLHR	NT6AN256T32AV	IS43/46LQ32256A IS43/46LQ32256EA	W66DP2NQU W66DL2NQU	IME8G32L4HADG

# LPDDR4X Cross Reference

DENSITY	ORG	ALLIANCE	MICRON	SAMSUNG	HYNIX	NANYA	ISSI	WINBOND	IM
2Gb	128M x 16	AS4C128M16MD4V-062BAN					IS43/46LQ16128AL IS43/46LQ16128EA	W66BQ6NBU	
4Gb	256M x 16	AS4C256M16MD4V-062BAN	MT53E256M16D1DS MT53E256M16D1FW	K4U8E3S4AD-GFCL K4U8E3S4AD-GHC	H9HCNNN4KMMLHR	NT6AP256M16AV	IS43/46LQ16256AL IS43/46LQ16256EA	W66CQ6NQU	IM4G16L4JCBG
8Gb	256M x 32	AS4C256M32MD4V-062BAN	MT53B256M32D1DS MT53E256M32D2DS MT53E256M32D2FW	K4U8E3S4Ax		NT6AP256T32AV	IS43/46LQ32256AL IS43/46LQ32256EAL	W66DQ2NQU	IM8G32L4JCBG
8Gb	512M x 16	AS4C512M16MD4V-053BIN	MT53D512M16D1DS MT53E512M16D1FW			NT6AP512M16AV	IS43LQ16512AL		IM8G16L4JC-BG-046
16Gb	512M x 32	AS4C512M32MD4V-053BIN	MT53D512M32D2Dx MT53D512M32D1ZW MT53D512M32D2FW	K4U6E3S4Ax	H9HCNNNBPUMLHR	NT6AP512T32BY			IMAG32L4JC-BG-046
16Gb	512M x 32	AS4C512M32MD4V-046BIN	MT53D512M32D2Dx MT53E512M32D2FW MT53E512M32D1ZW	K4U6E3S4Ax	H9HCNNNBKUMMLXR H9HCNNNBPUMLHR	NT6AP512T32BY			IMAG32L4JC-BG-046
32Gb	1G x 32	AS4C1G32MD4V-046BIN	MT53D1024M32D4Dx MT53E1G32D2FW MT53E1G32D2Nx	K4UBE3D4Ax	H9HCNNNCPMMLXR H9HCNNNCPMMLXR	NT6AP1024F32B			

# 5V FAST ASYNCHRONOUS SRAM

DENSITY	ORG	VCC	PACKAGES	TEMPERATURE	SPEED (NS)	ALLIANCE
64Kb	8K x 8	5V	28pin SOJ (300mils), Skinny 28pin PDIP (300mils)	Commercial 0°C ~ +70°C Industrial -40°C ~ +85°C	15	AS7C164A
256Kb	32K x 8	5V	28pin SOJ (300mils), 28pin TSOP I (8x13.4mm)	Commercial 0°C ~ +70°C Industrial -40°C ~ +85°C	10,12,15,20	AS7C256A
256Kb	32K x 8	5V	28pin PDIP (300mils)	Industrial -40°C ~ +85°C	15	AS7C256B
512Kb	32K x 16	5V	44pin SOJ (400mils), 44pin TSOP II (400mils)	Commercial 0°C ~ +70°C	12,15	AS7C513B
1Mb	128K x 8	5V	32pin SOJ (300mils & 400mils), 32pin TSOP I (8x13.4mm) Corner Vcc & Gnd	Commercial 0°C ~ +70°C Industrial -40°C ~ +85°C	12,15,20	AS7C1024B
1Mb	128K x 8	5V	32pin SOJ (300mils & 400mils), Center Vcc & Gnd	Commercial 0°C ~ +70°C Industrial -40°C ~ +85°C	10,12,15	AS7C1025B
1Mb	64K x 16	5V	44pin SOJ (400mils), 44pin TSOP II (400mils)	Commercial 0°C ~ +70°C Industrial -40°C ~ +85°C	10,12,15,20	AS7C1026B
4Mb	512K x 8	5V	36pin SOJ (400mils), 44pin TSOP II (400mils)	Commercial 0°C ~ +70°C Industrial -40°C ~ +85°C	10,12,15,20	AS7C4096A
4Mb	256K x 16	5V	44pin SOJ (400mils), 44pin TSOP II (400mils)	Commercial 0°C ~ +70°C Industrial -40°C ~ +85°C	10,12,15,20	AS7C4098A

## 3.3V FAST ASYNCHRONOUS SRAM

DENSITY	ORG	VCC	PACKAGES	TEMPERATURE	SPEED (NS)	ALLIANCE
256Kb	32K x 8	3.3V	28pin SOJ (300mils), 28pin TSOP I (8x13.4mm)	Commercial Industrial	10,12,15,20	AS7C3256A
512Kb	32K x 16	3.3V	44pin SOJ (400mils), 44pin TSOP II (400mils)	Commercial	10,12,15,20	AS7C3513B
1Mb	128K x 8	3.3V	32pin SOJ (300 & 400mils), 32pin TSOP I (8x13.4mm), Corner Vcc & Gnd	Commercial	10,12,15,20	AS7C31024B
1Mb	128K x 8	3.3V	32pin SOJ (300 & 400mils), Center Vcc & Gnd	Commercial Industrial	10,12,15,20	AS7C31025B
1Mb	64K x 16	3.3V	44pin SOJ (400mils), 44pin TSOP II (400mils)	Commercial Industrial	10,12,15,20	AS7C31026B
2Mb	128K x 16	3.3V	44pin TSOP II (400mils)	Commercial Industrial	10,12,15,20	AS7C32098A
2Mb	256K x 8	3.3V	44pin TSOP II (400mils)	Commercial Industrial	10,12,15,20	AS7C32096A
4Mb	512K x 8	3.3V	36pin SOJ (400mils), 44pin TSOP II (400mils), 36b TFBGA (6x8mm)	Commercial Industrial	8,10,12,15,20	AS7C34096A / B
4Mb	256K x 16	3.3V	44pin SOJ (400mils), 44pin TSOP II (400mils), 48b TFBGA (6x8mm, 8x10mm)	Commercial Industrial	8,10,12,15,20	AS7C34098A / B
8Mb	1M x 8	3.3V	44pin TSOP II (400mils), 48b TFBGA (6x8mm)	Industrial	10	AS7C38096A / B
8Mb	512K x 16	3.3V	44pin TSOP II (400mils), 48b TFBGA (6x8mm)	Industrial	10	AS7C38098A
8Mb	256K x 32	3.3V	90b TFBGA (8x13mm)	Industrial	10	AS7C325632
16Mb	512K x32	3.3V	90b TFBGA (9x13mm)	Industrial	10	AS7C351232
16Mb	1M x 16	3.3V	48b TFBGA (6x8mm), 48pin TSOP I (12x20mm), 54pin TSOP II (400mils)	Industrial	10	AS7C316098A / B
16Mb	2M x 8	3.3V	48b TFBGA (6x8mm), 48pin TSOP I (12x20mm), 44pin TSOP II, 54pin TSOP II	Industrial	10	AS7C316096A / B / C

# FAST ASYNCHRONOUS 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-10JLI (EOL)
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(EOL)	IS61C256AL-XXJL (EOL)
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 (EOL)
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 (EOL)
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 ASYNCHRONOUS SRAM Cross Reference

## 1M FAST

ORG	VCC	PACKAGE	SPEED (NS)	ALLIANCE	SAMSUNG (EOL)	CYPRESS	IDT	ISSI
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 (EOL)
128K x 8	5V	32pin SOJ (300mil)	10,12,15,20	AS7C1025B-xxTJCN		CY7C1019D-10VXI		
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 (EOL)
128K x 8	5V	32pin SOJ (400mil)	12,15,20	AS7C1024B-xxJCN/JIN		CY7C109D-10VXI	IDT71024SXXYG	IS61C1024AL-12KLI (EOL)
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 (EOL)
128K x 8	3.3V	32pin SOJ (400mil)	12,15,20	AS7C31024B-xxJCN		CY1019DV33-10VXI		IS63WV1288DBLL-10KLI (EOL)
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-xxJCN/JIN	K6R1016C1D-KI10	CY7C1021D-XXVXC	IDT71016SXXYG	IS61C6416AL-12KLI (EOL)
64K x 16	5V	44pin TSOP II (400mil)	10,12,15,20	AS7C1026B-xxTCN/TIN	K6R1016C1D-UI10	CY7C1021D-XXZSXI	IDT71016SXXPHG	IS61C6416AL-12TLI
64K x 16	3.3V	44pin SOJ (400mil)	10,12,15,20	AS7C31026B-xxJCN/TIN	K6R1016V1D-KI10	CY7C1021DV33-XXVXI	IDT71V016SAXXYG	IS61WV6416DBLL-10KLI (EOL)
64K x 16	3.3V	44pin TSOP II (400mil)	10,12,15,20	AS7C31026B-xxTCN/TIN	K6R1016V1D-UI10	CY7C1021DV33-XXZSXI	IDT71V016SAXXPHG	IS61WV6416DBLL-10TLI

## 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 ASYNCHRONOUS SRAM Cross Reference

## 4M FAST

ORG	VCC	PACKAGE	SPEED (NS)	ALLIANCE	SAMSUNG	CYPRESS	IDT	ISSI
512K x 8	5V	36pin SOJ (400mil)	10,12,15,20	AS7C4096A-xxJxN	K6R4008C1D-KI10	CY7C1049D-10VXI		IS61C5128AL-10KLI (EOL)
512K x 8	5V	44pin TSOP II (400mil)	10,12,15,20	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 (EOL)
512K x 8	3.3V	44pin TSOP II (400mil)	10,12,15,20	AS7C34096A-xxTxN	K6R4008V1D-UI10	CY7C1049DV33-10ZSI	IDT71V424SXXPHG	IS61WV5128EDBLL-10TLI
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)	10,12,15,20	AS7C4098A-xxJxN	K6R4016C1D-KI10	CY7C1041D-10VXI		IS61C25616AL-10KLI (EOL)
256K x 16	5V	44pin TSOP II (400mil)	10,12,15,20	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	
256K x 16	3.3V	44pin TSOP II (400mil)	8,10,12,15,20	AS7C34098A-xxTxN	K6R4016V1D-UI10	CY7C1041DV33-10ZSXI	IDT71V416SXXPHG	IS61WV25616EDBLL-10TLI
256K x 16	3.3V	48ball TFBGA	10	AS7C34098A-xxBIN		CY7C1041DV33-10BVXI	IDT71V416SXXBE	IS61WV25616EDBLL-10BLI
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 ASYNCHRONOUS 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	

## 2.7V- 3.6V LOW POWER SRAMS

DENSITY	ORG	VCC	PACKAGES	SPEED (NS)	ALLIANCE
256Kb	32K x 8	2.5 ~ 3.6V	28pin SOP (330mm)	70	AS62V256A-70SIN
1Mb	64K x16 with ECC	2.7 ~ 3.6V	44pin TSOP II (400mils)	45	AS6CE1016A-45ZIN
2Mb	256K x 8	2.7 ~ 3.6V	32pin SOP(450mils), 32pin TSOP I (8x20mm), 32pin STSOP (8x13.4mm), 36ball TFBGA (6x8mm)	55	AS6C2008
4Mb	256K x 16	2.7 ~ 3.6V	44pin TSOP II (400mils), 48ball TFBGA (6x8mm)	45	AS6C4016B
4Mb	256K x16 with ECC	2.7 ~ 3.6V	44pin TSOP II (400mils), 48ball TFBGA (6x8mm)	45	AS6CE4016B
8Mb	1M x 8	2.7 ~ 3.6V	44pin TSOP II (400mils), 48ball TFBGA (6x8mm)	45/55	AS6C8008B
8Mb	512K x 16	2.7 ~ 3.6V	44pin TSOP II (400mils), 48ball TFBGA (6x8mm)	45/55	AS6C8016B
16Mb	1M x 16	2.7 ~ 3.6V	48pin TSOP I (12x20mm)	55	AS6C1616-55TIN
16Mb	1M x 16	2.7 ~ 3.6V	48pin TSOP I (12x20mm), 48ball TFBGA (6x8mm)	45/55	AS6C1616B
16Mb	1M x 16 / 2M x 8	2.7 ~ 3.6V	48pin TSOP I (12x20mm)	45	AS6C1616C-45TIN
16Mb	2M x 8	2.7 ~ 3.6V	44pin TSOP II (400mils), 48ball TFBGA (6x8mm)	45	AS6C1608B
32Mb	2M x 16 / 4M x 8	2.7 ~ 3.6V	48pin TSOP I (12x20mm) , 48ball TFBGA (8x10mm)	55	AS6C3216A
64Mb	4M x 16 / 8M x 8	2.7 ~ 3.6V	48pin TSOP I (12x20mm), 48ball TFBGA (8x10mm) (dual chip select)	55	AS6C6416

## 2.7V - 5.5V LOW POWER SRAMS

DENSITY	ORG	VCC	PACKAGES	SPEED (NS)	ALLIANCE
64Kb	8K x 8	2.7 ~ 5.5V	28pin PDIP (600mils), 28pin SOP (330mils), 28pin sTSOP (8x13.4mm)	55	AS6C6264
256Kb	32K x 8	2.7 ~ 5.5V	28pin PDIP (600mils), 28pin SOP (330mils), 28pin sTSOP (8x13.4mm)	55	AS6C62256
1Mb	64K x 16	2.7 ~ 5.5V	44pin TSOP II (400mils), 48ball TFBGA (6x8mm)	55	AS6C1016
1Mb	128K x 8	2.7 ~ 5.5V	32p SOP (450mils), 32p TSOP I (8x20mm), 32p sTSOP (8x13.4mm), 36b TFBGA (6x8mm), 32p PDIP (600mils)	55	AS6C1008
2Mb	256K x 8	2.7 ~ 5.5V	32p SOP (450mils), 32p TSOP I (8x20mm), 32p sTSOP (8x13.4mm), 36b TFBGA (6x8mm)	55	AS6C2008A
2Mb	128K x 16	2.7 ~ 5.5V	44pin TSOP II (400mils), 48b TFBGA (6x8mm)	55	AS6C2016
4Mb	512K x 8	2.7 ~ 5.5V	32p SOP (450mils), 32p TSOP I (8x20mm), 32p sTSOP (8x13.4mm), 36b TFBGA (6x8mm), 32p TSOP II (400mils)	55	AS6C4008
4Mb	512K x 8	2.7 ~ 5.5V	32p SOP (450mils)	70	AS6C4008-70SAN
4Mb	256K x 16	2.7 ~ 5.5V	44pin TSOP II (400mils), 48ball TFBGA (6x8mm)	55	AS6C4016
8Mb	1M x 8	2.7 ~ 5.5V	44pin TSOP II (400mils), 48ball TFBGA (6x8mm)	55	AS6C8008
8Mb	512K x 16	2.7 ~ 5.5V	44pin TSOP II (400mils), 48ball TFBGA (6x8mm) one chip select pins:B5**	55	AS6C8016
8Mb	512K x 16	2.7 ~ 3.6V	48pin TSOP I (12x20mm)	55	AS6C8016-55TIN

# LOW POWER SRAM Cross Reference

## 64K LOW POWER

ORG	VCC	PACKAGE	ALLIANCE	ZMD (EOL)	CYPRESS (EOL)	HITACHI (EOL)	NEC (EOL)	HYNIX (EOL)
8K x 8	2.7V ~ 5.5V	28pin 600mil DIP	AS6C6264-55PCN / PIN	U6264BDC07LLG1		HM6264BLP		HY6264P
8K x 8	2.7V ~ 5.5V	28pin 330mil SOP	AS6C6264-55SCN / SIN	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 AS6C1008-55PIN	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	uPD431000A- GU-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
64K x 16	2.7V ~ 3.6V	44pin TSOP II	AS6CE1016A-45ZIN		CY62126EV30LL-45ZSXI					IS61WV6416EEBLL



# LOW POWER SRAM Cross Reference

## 2M LOW POWER

ORG	VCC	PACKAGE	ALLIANCE	SAMSUNG (EOL)	CYPRESS	RENESAS	RENESAS	BRILLIANCE (EOL)	ISSI
256K x 8	2.7V ~ 3.6V	32pin 450mil SOP	AS6C2008-55SIN		CY62138FV30LL-45SXI			BS62LV2006SIP-55	
256K x 8	2.7V ~ 3.6V	32pin TSOP I (8 x 20 mm)	AS6C2008-55TIN		CY62138FV30LL-45ZXI			BS62LV2006TIP-55	IS62WV2568BLL-55TLI
256K x 8	2.7V ~ 3.6V	32pin STSOP (8 x 13.4 mm)	AS6C2008-55STIN	K6F2008V2E-LF70000	CY62138FV30LL-45ZAXI	M5M5V208AKV-55HI	R1LV0208BSA-5SI	BS62LV2006STIP-55	IS62WV2568BLL-55HLI
256K x 8	2.7V ~ 3.6V	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	2.7V ~ 3.6V	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

## 4M LOW POWER

ORG	VCC	PACKAGE	ALLIANCE	SAMSUNG (EOL)	CYPRESS	RENESAS	BRILLIANCE (EOL)	ISSI
512K x 8	2.7V ~ 5.5V	32pin 600mil DIP	AS6C4008-55PCN	K4X4008C1F-DB55			BS62LV4006PCP-55	
512K x 8	2.7V ~ 5.5V	32pin 450mil SOP	AS6C4008-55SIN	K6X4008C1F-GF55 or BF	CY62148ELL-55SXI	R1LV0408CSP-5SI	BS62LV4006SIP-55	IS62C5128BLL-45QLI
512K x 8	2.7V ~ 5.5V	32pin STSOP (8 x 13.4mm)	AS6C4008-55STIN		CY62148ELL-55ZAXI	R1LV0408DSA-5SI	BS62LV4006STIP-55	IS62C512BL-45HLI
512K x 8	2.7V ~ 5.5V	32pin TSOP II	AS6C4008-55ZIN	K6X4008C1F-VF55	CY62148ELL-45ZSXI	R1LV0408DSB-5SI	BS62LV4006ECP55	IS62WV5128DBLL-45T2LI
512K x 8	2.7V ~ 5.5V	36pin TFBGA (6mm x 8mm)	AS6C4008-55BIN		CY62148EV30LL-55BVXI	R1LV0408DBG-5SI		IS62WV5128EBLL-45BLI
256K x 16	2.7V ~ 5.5V	44pin TSOP II	AS6C4016-55ZIN	K6X4016C3F-TF70000	CY62146ELL-45ZSXI		BS616LV4017EIP-55	IS62WV5128BLL-55TLI
256K x 16	2.7V ~ 3.6V	44pin TSOP II	AS6C4016B-45ZIN	K6X4016T3F-TF70000	CY62147EV30LL-45ZSXI	R1LV0414DSB-5SI	BS616LV4017EIP-55	IS62C25616BL-45T2LI
256K x 16	2.7V ~ 3.6V	48ball TFBGA	AS6C4016B-45BIN	K6F4016U6G-EF70000	CY62147EV30LL-45BVXI	RMLV0416EGBG-4S2	BS616LV4017AIP-55	IS62WV25616DBLL-45BLI
256K x 16	2.7V ~ 3.6V	44pin TSOP II	AS6CE4016B-45ZIN	K6X4016T3F-TF70000	CY62147EV30LL-45ZSXI	R1LV0414DSB-5SI	BS616LV4017EIP-55	IS62C25616EDBLL
256K x 16	2.7V ~ 3.6V	48ball TFBGA	AS6CE4016B-45BIN	K6F4016U6G-EF70000	CY62147EV30LL-45BVXI	RMLV0416EGBG-4S2	BS616LV4017AIP-55	IS62C25616EDFA/BLL

# LOW POWER SRAM Cross Reference

## 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	AS6C8008B-45/55ZIN	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	AS6C8008B-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 (6 x 8mm)**	AS6C8016B-45/55BIN		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	2.7 ~ 3.6V	44pin TSOP II	AS6C8016B-45/55ZIN		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

## 16M LOW POWER

ORG	VCC	PACKAGE	ALLIANCE	CYPRESS	RENESAS	BRILLIANCE (EOL)	ISSI
1M x 16	2.7 ~ 3.6V	48pin TSOP I	AS6C1616-55TIN AS6C1616B-45/55TIN	CY62167E30LL-45/55ZXI	R1LV1616RSA-5SI	BS6216LV1611TCP55	IS62WV102416xxLL
1M x 16	2.7 ~ 3.6V	48pin TSOP I	AS6C1616C-45TIN	CY62167E30LL-45/55ZXI	R1LV1616RSA-5SI	BS6216LV1611TCP55	IS62WV102416xxLL
1M x 16	2.7 ~ 3.6V	48ball TFBGA	AS6C1616B-45/55BIN	CY62167DV30LL-xxBVXIT	R1LV1616HBG-4SI	BS6216LV1611FCP70	IS62WV102416xxLL-xxBLI
2M x 8	2.7 ~ 3.6V	44pin TSOP I	AS6C1608B-45TIN	CY62168EV30LL-xxZXI		BS6216LV1600EIP55	IS62WV20488xxLL-xxTLI
2M x 8	2.7 ~ 3.6V	48ball TFBGA	AS6C1608B-45BIN	CY62168DV30LL-xxBVI			IS62WV20488xxLL-xxBLI

# LOW POWER SRAM Cross Reference

## 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	AS6C3216A-55BIN	CY62177EV30LL-55BAXI	R1LV3216CSA-5SI

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

## 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 5V NOR Flash

DENSITY	BUS WIDTH	VCC	PACKAGES	TEMPERATURE RANGE	SPEED (NS)	ALLIANCE	REMARKS
1Mb	x8	5V	PLCC 32	-40°C ~ +85°C	55	AS29CF010-55CCIN	Uniform Sector, Industrial Grade
4Mb	x8	5V	PLCC 32	-40°C ~ +85°C	55	AS29CF040-55CCIN	Uniform Sector, Industrial Grade
4Mb	x8, x16	5V	TSOP(I) 48pin	-40°C ~ +85°C	55	M29F400FT5AN6E2	Top Boot, Automotive Grade3
4Mb	x8, x16	5V	TSOP(I) 48pin	-40°C ~ +125°C	55	M29F400FB55N3E2 M29F400FB55N3F2	Bottom Boot, Automotive Grade1
8Mb	x8, x16	5V	TSOP(I) 48pin	-40°C ~ +85°C	55	AS29CF800T-55TIN	Top Boot, Industrial Grade
8Mb	x8, x16	5V	TSOP(I) 48pin	-40°C ~ +85°C	55	AS29CF800B-55TIN	Bottom Boot, Industrial Grade
8Mb	x8, x16	5V	TSOP(I) 48pin	-40°C ~ +85°C	55	M29F800FB5AN6E2 M29F800FB5AN6F2	Bottom Boot, Automotive Grade3
8Mb	x8, x16	5V	TSOP(I) 48pin	-40°C to 125°C	55	M29F800FT55N3E2	Top Boot, Automotive Grade1
16Mb	x8, x16	5V	TSOP(I) 48pin	-40°C ~ +85°C	55	AS29CF160B-55TIN	Bottom Boot, Industrial Grade
16Mb	x8, x16	5V	TSOP(I) 48pin	-40°C ~ +85°C	55	AS29CF160T-55TIN	Top Boot, Industrial Grade
16Mb	x8, x16	5V	TSOP(I) 48pin	-40°C ~ +85°C	55	M29F160FB5AN6F2	Bottom Boot, Automotive Grade3
16Mb	x8, x16	5V	TSOP(I) 48pin	-40°C to 125°C	55	M29F160FT55N3E2	Top Boot, Automotive Grade1

\*Alliance Memory has collaborated with Micron for exclusive rights to continue to supply M29FX marked parts - SOLD NCNR - immediate delivery

# Parallel 5V NOR Flash Cross Reference

DENSITY	VCC	PACKAGE	SPEED (NS)	ALLIANCE	MICRON	CYPRESS / SPANSION	MACRONIX
1Mb	5V	PLCC 32	55	AS29CF010-55CCIN		AM29F010B* (EOL)	
4Mb	5V	PLCC 32	55	AS29CF040-55CCIN	M29F040	AM29F040B	MX29F040C
4Mb	5V	TSOP 48pin	55	M29F400FT5AN6E2	M29F400F	AM29F400BT* (EOL)	MX29F400CTT
4Mb	5V	TSOP 48pin	55	M29F400FB55N3E2 M29F400FB55N3F2	M29F400F	AM29F400BB* (EOL)	MX29F400CBT
8Mb	5V	TSOP 48pin	55	AS29CF800T-55TIN	M29F800F	AM29F800BT* (EOL)	MX29F800C T/B
8Mb	5V	TSOP 48pin	55	AS29CF800B-55TIN	M29F800F	AM29F800BB* (EOL)	MX29F800C T/B
8Mb	5V	TSOP 48pin	55	M29F800FB5AN6E2 M29F800FB5AN6F2	M29F800F	AM29F800BB* (EOL)	MX29F800CBT
8Mb	5V	TSOP 48pin	55	M29F800FT55N3E2	M29F800F	AM29F800BT* (EOL)	MX29F800CTT
16Mb	5V	TSOP 48pin	55	AS29CF160T-55TIN	M29F160F	AM29F160DT* (EOL)	
16Mb	5V	TSOP 48pin	55	AS29CF160B-55TIN	M29F160F	AM29F160DB* (EOL)	
16Mb	5V	TSOP 48pin	55	M29F160FB5AN6F2	M29F160F	AM29F160DB* (EOL)	
16Mb	5V	TSOP 48pin	55	M29F160FT55N3E2	M29F160F	AM29F160DT* (EOL)	

# SLC Parallel NAND Flash

DENSITY	BUS WIDTH	VCC	PACKAGES	TEMPERATURE RANGE	SPEED (NS)	ALLIANCE	REMARKS
1Gb	x8	3.3V	63b FBGA (9x11mm)	Industrial (-40°C to 85°C)	25ns	AS9F31G08SA-25BIN	4bit ECC, 2K page, 64B Spare
2Gb	x8	3.3V	63b FBGA (9x11mm)	Industrial (-40°C to 85°C)	25ns	AS9F32G08SA-25BIN	4bit ECC, 2K page, 128B Spare
4Gb	x8	3.3V	63b FBGA (9x11mm)	Industrial (-40°C to 85°C)	25ns	AS9F34G08SA-25BIN	4bit ECC, 2K page, 128B Spare
8Gb	x8	3.3V	63b FBGA (9x11mm)	Industrial (-40°C to 85°C)	25ns	AS9F38G08SA-25BIN	4bit ECC, 2K page, 128B Spare
4Gb	x8	1.8V	63b FBGA (9x11mm)	Industrial (-40°C to 85°C)	45ns	AS9F14G08SA-45BIN	4bit ECC, 2K page, 128B Spare
8Gb	x8	1.8V	63b FBGA (9x11mm)	Industrial (-40°C to 85°C)	45ns	AS9F18G08SA-45BIN	4bit ECC, 2K page, 128B Spare, DDP
4Gb	x8	1.8V	63b FBGA (9x11mm)	Automotive Grade2 (-40°C to 105°C)	45ns	AS9F14G08SA-45BAN	4bit ECC, 2K page, 64B Spare
8Gb	x8	1.8V	63b FBGA (9x11mm)	Automotive Grade2 (-40°C to 105°C)	45ns	AS9F18G08SA-45BAN	4bit ECC, 2K page, 128B Spare, DDP

# SLC Parallel NAND Flash Cross Reference

DENS.	VCC	TEMP.	ALLIANCE	MICRON	SKY HIGH	CYPRESS	WINBOND	MACRONIX	KIOXIA	ISSI	GIGA DEVICES	ESMT
1Gb	3.3V	-40°C to 85°C	AS9F31G08SA-25BIN	MT29F1G08ABADAH4 MT29F1G08ABAEAH4	S34SL01G200BFI S34ML01G200BFI S34ML01G300BFI	S34ML01G100BFI	W29N01HV W29N01GV	MX30LF1G18AC	TC58NVG0S3HBA	IS34ML01G084	GD9FU1G8F3AL	F59L1G81MB
2Gb	3.3V	-40°C to 85°C	AS9F32G08SA-25BIN	MT29F2G08ABAEAH4 MT29F2G08ABAGAH4	S34SL02G200BFI S34ML02G200BFI S34ML02G300BFI	S34ML02G100BFI	W29N02GV W29N02KV	MX30LF2G18AC	TC58NVG1S3HBA	IS34ML02G084	GD9FU2G8F2AL	F59L2G81A F59L2G81KA
4Gb	3.3V	-40°C to 85°C	AS9F34G08SA-25BIN	MT29F4G08ABADAH4 MT29F4G08ABAEAH4 MT29F4G08ABAFAH4	S34SL04G200BFI S34ML04G200BFI	S34ML04G100BFI	W29N04GV	MX30LF4G18AC	TC58NVG2S0HBA	IS34ML04G084	GD9FU4G8F2AL	F59L4G81XB
8Gb	3.3V	-40°C to 85°C	AS9F38G08SA-25BIN	MT29F8G08ADACAH4	S34ML08G201BFI	S34ML08G101BFI	W29N08GV	MX60LF8G18AC	TH58NVG3S0HBA	IS34ML08G088 IS34ML08G168	GD9FU8G8E2AL	F59D4G81XB F59D4G-81KA
4Gb	1.8V	-40°C to 85°C	AS9F14G08SA-45BIN	MT29F4G08ABDDAH4 MT29F4G08ABBEAH4 MT29F4G08ABBF4H4	S34MS04G200BFI	S34MS04G100BFI	W29N04GZ W29N04GW	MX30UF4G18AC	TC58NYG2S0HBA	IS34MW04G164	GD9FS4G8F2AL	F59D8G81XB
8Gb	1.8V	-40°C to 85°C	AS9F18G08SA-45BIN	MT29F8G08ADBCAH4 MT29F8G08ADBDAH4 MT29F8G08ABBCAH4 MT29F8G08ABDDAH4	S34MS08G201BFI	S34MS08G101BFI	W29N08GW W29N08GZ	MX60UF8G18AC	TH58NYG3S0HBA	IS34MW08G088 IS34MW08G168	GD9FS8G8E2AL	
4Gb	1.8V	-40°C to 105°C	AS9F14G08SA-45BAN	MT29F4G08ABDDAH4-A MT29F4G08ABBEAH4-A	S34MS04G200BFI	S34MS04G100BFV	W29N04GZ W29N04GW			IS35MW04G084	GD9FS4G8F2AL	
8Gb	1.8V	-40°C to 105°C	AS9F18G08SA-45BAN	MT29F8G08ADBDAH4-A	S34MS08G201BFA	S34MS08G101BFA	W29N08GW W29N08GZ				GD9FS8G8E2AL	



# Serial NOR Flash



DENSITY	BUS WIDTH	VCC	PACKAGES	TEMPERATURE RANGE	SPEED (MHz)	ALLIANCE	REMARKS
2Mb	x1	3.3V	8pin SOIC (150mils)	-40°C to 85°C	75	M45PE20-VMN6P	PAGE ERASABLE, 2Mb Serial Flash (256K x 8bits, 1024 pages, 4 Sectors), Industrial Grade
8Mb	x1	3.3V	8pin DFN (6x5mm)	-40°C to 85°C	75	M45PE80-VMP6TG	PAGE ERASABLE 8Mb Serial Flash (1K x 8bits, 4096 pages, 16 Sectors), Industrial Grade, T&R
16Mb	x1	3.3V	8pin SOIC (208mils)	-40°C to 85°C	75	M45PE16-VMW6TG	PAGE ERASABLE, 16MB SERIAL FLASH (2K X 8BITS, 8192 PAGES, 32 SECTORS), INDUSTRIAL GRADE
4Mb	x1, x2	3.3V	8pin SOIC (150mils)	-40°C to 85°C	104	AS25F304MD-10S1IN	4Mb, 3.3V Serial NOR Flash, Dual IO, Industrial Grade, 8pin SOIC (150mils) package
16Mb	x1, x2, x4	3.3V	8pin SOIC (150mils)	-40°C to 85°C	104	AS25F316MQ-10S1IN	16Mb, 3.3V Serial NOR Flash, Multiple IO, Industrial Grade, 8pin SOIC (150mils) Package
32Mb	x1, x2, x4	3.3V	8pin DFN (4x3mm)	-40°C to 125°C	108	N25Q032A13EF4A0F	32Mb Serial NOR Flash, Multiple IO, 64 Sectors, 4KB Sector Erase, Automotive Grade T&R
32Mb	x1, x2, x4	3.3V	8pin SOIC (150mils)	-40°C to 85°C	108	N25Q032A13ESC40G	32Mb Serial NOR Flash, Multiple IO, 64 Sectors, 4KB Sector Erase, Industrial Grade, Tube
32Mb	x1, x2, x4	3.3V	8pin SOIC (150mils)	-40C to 125C	108	N25Q032A13ESCA0F	32Mb Serial NOR Flash, Multiple IO, 64 Sectors, 4KB Sector Erase, Automotive Grade, T&R
32Mb	x1, x2, x4	3.3V	16pin SOIC (300mils)	-40C to 125C	108	N25Q032A13ESFA0F	32Mb Serial NOR Flash, Multiple IO, 64 Sectors, 4KB Sector Erase, Automotive Grade, T&R
64Mb	x1, x2, x4	1.8V	8pin SOIC (208mils)	-40C to 125C	108	N25Q064A11ESEA0F	64Mb Serial NOR Flash, Multiple IO, 128 Sectors, 4KB Sector Erase, Automotive Grade T&R
64Mb	x1, x2, x4	3.3V	8pin DFN (6x5mm)	-40°C to 85°C	108	N25Q064A13EF640E	64Mb Serial NOR Flash, Multiple IO, 128 Sectors, 4KB Sector Erase, Industrial Grade, Tray
64Mb	x1, x2, x4	3.3V	8pin DFN (8x6mm)	-40C to 125C	108	N25Q064A13EF8A0E	64Mb Serial NOR Flash, Multiple IO, 128 Sectors, 4KB Sector Erase, Automotive Grade Tray
64Mb	x1, x2, x4	3.3V	8pin DFN (8x6mm)	-40C to 125C	108	N25Q064A13EF8A0F	64Mb Serial NOR Flash, Multiple IO, 128 Sectors, 4KB Sector Erase, Automotive Grade T&R
64Mb	x1, x2, x4	3.3V	8pin DFN (8x6mm)	-40°C to 85°C*	108	N25Q064A13EF8H0E	64Mb Serial NOR Flash, Multiple IO, 128 Sectors, 4KB Sector Erase, Industrial Grade High Reliability, Tray
64Mb	x1, x2, x4	3.3V	16pin SOIC (300mils)	-40C to 125C	108	N25Q064A13ESFA0F	64Mb Serial NOR Flash, Multiple IO, 128 Sectors, 4KB Sector Erase, Automotive Grade T&R
64Mb	x1, x2, x4	3.3V	8pin SOIC (208mils)	-40°C to 85°C	104	AS25F364MQ-10SIN	64Mb, 3.3V Serial NOR Flash, Multiple IO, Default Feature1, Industrial Grade, 8SOIC Wide Body Package
64Mb	x1, x2, x4	3.3V	8L WSON (6x5mm)	-40°C to 85°C	104	AS25F364MQ-10WIN	64Mb, 3.3V Serial NOR Flash, Multiple IO, Default Feature1, Industrial Grade, 8WSON Package
128Mb	x1, x2, x4	1.8V	8pin SOIC (208mils)	-40°C to 85°C	133	AS25F128MQ-70SIN	128Mb, 1.8V Serial NOR Flash, Multiple IO, Default Feature1, Industrial Grade, 8SOIC Wide Body Package
128Mb	x1, x2, x4	1.8V	8L WSON (6x5mm)	-40°C to 85°C	133	AS25F128MQ-70WIN	128Mb, 1.8V Serial NOR Flash, Multiple IO, Default Feature1, Industrial Grade, 8WSON Package

# Serial NOR Flash Cross Reference

DENS.	VCC	PACKAGES	ALLIANCE	MICRON	ADESTO	SPANSION	WINBOND	MACRONIX	ISSI	GIGA DEVICES
2Mb	3.3V	8pin SOIC (150mils)	M45PE20-VMN6P	M45PE20-VMN6	AT45DB021E					
8Mb	3.3V	8pin DFN (6x5mm)	M45PE80-VMP6G	M45PE80-VMP6	AT45DB081E					
8Mb	3.3V	8pin DFN (6x5mm)	M45PE80-VMP6TG	M45PE80-VMP6	AT45DB081E					
16Mb	3.3V	8pin SOIC (208mils)	M45PE16-VMW6TG	M45PE16-VMW6	AT45DB161E					
4Mb	3.3V	8pin SOIC (150mils)	AS25F34MD-10S11N	M25P40-AVMN6	AT25SF041	S25FL040	W25Q40	MX25L40 MX25V40	IS25LP040 IS25LQ040	GD25Q40 GD25B40 GD25D40
16Mb	3.3V	8pin SOIC (150mils)	AS25F316MQ-10S11N	M25P16-AVMN6 M25PX16	AT25SF161 AT25FF161	S25FL016	W25Q16	MX25L16 MX25V16	IS25LP016 IS25LQ016	GD25Q16 GD25B16
32Mb	3.3V	8pin DFN (4x3mm)	N25Q032A13EF440F	N25Q032A13EF4	AT25DF32/AT25SF32	S25FL032A/P	W25Q32	MX25L32	IS25LP032 / IS25LQ032	GD25Q32
32Mb	3.3V	8pin DFN (4x3mm)	N25Q032A13EF4A0F	N25Q032A13EF4	AT25DF32/AT25SF32	S25FL032A/P	W25Q32	MX25L32	IS25LP032 / IS25LQ032	GD25Q32
32Mb	3.3V	8pin DFN (6x5mm)	N25Q032A13EF640F	N25Q032A13EF6	AT25DF32/AT25SF32	S25FL032A/P	W25Q32	MX25L32	IS25LP032 / IS25LQ032	GD25Q32
32Mb	3.3V	8pin SOIC (150mils)	N25Q032A13ESC40G	N25Q032A13ESC	AT25DF32/AT25SF32	S25FL032A/P	W25Q32	MX25L32	IS25LP032 / IS25LQ032	GD25Q32
32Mb	3.3V	8pin SOIC (150mils)	N25Q032A13ESCA0F	N25Q032A13ESC	AT25DF32/AT25SF32	S25FL032A/P	W25Q32	MX25L32	IS25LP032 / IS25LQ032	GD25Q32
32Mb	3.3V	16pin SOIC (300mils)	N25Q032A13ESFA0F	N25Q032A13ESF	AT25DF32/AT25SF32	S25FL032A/P	W25Q32	MX25L32	IS25LP032 / IS25LQ032	GD25Q32
64Mb	1.8V	8pin SOIC (208mils)	N25Q064A11ESEA0F	N25Q064A11ESE	AT25SL64/AT25QL64		W25Q64	MX25U64	IS25WP064	GD25LQ64
64Mb	3.3V	8pin DFN (6x5mm)	N25Q064A13EF640E	N25Q064A13EF6	AT25SF64/AT25QF64	S25FL064A/P	W25Q64	MX25L64	IS25LP064	GD25Q64
64Mb	3.3V	8pin DFN (8x6mm)	N25Q064A13EF8A0E	N25Q064A13EF8	AT25SF64/AT25QF64	S25FL064A/P	W25Q64	MX25L64	IS25LP064	GD25Q64
64Mb	3.3V	8pin DFN (8x6mm)	N25Q064A13EF8A0F	N25Q064A13EF8	AT25SF64/AT25QF64	S25FL064A/P	W25Q64	MX25L64	IS25LP064	GD25Q64
64Mb	3.3V	8pin DFN (8x6mm)	N25Q064A13EF8H0E	N25Q064A13EF8	AT25SF64/AT25QF64	S25FL064A/P	W25Q64	MX25L64	IS25LP064	GD25Q64
64Mb	3.3V	16pin SOIC (300mils)	N25Q064A13ESFA0F	N25Q064A13ESF	AT25SF64/AT25QF64	S25FL064A/P	W25Q64	MX25L64	IS25LP064	GD25Q64
64Mb	3.3V	8pin SOIC (208mils)	AS25F364MQ-10SIN	N25Q064A13ESE	AT25QF64	S25FL064	W25Q64	MX25L64	IS25LP064	GD25Q64
64Mb	3.3V	8L WSON (6x5mm)	AS25F364MQ-10WIN	N25Q064A13EF6	AT25QF64	S25FL064	W25Q64	MX25L64	IS25L064	GD25Q64
128Mb	1.8V	8pin SOIC (208mils)	AS25F1128MQ-70SIN	MT25QU128ABA1ESE	AT25SL128A-SUE	S25FS128SDSMFI	W25Q128JWSIM	MX25U12832FM2I	IS25WP128-JBLE	GD25LB128ESIG
128Mb	1.8V	8L WSON (6x5mm)	AS25F1128MQ-70WIN	MT25QU128ABA1EW7	AT25SL128A-MHE	S25FS128SDSNFI	W25Q128JWPIM	MX25U12832FZNI	IS25WP128-JKLE	GD25LB128EWIG

# Serial SLC NAND Flash

DENSITY	BUS WIDTH	SPEED (NS)	VCC	PACKAGES	TEMPERTURE RANGE	TYPE	ALLIANCE
1Gb	x1, x2, x4	120 Mhz	3.3V	8pin LGA (8x6mm)	Industrial (-40°C to 85°C)	4bit ECC, (2048 + 64) bytes × 64 pages × 1024 blocks	AS5F31G04SND-08LIN
2Gb	x1, x2, x4	100 Mhz	1.8V	8pin LGA (8x6mm)	Industrial (-40°C to 85°C)	8bit ECC, (2048 + 128) bytes × 64 pages × 2048 blocks	AS5F12G04SND-10LIN
2Gb	x1, x2, x4	120 Mhz	3.3V	8pin LGA (8x6mm)	Industrial (-40°C to 85°C)	8bit ECC, (2048 + 128) bytes × 64 pages × 2048 blocks	AS5F32G04SNDA-08LIN
2Gb	x1, x2, x4	120 Mhz	3.3V	8pin LGA (8x6mm)	Industrial (-40°C to 85°C)	4bit ECC, (2048 + 128) bytes × 64 pages × 2048 blocks	AS5F32G04SNDB-08LIN
4Gb	x1, x2, x4	100 Mhz	1.8V	8pin LGA (8x6mm)	Industrial (-40°C to 85°C)	8bit ECC, (2048 + 128) bytes × 64 pages × 4096 blocks	AS5F14G04SND-10LIN
4Gb	x1, x2, x4	120 Mhz	3.3V	8pin LGA (8x6mm)	Industrial (-40°C to 85°C)	8bit ECC, (2048 + 128) bytes × 64 pages × 4096 blocks	AS5F34G04SNDA-08LIN
4Gb	x1, x2, x4	120 Mhz	3.3V	8pin LGA (8x6mm)	Industrial (-40°C to 85°C)	4bit ECC, (2048 + 128) bytes × 64 pages × 4096 blocks	AS5F34G04SNDB-08LIN
8Gb	x1, x2, x4	100 Mhz	1.8V	8pin LGA (8x6mm)	Industrial (-40°C to 85°C)	8bit ECC, (4096 + 256) bytes × 64 pages × 4096 blocks	AS5F18G04SND-10LIN
8Gb	x1, x2, x4	120 Mhz	3.3V	8pin LGA (8x6mm)	Industrial (-40°C to 85°C)	8bit ECC, (4096 + 256) bytes × 64 pages × 4096 blocks	AS5F38G04SND-08LIN

# Serial NAND Flash Cross Reference

DENS.	SPEED (NS)	VCC	ALLIANCE	MICRON	TOSHIBA/KIOXIA	WINBOND	MACRONIX	GIGA DEVICES	ISSI
1Gb	120Mhz	3V	AS5F31G04SND-08LIN	MT29F1G01ABAFDWB-IT	TC58CVG0S3HRAIJ	W25N01GV W25N01KV	MX35LF1GE4AB MX35LF1G24AD	GD5F1GQ4Ux GD5F1GQ5Ux GD5F1GM7Ux	IS37SML01G1-LLI IS37SML01G8A-JJLI
2Gb	100Mhz	1.8V	AS5F12G04SND-10LIN	MT29F2G01ABBGDWB-IT:G	TC58CYG1S3HRAIJ	W25N02JW W25M02GW	MX35UF2G14AC MX35UF2G24AD MX35UF2GE4AC MX35UF2GE4AD	GD5F2GQ4Rx GD5F2GQ5Rx GD5F2GM7Rx	IS37SMW02G8A-JJLI
2Gb	120Mhz	3V	AS5F32G04SNDA-08LIN AS5F32G04SNDB-08LIN	MT29F2G01ABAGDWB-IT	TC58CVG1S3HRAIJ	W25M02GV	MX35LF2G14AC MX35LF2GE4AD MX35LF2G24AD	GD5F2GQ4Ux GD5F2GQ5Ux GD5F2GM7Ux	IS37SML02G8A-JJLI
4Gb	100Mhz	1.8V	AS5F14G04SND-10LIN	MT29F4G01ABBFDWB-IT	TC58CYG2S0HRAIJ	W25N04KW	MX35UF4G24AD MX35UF4GE4AD	GD5F4GQ6Rx GD5F4GM8Rx	IS37SMW04G8A-JJLI
4Gb	120Mhz	3V	AS5F34G04SNDA-08LIN AS5F34G04SNDB-08LIN	MT29F4G01ABAFDWB	TC58CVG2S0HRAIJ	W25N04KV	MX35LF4G24AD MX35LF4GE4AD	GD5F4GQ6Ux GD5F4GM8Ux	IS37SML04G8A-JJLI
8Gb	100Mhz	1.8V	AS5F18G04SND-10LIN		TH58CYG3S0HRAIJ				IS37SMW08G8A-JJLI
8Gb	120Mhz	3V	AS5F38G04SND-08LIN		TH58CVG3S0HRAIJ				IS37SML08G8A-JJLI

# eMMC

DENSITY	VCC	VCCQ	BUS WIDTH	MMC INTERFACE	CLOCK FREQUENCY	PACKAGES	NAND TYPE	TEMPERATURE OPTIONS	ALLIANCE
4GB	2.7V~3.6V	1.8V / 3.3V	x1, x4, x8	v5.1	200 MHz	153b FBGA (11.5x13mm)	MLC	Industrial(-40°C to 85°C)	ASFC4G31M-51BIN
8GB	2.7V~3.6V	1.8V / 3.3V	x1, x4, x8	v5.1	200 MHz	153b FBGA (11.5x13mm)	MLC	Industrial(-40°C to 85°C)	ASFC8G31M-51BIN
16GB	2.7V~3.6V	1.8V / 3.3V	x1, x4, x8	v5.1	200 MHz	153b FBGA (11.5x13mm)	MLC	Industrial(-40°C to 85°C)	ASFC16G31M-51BIN
32GB	2.7V~3.6V	1.8V / 3.3V	x1, x4, x8	v5.1	200 MHz	153b FBGA (11.5x13mm)	TLC	Industrial(-40°C to 85°C)	ASFC32G31T3-51BIN
64GB	2.7V~3.6V	1.8V / 3.3V	x1, x4, x8	v5.1	200 MHz	153b FBGA (11.5x13mm)	TLC	Industrial(-40°C to 85°C)	ASFC64G31T5-51BIN
128GB	2.7V~3.6V	1.8V / 3.3V	x1, x4, x8	v5.1	200 MHz	153b FBGA (11.5x13mm)	TLC	Industrial(-40°C to 85°C)	ASFC128G32T5-51BIN

# eMMC Cross Reference

DENS.	PACKAGES.	TEMP GRADE	ALLIANCE	MICRON	SAMSUNG	KINGSTON	KIOXIA	ISSI	SANDISK	SK HYNIX	MACRONIX	SKY-HIGH
4GB	153ball FBGA (11.5x13mm)	Industrial Grade (-40°Cto 85°C)	ASFC4G31M-51BIN	MTFC4GACAJCN MTFC4GMWDM	KLM4G1GXXX	EMMC04GMK27 EMMC04GM627 EMMC04G-W627	THGBMNG5D1LBA	IS21ES04G-JCLI IS21ES04G-BCLI	X	H26M31001HPR	MX52LM04A11X	S40FC004C1B
8GB	153ball FBGA (11.5x13mm)	Industrial Grade (-40°Cto 85°C)	ASFC8G31M-51BIN	MTFC8GACAENS MTFC8GAKAJCN MTFC8GAMALBH MTFC8GAMALGT MTFC8GLWDM	KLM8G1GEUF KLM8G1GESD KLM8G1GETF	EMMC08GML36	THGBMJG6C1LBA	IS21ES08GA-JCLI IS21ES08GA-BCLI	SDINBDG4-8G	H26M41208HPR	MX52LM08A11X	S40FC008C3B
16GB	153ball FBGA (11.5x13mm)	Industrial Grade (-40°Cto 85°C)	ASFC16G31M-51BIN	MTFC16GAKAECN MTFC16GAKAEJP MTFC16GAPALBH	KLMAG1JETD KLMAG2GESD KLMAG2GEUF	EMMC16G-TB29 EMMC16G-IB29	THGBMUG7C1LBA THGAMVG7T13BA	IS21TF16G-JCLI IS21TF16G-BCLI	SDINBDA6-16G	H26M51002KPR	X	S40FC016C3B
32GB	153ball FBGA (11.5x13mm)	Industrial Grade (-40°Cto 85°C)	ASFC32G31T3-51BIN	MTFC32GAKAECN MTFC32GAKAEJP MTFC32GAZAQHD MTFC32GAPALBH	KLMBG2JETD KLMBG4GESD	EMMC32G-TX29 EMMC32G-IX29	THGBMUG8C2LBA THGAMVG8T13BA THGBMJG88C4LBA	IS21TF32G-JCLI IS21TF32G-BCLI	SDINBDA6-32G SDINBDG4-32G	H26M62002JPR H26M64208EM	X	X
64GB	153ball FBGA (11.5x13mm)	Industrial Grade (-40°Cto 85°C)	ASFC64G31T5-51BIN	MTFC64GAZAQHD MTFC64GAPALBH	KLMCG2KCTA KLMCG2UCTA KLMCG2UCTB KLMCG4JEUD KLMCG8GESD	EMMC64G-TY29 EMMC64G-IY29	THGAMVG9T23BA THGBMJG9C8LBA	IS21TF64G-JCLI IS21TF64G-BCLI	SDINBDA6-64G SDINBDG4-64G	H26M74002HMR H26M78208CMR	X	X
128GB	153ball FBGA (11.5x13mm)	Industrial Grade (-40°Cto 85°C)	ASFC128G32T5-51BIN	MTFC128GAPALNS MTFC128GAZAQJP	KLMDG4UCTA KLMDG4UCTB KLMDG8JEUD	EMMC128-TY29 EMMC128-IY29	THGAMVT0T43BA	IS21TF128G-JCLI IS21TF128G-BCLI	SDINBDA6-128G	X	X	X

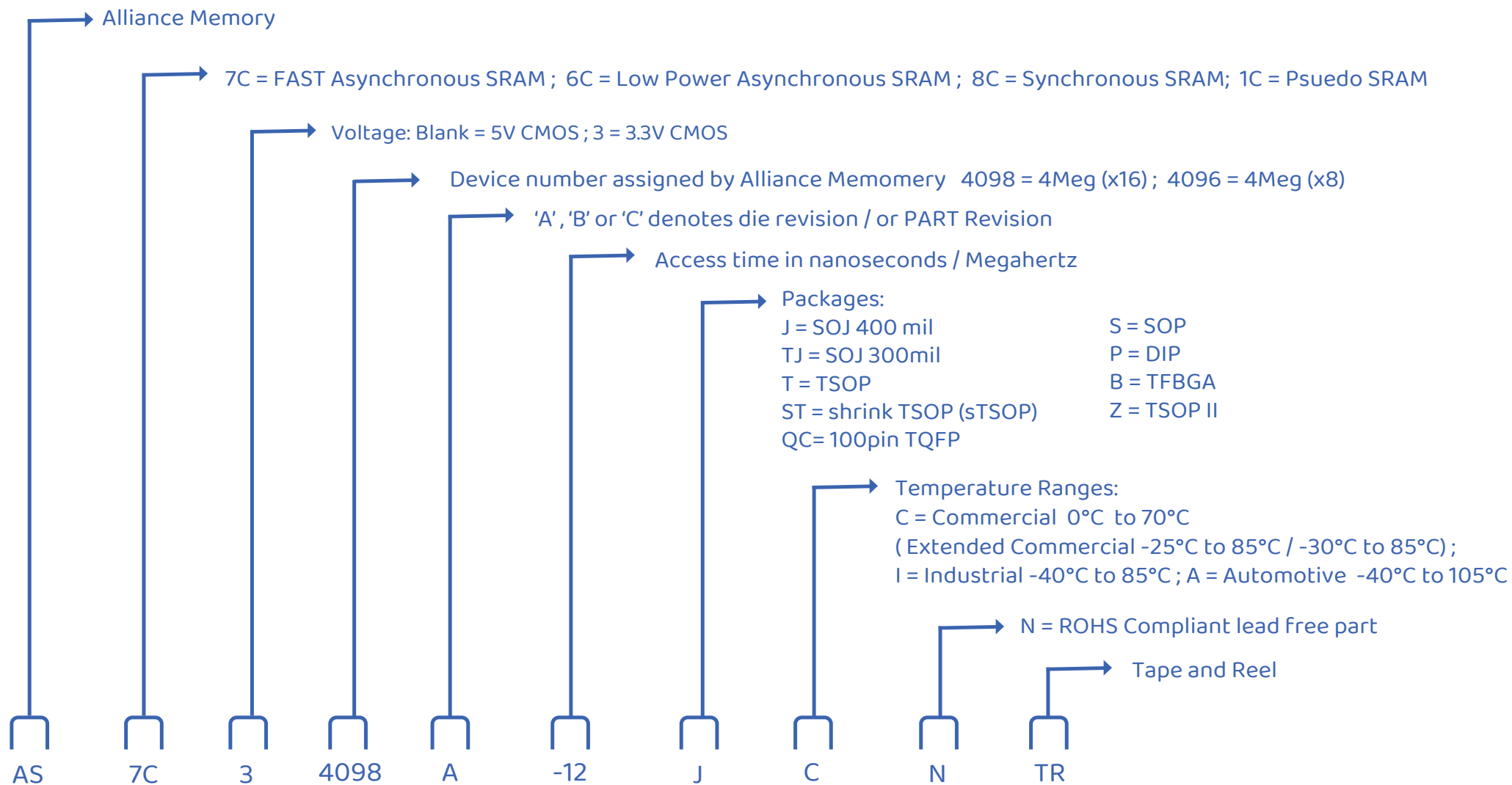
# pSRAM PSEUDO SRAM

DENSITY	ORG	VCC	PACKAGE	TEMPERATURE	SPEED	ALLIANCE
8Mb	512K x 16	1.8V	48 FPBGA (6x7mm)	Industrial (-30°C ~+85°C)	70ns	AS1C512K16PL-70BIN
8Mb	512K x 16	3V	48 FPBGA (6x7mm)	Industrial (-40°C~ +85°C)	70ns	AS1C512K16P-70BIN
16Mb	1M x 16	1.8V	48 FPBGA (6x7mm)	Industrial (-40°C~ +85°C)	70ns	AS1C1M16PL-70BIN
16Mb	1M x 16	3V	48 FPBGA (6x7mm)	Industrial (-40°C~ +85°C)	70ns	AS1C1M16P-70BIN
32Mb	2M x 16	3V	48 FPBGA (6x7mm)	Industrial (-40°C~ +85°C)	70ns	AS1C2M16P-70BIN
64Mb	4M x 16	1.8V	49 FBGA (4x4mm)	Industrial (-30°C ~+85°C)	70ns	AS1C4M16PL-70BIN
128Mb (*2-stacked die)	8M x 16	1.8V	49 FBGA (4x4mm)	Industrial (-30°C ~+85°C)	70ns	AS1C8M16PL-70BIN

# pSRAM Cross Reference

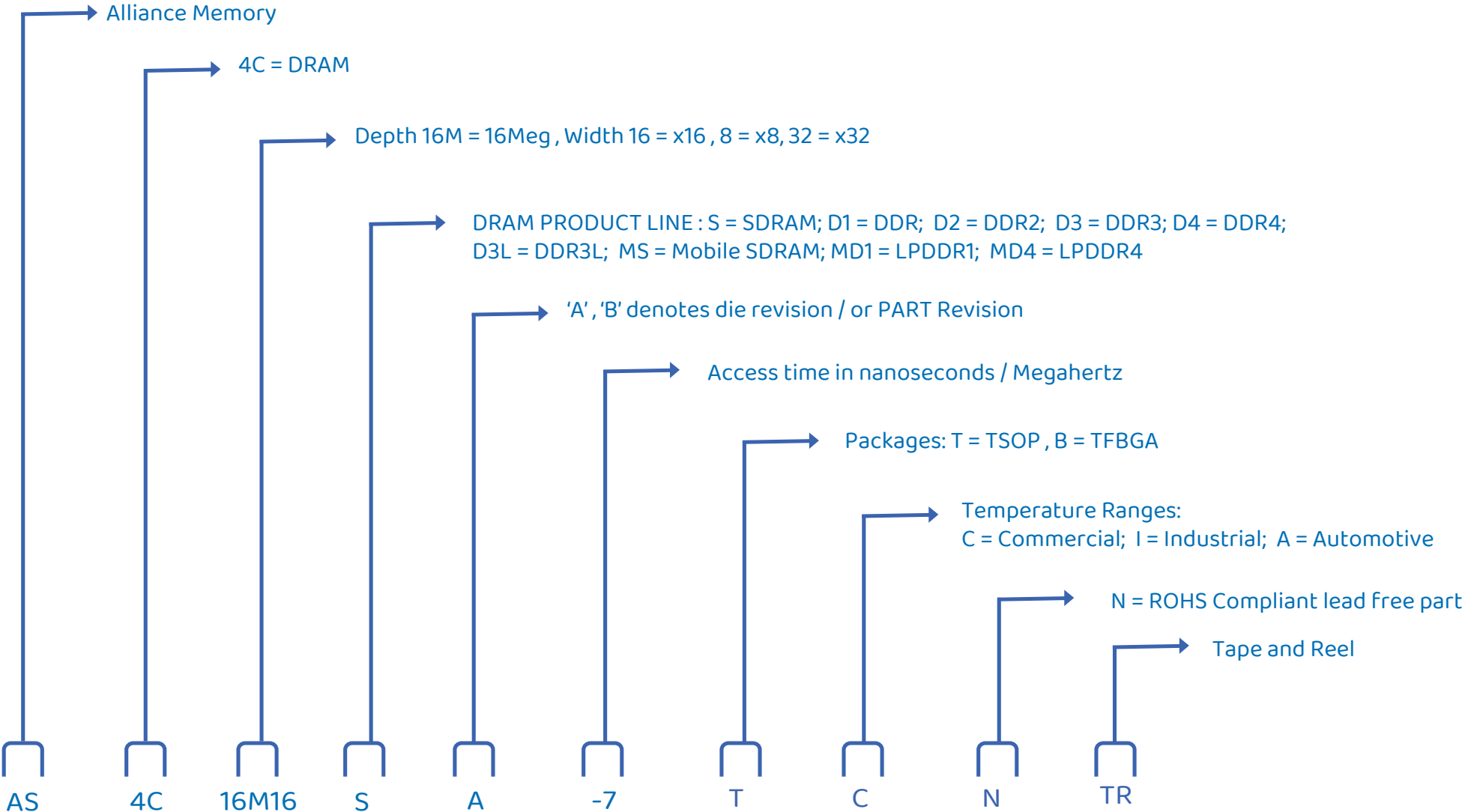
ORG	DENSITY	PACKAGE	COMMENTS/ PREV REV	ALLIANCE	JSC/JEJU	ISSI	FIDELIX	AP MEMORY
8Mb	512K x 16	48 FPBGA	page mode & Non-DPD	AS1C512K16PL-70BIN	EM784SP16BPP-70LF	IS66WV51216EALL-70BLI		
8Mb	512K x 16	48 FPBGA	Non-page mode & Non-DPD	AS1C512K16P-70BIN	JS784SU16BSP-70LFI	IS66/67WV51216EBLL-70BL	FMP0817CAx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

# ALLIANCE PART NUMBERING SYSTEM - SRAM

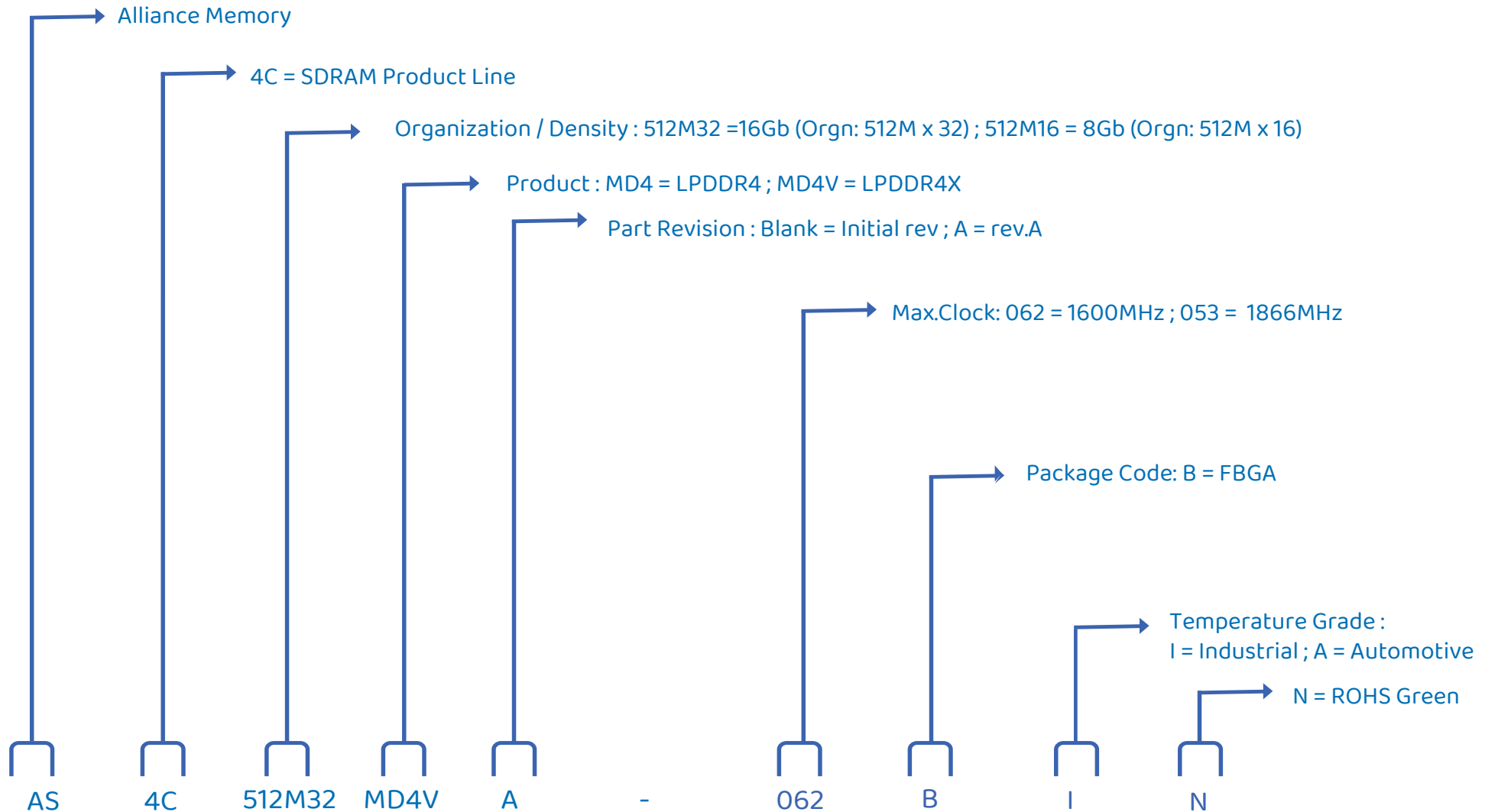




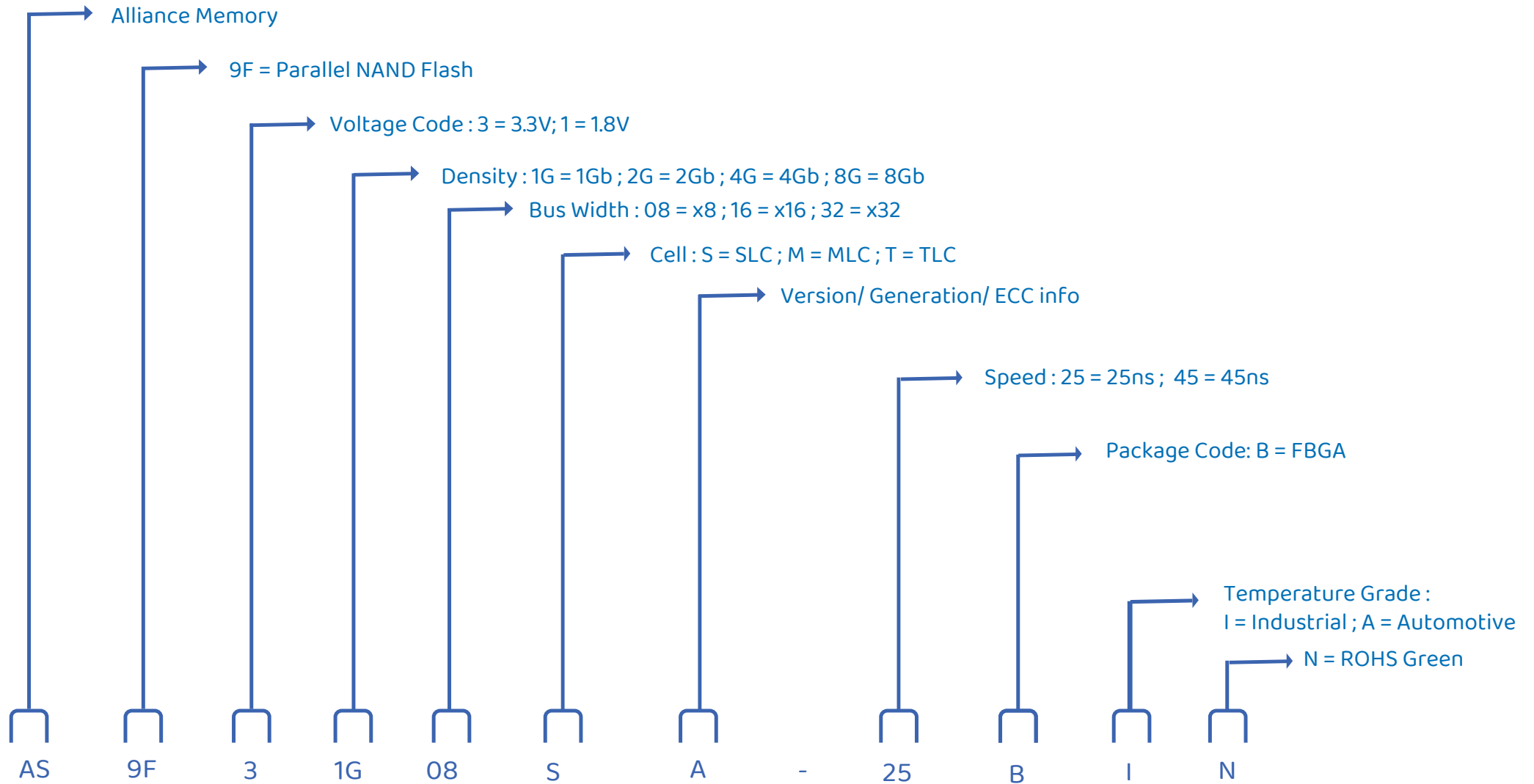
# ALLIANCE PART NUMBERING SYSTEM - DRAM



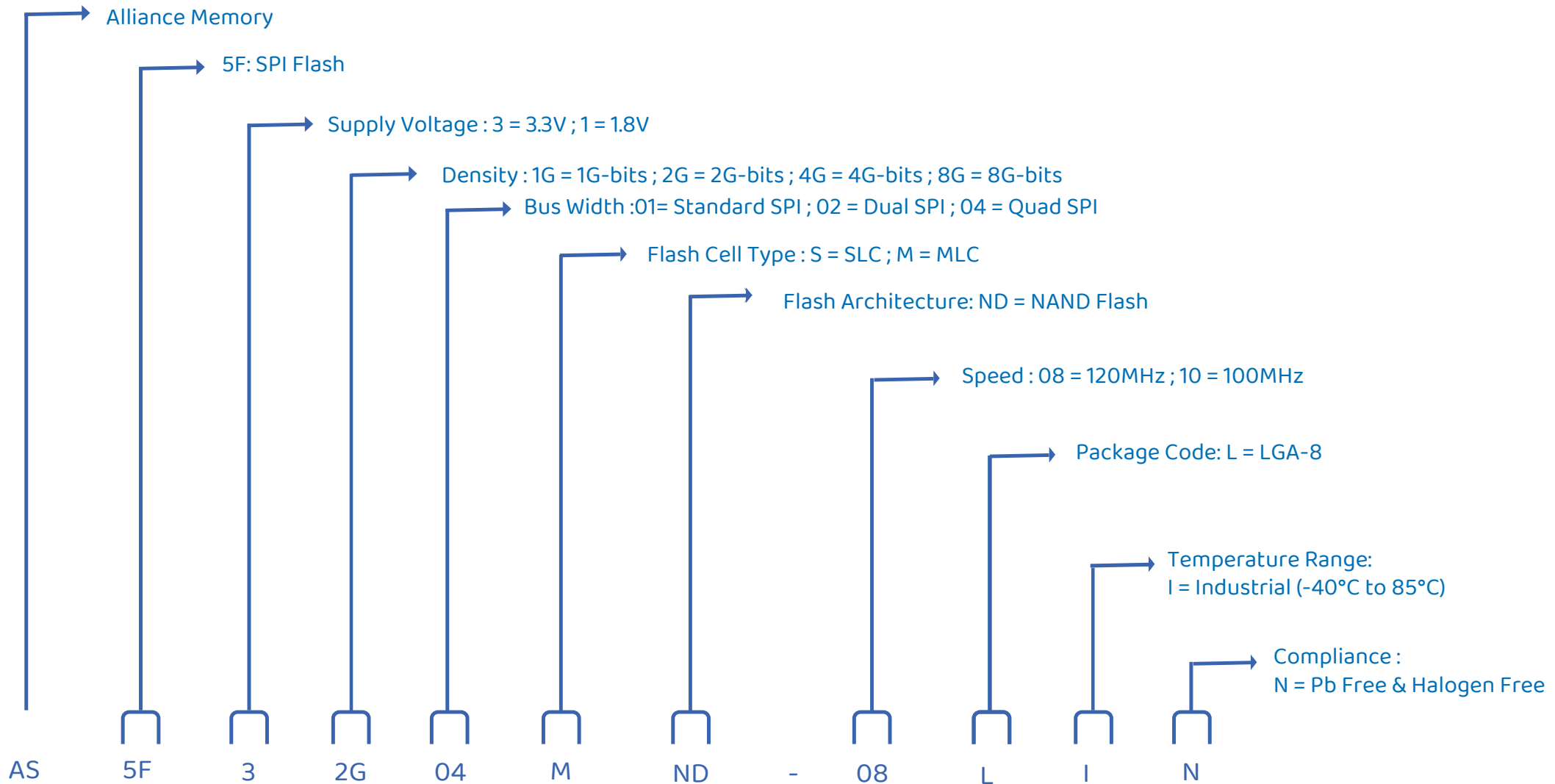
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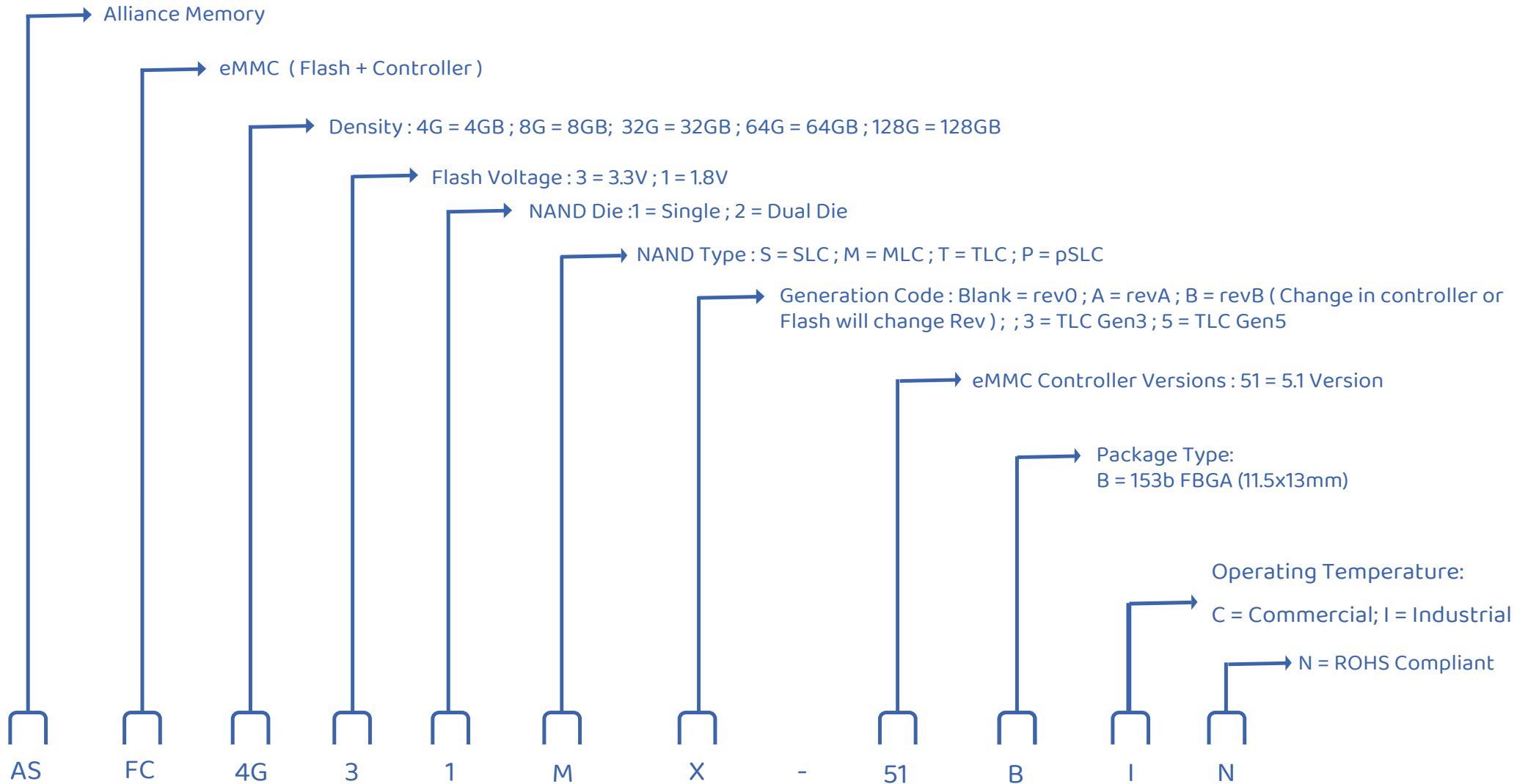
# ALLIANCE PART NUMBERING SYSTEM - SLC Parallel NAND Flash



# ALLIANCE PART NUMBERING SYSTEM - Serial SLC NAND Flash



# ALLIANCE PART NUMBERING SYSTEM - eMMC



# ALLIANCE PACKAGING QUANTITIES

## FAST SRAM ORDER QTY

PART #	PACKAGE SUFFIX	PACKAGE	BOX QTY	QUANTITY PER TRAY/TUBE	REEL SIZE	TAPE WIDTH (mm)	TAPE PITCH (mm)
164A, 256A, 3256A	JxN	28 SOJ - 300mil	2500	25/Tube	1000	24	12
256B	JIN	28 SOJ - 300mil	1080	27/Tube	1000	24	12
3256B	JIN	28 SOJ - 300mil	1352	26/Tube	1000	24	12
256A, 3256A	TxN	28 TSOP I (8x13.4)	2340	234/Tray	1000	24	12
1025B, 31025B, 1024B, 31024B	TJCN	32.3 SOJ - 300mil	2200	22/Tube	1000	32	12
1024C	TJIN	32.3 SOJ - 300mil	920	23/Tube	1000	32	12
31025C	TJIN	32.3 SOJ - 300mil	805	23/Tube	1000	32	12
1025B, 31025B, 1024B, 31024B	JCN	32.4 SOJ - 400mil	2100	21/Tube	1000	32	16
1024C, 1025C, 31025C	JIN	32.4 SOJ - 400mil	805	23/Tube	1000	32	16
513B, 3513B, 1026B, 31026B	JCN	44 SOJ - 400mil - 1 Meg	1600	16/Tube	500	44	16
1026C, 31026C	JIN	44 SOJ - 400mil - 1 Meg	560	16/Tube	500	44	16
1024B, 31024B	TCN	32 TSOP I (8x20)	1560	156/Tray	1000	32	12
31025C	TIN	32 TSOP I (8x20)	805	23/Tube	1000	32	12
513B, 3513B, 1026B, 31026B	TCN	44 TSOP II - 400mil - 1 Meg	1350	135/Tray	1000	32	16
1026C, 31026C	TIN	44 TSOP II - 400mil - 1 Meg	1352	26/Tube	1500	32	16
31026C	BIN	48ball FBGA	3600	360/Tray	2000	44	16
4096A, 34096A, 4098A, 34098A	TxN	44 TSOP II - 400mil - 4 Meg	1350	135/Tray	1000	32	16
4096A, 34096A	JxN	36 SOJ - 400mil	1900	19/Tube	500	44	16
4098A, 34098A	JxN	44 SOJ - 400mil - 4 Meg	1600	16/Tube	500	44	16
34098A	B	48ball BGA	2200	480/Tray			
38096A, 38098A	TIN	44 TSOP II	1350	135/Tray	1000	44	16
38096A, 38098A	B	48ball BGA	4800	480/Tray	2000	44	16
316096A, 316098A	TIN	48 TSOP I	960	96/Tray	1500	44	16
316098A	B	48ball BGA	4800	480/Tray	2000	16	16
325632, 351232	BIN	90ball TFBGA	2400	240/Tray	2000		

# ALLIANCE PACKAGING QUANTITIES

## LOW POWER SRAM ORDER QTY

PART #	PACKAGE SUFFIX	PACKAGE	BOX QTY	QUANTITY PER TRAY/TUBE	REEL SIZE	TAPE WIDTH (mm)	TAPE PITCH (mm)
6264/62256	S	28pin 330mil SOP	2500	25/Tube	1000	24	16
6264/62256	P	28pin 600mil DIP	600	15/Tube			
6264/62256	ST	28pin STSOP (8x13.4)	2340	234/Tray	1500	24	12
1008/2008/4008	P	32pin 600mil DIP	520	13/Tube			
1008/2008/4008	S	32pin 450mil SOP	720	72/Tray	1000	32	16
1008/2008/4008	T	32pin TSOP I (8x20)	1560	156/Tray	1500	32	12
1008/2008/4008	ST	32pin STSOP (8x13.4)	2340	234/Tray	1500	24	12
1016/2016/4016/8008/8016	Z	44pin TSOP II 400mil	1350	135/Tray	1000	32	12
1616/6416	T	48pin TSOP I	960	96/Tray	1500		
1008/2008/4008/8008/1016/ 1616/2016/4016/8016/1616/3216	B	36B/48B TFBGA (6x8)	4800 or 3000	480/Tray Or 300/Tray	2000	16	12
4008	Z	32pin TSOP II	1170	117/Tray	1000	32	16



# ALLIANCE PACKAGING QUANTITIES

## DRAM ORDER QTY

PART#	PACKAGE	BOX QTY	QUANTITY PER TRAY/REEL	REEL SIZE
SDRAM				
AS4C1M16S	50pin TSOP II	1170	117/Tray	1000
AS4C16M16SA-6TAN/AS4C16M16SA-6TCN/AS4C16M16SA-6TIN/ AS4C16M16SA-7TCN/AS4C16M16SB-6TIN/AS4C16M16SB-7TCN/ AS4C32M16SB-6TIN/AS4C32M16SB-7TCN/AS4C32M16SB-7TIN/ AS4C32M16SC-7TIN/AS4C32M8SA-6TIN/AS4C32M8SA-7TCN/ AS4C4M16SA-5TCN/AS4C4M16SA-6TAN/AS4C4M16SA-6TCN/ AS4C4M16SA-6TIN/AS4C4M16SA-7TCN/AS4C4M16SB-6TIN/ AS4C64M4SA-6TIN/AS4C64M4SA-7TCN/AS4C64M8SC-7TIN/ AS4C8M16SA-6TAN/AS4C8M16SA-6TCN/AS4C8M16SA-6TIN/ AS4C8M16SA-7TCN/AS4C8M16SB-6TIN/	54pin TSOP II	1080	108/Tray	1000
AS4C64M8SD-7TCN	54pin TSOP II	1080	108/Tray	1500
AS4C16M16SA-6BAN/AS4C16M16SA-6BIN/AS4C16M16SA-7BCN/ AS4C16M16SB-6BIN/AS4C32M16SB-7BIN/AS4C4M16SA-6BAN/ AS4C4M16SA-6BIN/AS4C4M16SA-7BCN/AS4C8M16SA-6BAN/ AS4C8M16SA-6BIN/AS4C8M16SA-7BCN	54ball BGA	3480	348/Tray	2500
AS4C4M16SA-7B2CN	60ball FBGA	2860	286/Tray	2000
AS4C4M32SA/AS4C8M32S/AS4C8M32S	86pin TSOP II	1080	108/Tray	1000
AS4C4M32S/AS4C8M32SA	90ball BGA	1900	190/Tray	2000

# ALLIANCE PACKAGING QUANTITIES

## DRAM ORDER QTY

PART#	PACKAGE	BOX QTY	QUANTITY PER TRAY/REEL	REEL SIZE
<b>DDR1</b>				
AS4C32M16D1A/AS4C4M16D1A/AS4C64M16D1/AS4C64M16D1A/AS4C64M16D1/AS4C64M16D1A/ AS4C64M8D1/AS4C8M16D1A	66pin TSOP II	1080	108/Tray	1000
AS4C64M16D1A	60ball FBGA	2400	240/Tray	1000
AS4C64M8D1/AS4C8M16D1	60ball TFBGA	2400	240/Tray	2500
AS4C4M32D1A	144ball FBGA	1890	189/Tray	1500
<b>DDR2</b>				
AS4C128M16D2A /AS4C16M16D2 / AS4C32M16D2A/AS4C32M16D2C/AS4C64M16D2A	84ball FBGA	2090	209/Tray	2500
AS4C64M8D2	60ball FBGA	2640	264/Tray	2000
AS4C64M16D2B	84ball FBGA	2000	200/Tray	2500
AS4C128M16D2	84ball FBGA	1620	162/Tray	2500
AS4C256M8D2	60ball FBGA	1360	136/Tray	2500
<b>DDR3</b>				
AS4C32M16D3-12BxN/AS4C32M16D3L-12BxN	96ball FBGA	1900	190/Tray	1500
AS4C64M16D3B	96ball FBGA	1900	190/Tray	2000
AS4C64M16D3LB	96ball FBGA	1900	190/Tray	2000
AS4C128M16D3C	96ball FBGA	2090	209/Tray	2500
AS4C256M16D3C	96ball FBGA	2090	209/Tray	2000
AS4C256M16D3LC	96ball FBGA	2090	209/Tray	2500
AS4C512M16D3LA/AS4C512M16D3LB	96ball FBGA	1800	180/Tray	2000
AS4C512M16D3LC	96ball FBGA	1900	190/Tray	2000

# ALLIANCE PACKAGING QUANTITIES

## DRAM ORDER QTY

PART#	PACKAGE	BOX QTY	QUANTITY PER TRAY/REEL	REEL SIZE
<b>MOBILE SDRAM</b>				
AS4C16M16MSA/AS4C8M16MSA/AS4C16M16MSB/AS4C8M16MSB	54-ball FBGA	3190	319/Tray	1000
AS4C32M16MSA/AS4C32M16MSB	54-ball BGA	3190	319/Tray	1000
AS4C4M32MSA/AS4C8M32MSA/AS4C8M32MSB	90-ball FBGA	1900 /2400	190/240 Tray	1000/2000
AS4C16M32MSA/AS4C16M32MSB	90-ball BGA	1900	190/Tray	1500
<b>MOBILE LPDDR1</b>				
AS4C32M16MD1A	60-ball FPBGA	1600	160/Tray	2000
AS4C64M16MD1A	60-ball FPBGA	3000	300/Tray	1000
AS4C16M32MD1	90-ball FPBGA	1600	160/Tray	1000
AS4C32M32MD1A	90-ball FPBGA	2400	240/Tray	1000
AS4C64M32MD1	90-ball FPBGA	3480	348/Tray	1000
<b>MOBILE LPDDR2</b>				
AS4C32M32MD2A-25BIN/AS4C64M16MD2A-25BIN	134ball FBGA (10 x 11.5 x 1.0)	1280	128/Tray	2000
AS4C128M16MD2A-25BIN/AS4C64M32MD2A-25BIN/AS4C8M32MD2A-25BCN	134ball FBGA (10 x 11.5 x 1.0)	1710	171/Tray	1000
AS4C128M32MD2-18/25BIN	134ball FBGA (11.5 x 11.5 x 1.0)	1680	168/Tray	2000
AS4C8M32MD2A-25BPCN	168ball FBGA (12 x 12 x 0.9)	1680	168/Tray	Do Not Offer

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