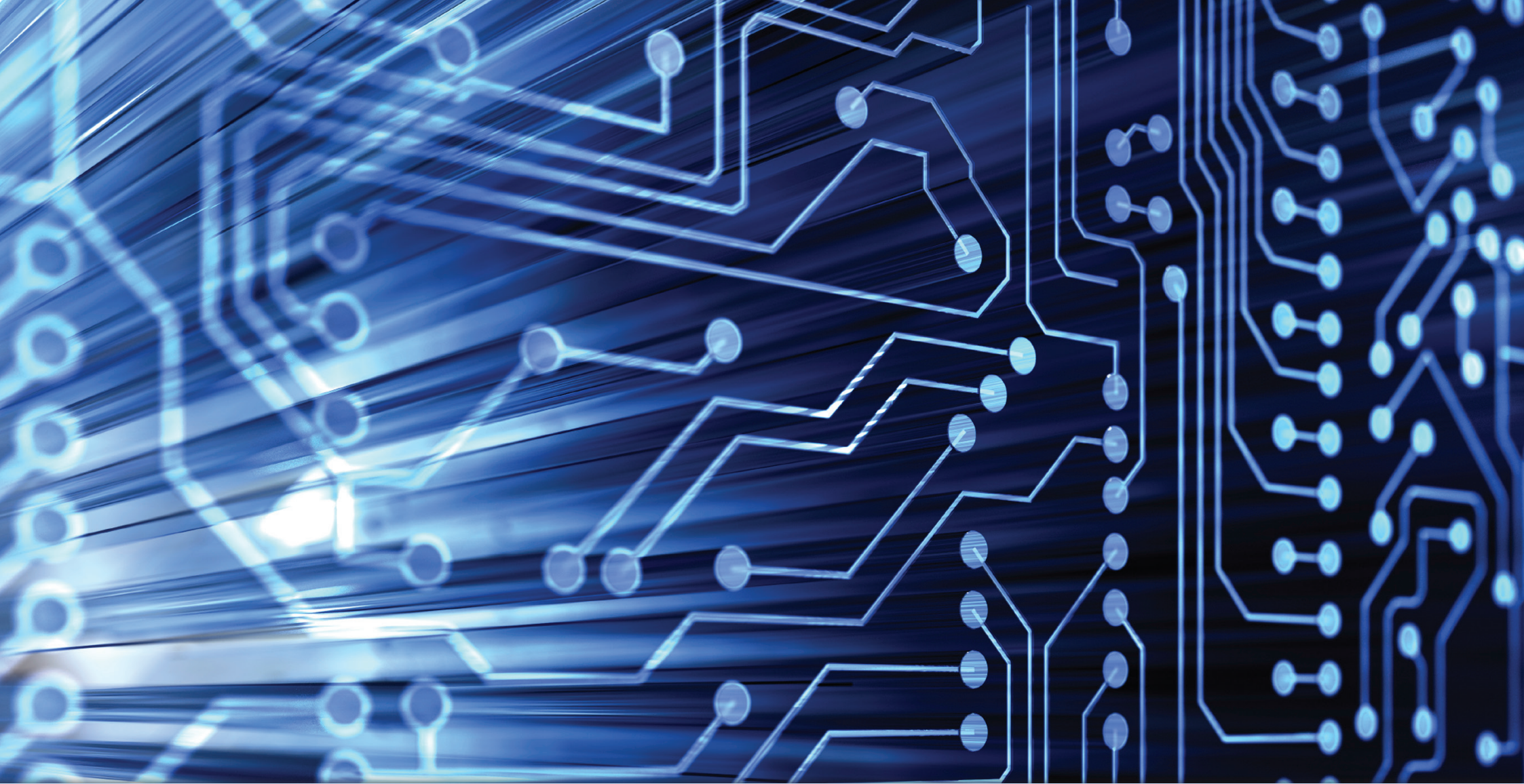




PRODUCT CATALOG 2015



Worldwide Leader in Legacy Memory



Alliance Memory is pleased to highlight our new product offerings in both DRAM and SRAM in this new 2015 edition of our Product Selection Guide. We continue to be the premier legacy memory supplier offering high quality products, minimal die shrinks and long term support.

Please be sure to check our website **alliancememory.com** for information about our partnership with Micron Technology on the 512M SDRAM product.



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
512K	32K x 16	5V	SOJ (44), TSOP II (44)	10/12/15/20	AS7C513B
1M	128K x 8	5V	SOJ (32.3 & 32.4), TSOP I (32)	10/12/15/20	AS7C1024B
1M	128K x 8	5V	SOJ (32.3 & 32.4)	10/12/15/20	AS7C1025B
1M	64K x 16	5V	SOJ (44), TSOP II (44)	10/12/15/20	AS7C1026B
4M	512K x 8	5V	SOJ (36), TSOP II (44)	10/12/15/20	AS7C4096A
4M	256K x 16	5V	SOJ (44), TSOP II (44)	10/12/15/20	AS7C4098A

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 (32.3 & 32.4), TSOP II (32)	10/12	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	12	AS7C31026C-12BIN
2M	128K x 16	3.3V	TSOP II (44)	10/12/15/20	AS7C32098A
4M	512K x 8	3.3V	SOJ (36), TSOP II (44)	8/10/12/15/20	AS7C34096A
4M	256K x 16	3.3V	SOJ (44), TSOP II (44), TFBGA (48)	8/10/12/15/20	AS7C34098A
8M	1024K x 8	3.3V	TFBGA (48), TSOP II (44)	10	AS7C38096A/B
8M	512K x 16	3.3V	TFBGA (48), TSOP II (44)	10	AS7C38098A
16M	2M x 8	3.3V	TFBGA (48), TSOP I (48), TSOP II (54), TSOP II (44)	10	AS7C316096A/B/C
16M	1024K x 16	3.3V	TFBGA (48), TSOP I (48), TSOP II (54)	10	AS7C316098A/B

Fast Asynchronous SRAM Cross Reference



64K FAST

ORG	VCC	PACKAGE	SPEED (NS)	ALLIANCE	SAMSUNG	CYPRESS	IDT	ISSI	GSi
8K x 8	5v	28pin SOJ (300mil)	15	AS7C164A-15JXN		CY7C185-15VI	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	IDT	ISSI	GSi
32K x 8	5v	28pin SOJ	10,12,15,20	AS7C256A-XXJCN	K6E0808C (EOL)	CY7C199D-XXVXI	IDT71256SAXXYG	IS61C256AL-XXJL	
32K x 8	5v	28pin TSOP I	10,12,15,20	AS7C256A-XXTCN		CY7C199D-XXZXI	IDT71256SAXXPZG	IS61C256AL-XXTL	
32K x 8	3.3v	28pin SOJ	10,12,15,20	AS7C3256A-XXJCN	K6E0808V (EOL)	CY7C1399BN-12VXC	IDT71V256SAXXYG	IS61LV256AL-10JL	
32K x 8	3.3v	28pin TSOP I	10,12,15,20	AS7C3256A-XXTCN		CY7C1399BN-XXZXI	IDT71V256SAXXPZG	IS61LV256AL-10TL	
32K x 8	5v	28pin DIP	15	AS7C256B-XXPIN		Y7C199CN-15PXC (EOL)	IDT71256SAXXTPG		

512K FAST

ORG	VCC	PACKAGE	SPEED (NS)	ALLIANCE	SAMSUNG	CYPRESS	IDT	ISSI	GSi
32K x 16	5v	44pin SOJ (400MIL)	12,15,20	AS7C513B-XXJCN		CY7C1020D-10VXI		IS61C321AL-12KLI	
32K x 16	5v	44pin TSOP II (400MIL)	12,15,20	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)	12,15	AS7C3513B-XXJCN		CY7C1020DV33-10VXI			

1M FAST

ORG	VCC	PACKAGE	SPEED (NS)	ALLIANCE	SAMSUNG	CYPRESS	IDT	ISSI	GSi
128K x 8	5v	32pin SOJ (400MIL)	12,15,20	AS7C1025B-XXJCN	K6R1008C1D-KI10	CY7C1019D-10VXI	IDT71124SXXYG		
128K x 8	3.3v	32pin SOJ (400MIL)	10,12,15,20	AS7C31025B-XXJCN	K6R1008V1D-KI10	CY7C1019DV33-10VXI	IDT71V124SAXXYG	IS63WV1024L-10KLI	
128K x 8	3.3v	32pin TSOP II	10	AS7C31025C-10TIN	K6R1008V1D-UI10	CY7C1019DV33-10ZSXI	IDT71V124SAXXPHG	IS63WV1288DBLL-10TLI	
128K x 8	5v	32pin SOJ (300MIL)	10,12,15,20	AS7C1025B-XXTJCN					
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)	10,12,15,20	AS7C1024B-XXJCN		CY7C109D-10VXI	IDT71024SXXYG	IS61C1024AL-12KLI	
128K x 8	5v	32pin TSOP I	10,12,15,20	AS7C1024B-XXTCN		CY7C109D-10ZXI		IS61C1024AL-12TLI	
128K x 8	5v	32pin SOJ (300MIL)	10,12,15,20	AS7C1024B-XXTJCN		CY7C1009D-10VXI	IDT71024SXXTYG	IS61C1024AL-12JLI	
128K x 8	3.3v	32pin SOJ (400MIL)	10,12,15,20	AS7C31024B-XXJCN					
128K x 8	3.3v	32pin TSOP I	10,12,15,20	AS7C31024B-XXTCN					
128K x 8	3.3v	32pin SOJ (300MIL)	10,12,15,20	AS7C31024B-XXTJCN					
64K x 16	5v	44pin SOJ (400MIL)	10,12,15,20	AS7C1026B/C-XXJCN	K6R1016C1D-KI10	CY7C1021D-XXVXC	IDT71016SXXYG	IS61C6416AL-12KLI	
64K x 16	5v	44pin TSOP II (400MIL)	10,12,15,20	AS7C1026B/C-XXTCN	K6R1016C1D-UI10	CY7C1021D-XXZSXI	IDT71016SXXPHG	IS61C6416AL-12TLI	
64K x 16	3.3v	44pin SOJ (400MIL)	10,12,15,20	AS7C31026B/C-XXJCN	K6R1016V1D-KI10	CY7C1021DV33-XXVXI	IDT71V016SAXXYG	IS61WV6416DBLL-10KLI	
64K x 16	3.3v	44pin TSOP II (400MIL)	10,12,15,20	AS7C31026B/C-XXTCN	K6R1016V1D-UI10	CY7C1021DV33-XXZSXI	IDT71V016SAXXPHG	IS61WV6416DBLL-10TLI	GS71116AGP-XX
64K x 16	3.3v	48ball BGA	12	AS7C31026C-12BIN					

Fast Asynchronous SRAM Cross Reference



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-XXTCN		CY7C1011DV33-10ZSXI		IS61WV12816DBLL-10TL	GS72116AGP-XX
256K x 8	3.3v	44pin TSOP II	10,12,15,20	AS7C32096A-10TCN		CY7C1010DV33-10ZSXI		IS61WV256EDBL-10TLI	GS72108AGP-XX

4M FAST

ORG	VCC	PACKAGE	SPEED (NS)	ALLIANCE	SAMSUNG	CYPRESS	IDT	ISSI	GSI
512K x 8	5v	36pin SOJ (400MIL)	12,15,20	AS7C4096A-XXJCN	K6R4008C1D-KI10	CY7C1049D-10VXI		IS61C5128AL-10KLI	
512K x 8	5v	44pin TSOP II (400MIL)	12,15,20	AS7C4096A-XXTCN	K6R4008C1D-UI10			IS61C5128AL-10TLI	
512K x 8	3.3v	36pin SOJ (400MIL)	10,12,15,20	AS7C34096A-XXJCN	K6R4008V1D-KI10	CY7C1049DV33-10VXI	IDT71V424SXXYG	IS61WV5128EDBL-10KLI	
512K x 8	3.3v	44pin TSOP II (400MIL)	8,10,12,15,20	AS7C34096A-XXTCN	K6R4008V1D-UI10	CY7C1049DV33-10ZSI	IDT71V424SXXPHG	IS61WV5128EDBL-10TLI	GS74108AGP-XX
256K x 16	5v	44pin SOJ (400MIL)	12,15,20	AS7C4098A-XXJCN	K6R4016C1D-KI10	CY7C1041D-10VXI		IS61C25616AL-10KLI	
256K x 16	5v	44pin TSOP II (400MIL)	12,15,20	AS7C4098A-XXTCN	K6R4016C1D-UI10	CY7C1041D-10ZSXI		IS61C25616AL-10TL	
256K x 16	3.3v	44pin SOJ (400MIL)	10,12,15,20	AS7C34098A-XXJCN	K6R4016V1D-KI10	CY7C1041DV33-10VXI	IDT71V416SXXYG	NA	
256K x 16	3.3v	44pin TSOP II (400MIL)	8,10,12,15,20	AS7C34098A-XXTCN	K6R4016V1D-UI10	CY7C1041DV33-10ZSXI	IDT71V416SXXPHG	IS61WV25616EDBL-10TLI	GS74116AGP-XX
256K x 16	3.3v	48ball TFBGA	10	AS7C34098A-XXBIN		CY7C1041DV33-10BVXI	IDT71V416SXXBE	IS61WV25616EDBL-10BLI	GS75116AGX-XX

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-XXZSXI		IS61WV51216ALL-XXTLI	
512K x 16	3.3v	48ball TFBGA	10	AS7C38098A-10BIN		CY7C1051DV33-10BAXI		IS61WV51216ALL-10MLI	
1M x 8	3.3v	44pin TSOP II	10	AS7C38096A-10TIN		CY7C1059DV33-10ZSXI		IS61WV10248BL-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				IS61WV10248BL-10MLI	

16M FAST

ORG	VCC	PACKAGE	SPEED (NS)	ALLIANCE	SAMSUNG	CYPRESS	IDT	ISSI	GSI
1M x 16	3.3v	48pin TSOP I	10	AS7C316098A-10TIN				IS61WV102416BL-10TLI	
1M x 16	3.3v	48ball TFBGA	10	AS7C316098A-10BIN		CY7C1061DV33LL-10BVXI		IS61WV102416BL-10MLI	
1M x 16	3.3v	54pin TSOP II	10	AS7C316098A-10TIN		CY7C1061DV33-10ZSXI			
2M x 8	3.3v	48pin TSOP I	10	AS7C316096A-10TIN					
2M x 8	3.3v	54pin TSOP II	10	AS7C316096B-10TIN		CY7C1069DV33-10ZSXI			
2M x 8	3.3v	44pin TSOP II	10	AS7C316096C-10TIN				IS61WV20488BL-10TLI	
2M x 8	3.3v	48ball TFBGA	10	AS7C316096C-10BIN				IS61WV20488BL-10MLI	

Low Power Asynchronous SRAM



2.7V - 3.6V LOW POWER SRAMS

DENSITY	ORG	VCC	PACKAGES	SPEED (NS)	ALLIANCE
256K	32K x 8	2.4 ~ 3.6V	28pin SOP (330mm)	70	AS62V256A-70SIN
2M	256K x 8	3V	32pin 450 mil SOP	55	AS6C2008-55SIN
2M	256K x 8	3V	32pin TSOP I (8 x 20mm)	55	AS6C2008-55TIN
2M	256K x 8	3V	32pin STSOP (8 x 13.4mm)	55	AS6C2008-55STIN
2M	256K x 8	3V	36pin TFBGA (6 x 8mm)	55	AS6C2008-55BIN
4M	512K x 8	2.7 ~ 3.6V	32pin TSOP I (8 x 20mm)	55	AS6C4008A-55TIN
4M	512K x 8	2.7 ~ 3.6V	32pin TSOP II (8 x 20mm)	55	AS6C4008A-55ZIN
4M	512K x 8	2.7 ~ 3.6V	32pin STSOP (8 x 13.4mm)	55	AS6C4008A-55STIN
4M	512K x 8	2.7 ~ 3.6V	36pin TFBGA (6 x 8mm)	55	AS6C4008A-55BIN
4M	256K x 16	2.7 ~ 3.6V	44pin TSOP II	45/55	AS6C4016A-45BIN/55BIN
4M	256K x 16	2.7 ~ 3.6V	48ball TFBGA (6 x 8mm)	45/55	AS6C4016A-45BIN/55BIN
8M	1M x 8	2.7 ~ 3.6V	44pin TSOP II	55	AS6C8008A-55ZIN
8M	1M x 8	2.7 ~ 5.5V	48ball TFBGA (6 x 8mm)	45/55	AS6C8008A-45BIN/55BIN
8M	512K x 16	2.7 ~ 3.6V	44pin TSOP II	55	AS6C8016A-55ZIN
8M	512K x 16	2.7 ~ 3.6V	48ball TFBGA (8 x 10mm*) two chip select pins: B5 and A6**	55	AS6C8016A-55BIN
16M	1M x 16	2.7 ~ 3.6V	48ball TFBGA (6 x 8mm)	55/70	AS6C1616-55/70BIN
16M	1M x 16	2.7 ~ 3.6V	48ball TFBGA (6 x 8mm)	55	AS6C1616A-55BIN
16M	1M x 16	2.7 ~ 3.6V	48pin TSOP I (12 x 20mm)	55	AS6C1616-55TIN
16M	2M x 8	2.7 ~ 3.6V	44pin TSOP II	55	AS6C1608-55TIN
16M	2M x 8	2.7 ~ 3.6V	48ball TFBGA	55	AS6C1608-55BIN
32M	2M x 16	2.7 ~ 3.6V	48pin TSOP I (12 x 20mm)	55	AS6C3216-55TIN
32M	2M x 16	2.7 ~ 3.6V	48ball TFBGA (6 x 8mm)	55	AS6C3216-55BIN

* = 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 Asynchronous SRAM



2.7V - 5.5V LOW POWER SRAMS

DENSITY	ORG	VCC	PACKAGES	SPEED (NS)	ALLIANCE
64K	8K x 8	2.7 ~ 5.5V	28pin 600 mil PDIP, 28pin 330 mil SOP, 28pin sTOSOP (8x13.4mm)	55	AS6C6264
64K	8K x 8	4.5 - 5.5V	28pin 600 mil PDIP, 28pin 330 mil SOP	70	AS6C6264A
256K	32K x 8	2.7 ~ 5.5V	28pin 600 mil PDIP, 28pin 330 mil SOP, 28pin sTOSOP (8x13.4mm)	55	AS6C62256
256K	32K x 8	4.5 - 5.5V	28pin 600 mil PDIP, 28pin 330 mil SOP	70	AS6C62256A
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 sTOSOP (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 sTOSOP (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 sTOSOP (8 x 13.4mm), TFBGA (36), 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

* = AS6C8016 TFBGA package which is 6x8mm is smaller than AS6C8016A TFBGA part's die size which is 8x10mm – but their lead pitch are the same.

** = AS6C8016 TFBGA part has one chip select pin: B5. The valid level for B5 pin is low level, the valid level for A6 pin is NC, pull it up or low are OK.

If customer replaces a single CS pin part like AS6C8016 with AS6C8016A need to pull up A6 pin.

ZMD Low Power Asynchronous SRAM

5V LOW POWER SRAMS

DENSITY	ORG	VCC	PACKAGES	SPEED (NS)	ZMD PART NUMBER
64K	8K x 8	4.5 ~ 5.5V	28pin 600 mil PDIP	70	U6264BD
64K	8K x 8	4.5 ~ 5.5V	28pin 330 mil SOP	70	U6264BS2
256K	32K x 8	4.5 ~ 5.5V	28pin 600 mil PDIP	70	U62256AD
256K	32K x 8	4.5 ~ 5.5V	28pin 330 mil SOP	70	U62256AS2

Low Power Asynchronous SRAM Cross Reference



64K LOW POWER

ORG	VCC	PACKAGE	ALLIANCE	ZMD	CYPRESS	HITACHI	NEC	HYNIX
8K x 8	5V	28pin 600mil DIP	AS6C6264-55PCN	U6264BDC07LLG1		HM6264BLP		HY6264P
8K x 8	5V	28pin 330mil SOP	AS6C6264-55SCN	U6264BS2C07LLG1	CY6264-55SNXI	HM6264BLFP	uPD4464	HY6264G
8K x 8	5V	28pin STSOP (8 x 13.4 mm)	AS6C6264-55STCN					

256K LOW POWER

ORG	VCC	PACKAGE	ALLIANCE	ZMD	SAMSUNG	CYPRESS	RENESAS	BRILLIANCE	ISSI
32K x 8	5V	28pin 600mil DIP	AS6C62256-55PCN	U62256ADC07LLG1	K6X0808C1D-DF55	CY62256NLL-70PXC		BS62LV256PCP-55	
32K x 8	5V	28pin 330mil SOP	AS6C62256-55SCN	U62256AS2C07LLG1	K6X0808C1D-BF55	CY62256NLL-55SNXI	M5M5256DFP	BS62LV256SCP-55	IS62C256AL-45ULI
32K x 8	3.3V	28pin 330mil SOP	AS6C62256-55SCN			CY62256NVLL-70SNXI	M5M5256DFP-70XG	BS62LV256SCP-55	IS62LV256AL-45ULI
32K x 8	5V	28pin STSOP (8 x 13.4 mm)	AS6C62256-55STCN		K6X0808C1D-LF55	CY62256NLL-55ZRXI	M5M5256DVP-55XL	BS62LV256STCP-55	IS62C256AL-45TLI
32K x 8	3.3V	28pin STSOP (8 x 13.4 mm)	AS6C62256-55STCN			CY62256NVLL-70ZXC	M5M5256DVP-70XG	BS62LV256STCP-55	IS62LV256AL-45TLI

1M LOW POWER

ORG	VCC	PACKAGE	ALLIANCE	SAMSUNG	CYPRESS	RENESAS	RENESAS	BRILLIANCE	NEC	ISSI
128K x 8	5V	32pin 600mil DIP	AS6C1008-55PCN	K6X1008C2D-DB55				BS62LV1027PCP-55	uPD431000ACZ-70L	
128K x 8	5V	32pin 330mil SOP	AS6C1008-55SIN	K6X1008C2D-GF55 (Lead)/BF (LF)	CY62128ELL-45SXI	M5M51008DFP-55HI	R1LP0108ESP-5SI	BS62LV1027SIP-55	uPD431000AGW-70L	IS62C1024AL-35QLI
128K x 8	3.3V	32pin 330mil SOP	AS6C1008-55SIN	K6X1008T2D-GF55 or BF	CY62128EV30LL-45SXI	M5M5V108DFP-70HI	R1LV0108ESP-5SI	BS62LV1027SIP-55		IS62WV1288DBLL-45QLI
128K x 8	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	3.3V	32pin TSOP I (8 x 20 mm)	AS6C1008-55TIN	K6X1008T2D-TF55 (Lead)/PF (LF)	CY62128EV30LL-45ZXI	M5M5V108DVP-70HI	R1LV0108ESF-5SI	BS62LV1027TIP-55		IS62WV1288DBLL-45TLI
128K x 8	5V	32pin STSOP (8 x 13.4 mm)	AS6C1008-55STIN		CY62128ELL-45ZAXI	M5M51008DKV-55HI	R1LP0108ESA-5SI	BS62LV1027STIP-55	uPD431000AGU-B10-9JH	IS62C1024AL-45HLI
128K x 8	3.3V	32pin STSOP (8 x 13.4 mm)	AS6C1008-55STIN	K6F1008V2C-LF55	CY62128EV30LL-45ZAXI	M5M5V108DKV-70HI	R1LV0108EAS-5SI	BS62LV1027STIP-55		IS62WV1288DBLL-45HLI
64K x 16	3.3V	44pin TSOP II	AS6C1016-55ZIN		CY62128EV30LL-45ZSXI			BS616LV1010ECP-55		IS62WV6416DBLL-45TLI

2M LOW POWER

ORG	VCC	PACKAGE	ALLIANCE	SAMSUNG	CYPRESS	RENESAS	RENESAS	BRILLIANCE	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	
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	36pin TFBGA (6mm x 8mm)	AS6C2008-55BIN		CY62138FV30LL-45BVXI				IS62WV2568BLL-55B2LI
128K x 16	3V	44pin TSOP II	AS6C2016-55ZIN		CY62136FVLL-70ZSXI	M5M5V216ATP-70HI	R1LV0216-BSB-5SI	BS616LV2016EIP-55	IS62WV12816BLL-55TLI
128K x 16	3V	48 BGA	AS6C2016-55BIN	K6F2016U4E-EF55000	CY62136FVLL-70BVXI			BS616LV2019AIG-55	IS62WV12816BLL-55B2LI

Low Power Asynchronous SRAM Cross Reference



4M LOW POWER

ORG	VCC	PACKAGE	ALLIANCE	SAMSUNG	CYPRESS	RENESAS	BRILLIANCE	NEC	ISSI
512K x 8	5V	32pin 600mil DIP	AS6C4008-55PCN	K4X4008C1F-DB55			BS62LV4006PCP-55		
512K x 8	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	5V	32pin TSOP I (8 x 20mm)	AS6C4008A-55TIN				BS62LV4006ECP-55		
512K x 8	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	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-55T2LI
512K x 8	5V	36pin TFBGA (6mm x 8mm)	AS6C4008-55BIN		CY62148EV30LL-55BVXI	R1LV0408DBG-5SI			
512K x 8	3.3V	36pin TFBGA (6mm x 8mm)	AS6C4008A-55BIN		CY62148DV30-55BVXI	R1LV0408DBG-5SI	BS62LV4006HIG-55		
256K x 16	5V	44pin TSOP II	AS6C4016-55ZIN	K6X4016C3F-TF70000	CY62146ELL-45ZSXI		BS616LV4017EIP-55		IS62C5128BL-45TLI
256K x 16	3.3V	44pin TSOP II	AS6C4016A-55ZIN	K6X4016T3F-TF70000	CY62147EV30LL-45ZSXI	R1LV0414DSB-5SI	BS616LV4017EIP-55	upD444012AGY-B55X	IS62C25616BL-45T2LI
256K x 16	3.3V	48 BGA	AS6C4016A-55BIN	K6F4016U6G-EF70000	CY62147EV30LL-45BVXI		BS616LV4017AIP-55		IS62WV25616DBLL-45BLI

8M LOW POWER

ORG	VCC	PACKAGE	ALLIANCE	SAMSUNG	CYPRESS	RENESAS	RENESAS	RENESAS	BRILLIANCE	NEC	ISSI
1024K 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
1024K x 8	2.7 ~ 5.5V	48ball TFBGA	AS6C8008-55BIN		CY62158EV30LL-45BVXI	EOL					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		IS62WV51216EBLL-55BLI
512K x 16	2.7 ~ 3.6V	48ball TFBGA (8 x 10mm)	AS6C8016A-55BIN								
512K x 16	2.7 ~ 5.5V	44pin TSOP II	AS6C8016 -55ZIN	K6X8016(C/T)3B-UF55	CY62157EV30LL-55ZSXI	M5M5W816TP-55HI	R1LV0816ASA-5SI	HM621651I14LTT-5SL	BS616LV8017FCP70	μPD448012GY-B55X-MJH-A	IS62WV51216BLL-55T2LI

16M LOW POWER

ORG	VCC	PACKAGE	ALLIANCE	SAMSUNG	CYPRESS	RENESAS	BRILLIANCE
1024K x 16	2.7 ~ 3.6V	48ball TFBGA	AS6C1616-55BIN				
1024K x 16	2.7 ~ 3.6V	48ball TFBGA	AS6C1616-70BIN	K6F1616U6C-FF70	CY62167EV30LL-70BVI	R1LV1616RBG-7SI	BS6216LV1611FCP70
1024K x 16	2.7 ~ 3.6V	48pin TSOP I	AS6C1616-55TIN		CY62167E30LL-55ZXI	R1LV1616RSA-5SI	BS6216LV1611TCP55
1024K x 16	2.7 ~ 3.6V	48ball TFBGA	AS6C1616A-55BIN				
2048K x 8	2.7 ~ 3.6V	44pin TSOP II	AS6C1608-55TIN		CY62168EV30LL-55ZXI		BS6216LV1600EIP55
2048K x 8	2.7 ~ 3.6V	48ball TFBGA	AS6C1608-55BIN				

32M LOW POWER

ORG	VCC	PACKAGE	ALLIANCE	CYPRESS	RENESAS
2048K x 16	2.7 ~ 3.6V	48pin TSOP I	AS6C3216-55TIN	CY62177EV30LL-55ZXI	R1LV3216RSA-5SI
2048K x 16	2.7 ~ 3.6V	48ball TFBGA	AS6C3216-55BIN	CY62177EV30LL-55BXI	R1LV3216CSA-5SI

ZBT/Sync Pipelined Burst (SPB)/Sync Burst (SB)



DENSITY	ORG	VCC	PACKAGE	MODE	SPEED (MHz)	ALLIANCE
4M	256K x 18	3.3V	100 TQFP	ZBT/SPB	166 MHz	AS8C401801-QC166N
4M	128K x 36	3.3V	100 TQFP	ZBT/SPB	166 MHz	AS8C403601-QC166N
4M	256K x 18	3.3V	100 TQFP	SPB	150 MHz	AS8C401800-QC150N
4M	128K x 36	3.3V	100 TQFP	SPB	150 MHz	AS8C403600-QC150N
4M	256K x 18	3.3V	100 TQFP	SB	7.5NS	AS8C401825-QC75N
4M	128K x 36	3.3V	100 TQFP	SB	7.5NS	AS8C403625-QC75N
9M	512K x 18	3.3V	100 TQFP	ZBT/SPB	150 MHz	AS8C801801-QC150N
9M	256K x 36	3.3V	100 TQFP	ZBT/SPB	150 MHz	AS8C803601-QC150N
9M	512K x 18	3.3V	100 TQFP	ZBT/SB	7.5NS	AS8C801825A-QC75N
9M	256K x 36	3.3V	100 TQFP	ZBT/SB	7.5NS	AS8C803625A-QC75N
9M	512K x 18	3.3V	100 TQFP	SPB	150 MHz	AS8C801800-QC150N
9M	256K x 36	3.3V	100 TQFP	SPB	150 MHz	AS8C803600-QC150N
9M	512K x 18	3.3V	100 TQFP	SB	7.5NS	AS8C801825-QC75N
9M	256K x 36	3.3V	100 TQFP	SB	7.5NS	AS8C803625-QC75N
18M	1M x 18	2.5V	100 TQFP	ZBT/SPB	166 MHz	AS8C161831-QC166N
18M	512K x 36	2.5V	100 TQFP	ZBT/SPB	166 MHz	AS8C163631-QC166N

Sync SRAM Cross Reference

ORG	DENSITY	PACKAGE	MODE	ALLIANCE	IDT	SAMSUNG	CYPRESS	GSI	ISSI
4M	128K x 36	100TQFP	SPB	AS8C403600-QC150N	71V3576SxxxPFG	K7A403600B-QCxx	CY7C1347G-xxxAX	GS84036AGT-xxx	IS61LPS12836A-xxxTQ
4M	256K x 16	100TQFP		AS8C401800-QC150N	71V3578SxxxPFG	K7A401800B-QCxx	CY7C1327G-xxxAX	GS84018AGT-xxx	IS61LPS25618A-xxxTQ
4M	128K x 36	100TQFP	SB	AS8C403625-QC75N	71V3577SxxxPFG	K7B403625B-QCxx	CY7C1345G-xxxAX	GS84036AGT-xxx	IS61LF12836A-xxxTQ
4M	256K x 18	100TQFP		AS8C401825-QC75N	71V3579SxxxPFG	K7B401825B-QCxx	CY7C1325G-xxxAX	GS84018AGT-xxx	IS61LF25618A-xxxTQ
4M	128K x 36	100TQFP	ZBT/SPB	AS8C403601-QC166N	71V3556SxxxPFG	K7N403601B-QCxx	CY7C1350G-xxxAX	GS840Z36AGT-xxx	IS61NLP12836A-xxxTQ
4M	256K x 18	100TQFP		AS8C401801-QC166N	71V3558SxxxPFG	K7N401801B-QCxx	CY7C1352G-xxxAX	GS840Z18AGT-xxx	IS61NLP25618A-xxxTQ
9M	256K x 36	100TQFP	SPB	AS8C803600-QC150N	71V67603SxxxPFG	K7A803600B-QCxx	CY7C1360C-xxxAJX	GS88036CT-xxx	IS61LPS25636A-xxxTQ
9M	512K x 18	100TQFP		AS8C801800-QC150N	71V67803SxxxPFG	K7A801800B-QCxx	CY7C1362C-xxxAJX	GS88018CT-xxx	IS61LPS51218A-xxxTQ
9M	256K x 36	100TQFP	SB	AS8C803625-QC75N	71V67703SxxxPFG	K7B803625B-QCxx	CY7C1361C-xxxAJX	GS88036CT-xxx	IS61LPS25636A-xxxTQ
9M	256K x 36	100TQFP		AS8C801825-QC75N	71V67903SxxxPFG	K7B801825B-QCxx	CY7C1363C-xxxAJX	GS88018CT-xxx	IS61LPS51218A-xxxTQ
9M	512K x 18	100TQFP	ZBT/SPB	AS8C803601-QC150N	71V65603SxxxPFG	K7N803601B-QCxx	CY7C1354C-xxxAJX	GS880Z36CT-xxx	IS61NLP25636A-xxxTQ
9M	512K x 18	100TQFP		AS8C801801-QC150N	71V65803SxxxPFG	K7N801801B-QCxx	CY7C1356C-xxxAJX	GS880Z18CT-xxx	IS61NLP51218A-xxxTQ
9M	256K x 36	100TQFP	ZBT/SB	AS8C803625A-QC75N	71V65703SxxxPFG	K7M803625B-QCxx	CY7C1351C-xxxAJX	GS880Z36CT-xxx	N/A
9M	512K x 18	100TQFP		AS8C801825A-QC75N	71V65903SxxxPFG	K7M801825B-QCxx	CY7C1353C-xxxAJX	GS880Z18CT-xxx	N/A
18M	512K x 36	100TQFP	ZBT/SPB	AS8C163631-QC166N	71T75602SxxxPFG	K7N163631B-QCxx	CY7C1370D-xxxAX	GS880Z36CT-xxx	IS61LPS12836A-xxxTQ
18M	1M x 18	100TQFP		AS8C161831-QC166N	71T75802SxxxPFG	K7N161831B-QCxx	CY7C1372D-xxxAX	GS880Z18CT-xxx	IS61LPS102418A-xxxTQ

Synchronous DRAM 3.3V x8,x16 and x32



DENSITY	ORG	VCC	PACKAGE	CLOCK FREQUENCY (MHz)	TEMPERATURE	ALLIANCE
16Mb	1M x 16	3.3V	50pin TSOP II	143/166 MHz	Commercial, Industrial	AS4C1M16S-6/7TxN
64Mb	4M x 16	3.3V	54pin TSOP II/54-ball FBGA	143/166 MHz	Commercial, Industrial, Automotive	AS4C4M16SA-6/7TxN/BxN
64Mb	2M x 32	3.3V	86pin TSOP II/90-ball BGA	143/166/200 MHz	Commercial, Industrial	AS4C2M32S-5/6/7TxN/BxN
128Mb	8M x 16	3.3V	54pin TSOP II/54-ball FBGA	143/166 MHz	Commercial, Industrial, Automotive	AS4C8M16SA-6/7TxN/BxN
128Mb	4M x 32	3.3V	86pin TSOP II/90-ball BGA	143/166 MHz	Commercial, Industrial	AS4C4M32S-6/7BxN/BxN
256Mb	16M x 16	3.3V	54pin TSOP II/54-ball FBGA	143/166 MHz	Commercial, Industrial, Automotive	AS4C16M16SA-6/7TxN/BxN
256Mb	8M x 32	3.3V	90-ball FBGA	143/166 MHz	Commercial, Industrial	AS4C8M32S-6/7BxN
512Mb	32M x 16	3.3V	54pin TSOP II/54-ball FBGA	143 MHz	Commercial, Industrial	AS4C32M16SA-7TxN/7BxN
512Mb	32M x 16	3.3V	54pin TSOP II	133 MHz	Commercial, Industrial	AS4C32M16SM-7TXN
512Mb	32M x 16	3.3V	54pin TSOP II	133 MHz	Commercial, Industrial	MT48LC32M16A2P-75:C/MT48LC32M16A2P-75 IT:C MT48LC32M16A2TG-75:C/MT48LC32M16A2TG-75:IT:C
512Mb	64M x 8	3.3V	54pin TSOP II	133 MHz	Commercial, Industrial	MT48LC64M8A2P-75:C/MT48LC64M8A2P-75 IT:C MT48LC64M8A2TG-75:C/ MT48LC64M8A2TG-75:IT:C

Synchronous DRAM 3.3V Cross Reference

DENSITY	ORG	ALLIANCE	SAMSUNG (EOL)	MICRON	SK HYNIX (EOL)	ISSI	WINBOND	NANYA (EOL)	ELITE (ESMT)	ETRON	ELPIDA (EOL)
16Mb	1M x 16	AS4C1M16S-6/7TxN	K4S161622E	MT48LC1M16A1	HY57V161610E	IS42S16100F	W9816G6TH	NT56V1616A0T	M12L16161A-xTG2Q	EM636165TS	EDS1616AGTA
64Mb	4M x 16	AS4C4M16SA-6/7TxN	K4S641632N-UCxx	MT48LC4M16A2P	HY57V641620ET	IS42S16400J-xTL	W9864G6JH	NT56V6620C0T-xxB	M12L64164A-xTG2U	EM638165TS-xx	uPD4564163G5-Axx
64Mb	4M x 16	AS4C4M16SA-6/7BxN		MT48LC4M16A2B4	HY5V66EF	IS42S16400J-xBL	W9864G6JB			EM638165BM-xx	
64Mb	2M x 32	AS4C2M32S-6/7BxN		MT48LC2M32B2B5-x	HY5V62CF	IS42S32200L-xBL	W9864G21B-x		M12L64322A-xBG2U	EM638325B-xx	EDS6432AFBH
64Mb	2M x 32	AS4C2M32S-5/6/7TxN		MT48LC2M32B2P-x	HY57V643220CT	IS42S32200L-xTL	W9864G21H-x		M12L64322A-xTG2U	EM638325TS	EDS6432AFTA
128Mb	8M x 16	AS4C8M16SA-6/7TxN	K4S281632K-UCxx	MT48LC8M16A2P	H57V1262GTR	IS42S16800F-xTL	W9812G6KH	NT5SV8M16AT-xxB	M12L128168A-xTG2N	EM639165TS-xx	uPD45128163G5-Axx
128Mb	8M x 16	AS4C8M16SA-6/7BxN	K4S281632D-RL75	MT48LC8M16A2B4	HY5V26CF	IS42S16800F-xBL	W9812G6JB		M12L128168A-xBG2N	EM639165BM-xx	
128Mb	4M x 32	AS4C4M32S-6/7BxN		MT48LC4M32B2B5-x	HY5V22EM	IS42S32400F-xBL	W9812G21B-x		M12L12832A-xBG2E	EM639325B-xx	EDS1232AHBH
128Mb	4M x 32	AS4C4M32S-6/7TxN		MT48LC4M32B2P-x	HY57V283220T	IS42S32400F-xTL	W9812G21H-x			EM639325TS	EDS1232AHTA
256Mb	16M x 16	AS4C16M16SA-6/7TxN	K4S561632N-UCxx	MT48LC16M16A2P	H57V2562GTR	IS42S16160J-xTL	W9825G6KH	NT5SV16M16AT-xxB	M12L2561616A-xTG2A	EM63A165TS-xx	EDS2516APTA-xx
256Mb	16M x 16	AS4C16M16SA-6/7BxN	K4S561632D-RL75	MT48LC16M16A2B4	HY5V56BF	IS42S16160J-xBL	W9825G6JB		M12L2561616A-xBG2A	EM63A165BM-xx	
256Mb	8M x 32	AS4C8M32S-6/7BxN		MT48LC8M32B2B5-x	HY5V52CF	IS42S32800G-xBL	W9825G2JB-x			EM63A325BM	EDS2532EEBH
512Mb	32M x 16	AS4C32M16SA-7TxN	K4S511632M-TC75	MT48LC32M16A2P-75		IS42S16320B-7TL					
512Mb	32M x 16	AS4C32M16SA-7BxN				IS42S16320B-7BL					
512Mb	32M x 16	AS4C32M16SM-7TxN	K4S511632M-TC75	MT48LC32M16A2P-75		IS42S16320B-75ETL					
512Mb	32M x 16	MT48LC32M16A2P-75	K4S511632M-TC75	MT48LC32M16A2P-75		IS42S16320B-75ETL					
512Mb	32M x 16	MT48LC32M16A2G-75	K4S511632M-TC75	MT48LC32M16A2G-75		IS42S16320B-75ETL					
512Mb	64M x 8	MT48LC64M8A2P-75		MT48LC64M8A2P-75:C		IS42S86400-75ETL					
512Mb	64M x 8	MT48LC64M8A2G-75		MT48LC64M8A2G-75		IS42S86400-75ETL					

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	400Mbps/pin	Commercial, Industrial	AS4C4M16D1-5TxN / AS4C4M16D1A-5TxN
64Mb	2M x 32	2.5V	66pin TSOP II, 144-ball BGA	200 MHz	400Mbps/pin	Commercial, Industrial	AS4C2M32D1-5TxN/5BxN
128Mb	8M x 16	2.5V	66pin TSOP II, 60-ball FBGA	200 MHz	400Mbps/pin	Commercial, Industrial	AS4C8M16D1-5TxN/5BxN / AS4C8M16D1A-5TxN
128Mb	4M x 32	2.5V	144-ball BGA	200 MHz	400Mbps/pin	Commercial, Industrial	AS4C4M32D1-5BxN
256Mb	32M x 8	2.5V	66pin TSOP II	200 MHz	400Mbps/pin	Commercial, Industrial	AS4C32M8D1-5TxN
256Mb	16M x 16	2.5V	66pin TSOP II, 60-ball FBGA	200 MHz	400Mbps/pin	Commercial, Industrial	AS4C16M16D1-5TxN/5BxN / AS4C16M16D1A-5TxN
512Mb	64M x 8	2.5V	66pin TSOP II, 60-ball FBGA	200 MHz	400Mbps/pin	Commercial, Industrial	AS4C64M8D1-5TxN/5BxN
512Mb	32M x 16	2.5V	66pin TSOP II, 60-ball FBGA	200 MHz	400Mbps/pin	Commercial, Industrial	AS4C32M16D1-5TxN/5BxN / AS4C32M16D1A-5TxN
1GB	64M x 16	2.5V	66pin TSOP II	166 MHz	333Mbps/pin	Commercial, Industrial	AS4C64M16D1-6TxN

DDR1 2.5V DRAM Cross Reference

DENSITY	ALLIANCE	SAMSUNG	MICRON	ISSI	HYNIX	WINBOND	NANYA	ELITE (ESMT)	ELPIDA	ETRON
64Mb	AS4C4M16D1A-5TxN			IS43R16400B-5TL		W9464G6KH		M13S64164A-5TG2Y		EM6A8160TSA
64Mb	AS4C2M32D1-5TxN									
64Mb	AS4C2M32D1-5BxN									
128Mb	AS4C8M16D1-5TxN	K4H281638D		IS43R16800E-5TL	HY5DU1281622	W9412G6KH	NT5DS8M16IS	M13S128168A-5TG2N		EM6A9160TSC
128Mb	AS4C8M16D1-5BxN	K4H281638D		IS43R16800E-5BL		W9412G6JB		M13S128168A-5BG2N		EM6A9160BKC
128Mb	AS4C8M16D1A-5TxN	K4H281638D		IS43R16800E-5TL	HY5DU1281622	W9412G6KH		M13S128168A-5TG2N		EM6A9160TSC
128Mb	AS4C4M32D1-5BxN			IS43R32400E-5BL				M13S128324A-5BG2M		EM6A9320BIB
256Mb	AS4C32M8D1-5TxN		MT46V32M8P	IS43R83200D-5TL	HY5DU56822		NT5DS32M8ES			
256Mb	AS4C16M16D1-5TxN	K4H561638D	MT46V16M16P	IS43R16160D-5TL	HY5DU561622	W9425G6KH	NT5DS16M16ES	M13S2561616A-xTG2A	EDD2516	EM6AA160TSC
256Mb	AS4C16M16D1-5Bxx	K4H561638D	MT46V16M16CY	IS43R16160D-5BL	HY5DU561622	W9425G6JB		M13S2561616A-xBG2A		EM6AA160BKC
256Mb	AS4C16M16D1A-5TxN	K4H561638D	MT46V16M16P	IS43R16160D-5TL	HY5DU561622	W9425G6KH		M13S2561616A-xTG2A		EM6AA160TSC
512Mb	AS4C64M8D1-5TxN	K4H510838J	MT46V64M8P	IS43R86400D-5TL	HY5DU12822		NT5DS64M8ES			EM6AB080TSB
512Mb	AS4C64M8D1-5BxN	K4H510838J	MT46V64M8CY	IS43R86400D-5BL	HY5DU12822					EM6AB080WKB
512Mb	AS4C32M16D1-5TxN	K4H511638J	MT46V32M16P	IS43R16320D-5TL	HY5DU121622		NT5DS32M16ES	M13S5121632A-5TG2S		EM6AB160TSE
512Mb	AS4C32M16D1-5Bxx	K4H511638J	MT46V32M16CY	IS43R16320D-5BL	HY5DU121622					EM6AB160WKE
512Mb	AS4C32M16D1A-5TxN	K4H511638J	MT46V32M16P	IS43R16320D-5TL	HY5DU121622			M13S5121632A-5TG2S		EM6AB160TSE
1GB	AS4C64M16D1-6TxN		MT46V64M16P							

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	800Mbps/pin	Commercial, Industrial	AS4C16M16D2-25BxN
512Mb	32M x 16	1.8V	84-ball FBGA	400 MHz	800Mbps/pin	Commercial, Industrial, Automotive	AS4C32M16D2A-25BxN
512Mb	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	AS4C64M16D2-25BCN/25BIN/25BAN
1G	128M x 8	1.8V	60-ball FBGA	400 MHz	800Mbps/pin	Commercial, Industrial	AS4C128M8D2-25BCN/25BIN
2G	128M x 16	1.8V	84-ball FBGA	400 MHz	800Mbps/pin	Commercial, Industrial	AS4C128M16D2-25BCN/25BIN
2G	256M x 8	1.8V	60-ball FBGA	400 MHz	800Mbps/pin	Commercial, Industrial	AS4C256M8D2-25BCN/25BIN

DDR2 1.8V DRAM Cross Reference

DENSITY	ALLIANCE	SAMSUNG	MICRON	ISSI	WINBOND	NANYA	ELITE (ESMT)	ELPIDA	ETRON	HYNIX
256Mb	AS4C16M16D2-25BxN	K4T56163QO		IS43DR83200A	W9725G6KB	NT5TU16M16BG	M14D2561616A-2.5BG		EM68A16CBQC	HY5PS561621
512Mb	AS4C32M16D2A-25BxN	K4T51163QJ	MT47H32M16HR-25E	IS43DR16320B	W9751G6KB	NT5TU32M16GG	M14D5121632A-2.5BG		EM68B16CWQ D	H5PS5162KFR
512Mb	AS4C64M8D2-25BxN	K4T51083QJ	MT47H64M8CF-25E	IS43DR86400D	W9751G8KB	NT5TU64M8EE			EM68B08CWAH	H5PS5182KFR
1G	AS4C64M16D2-25BxN	K4T1G164QF	MT47H64M16HR-25E	IS43DR16640B	W971GG6JB	NT5TU64M16HG	M14D1G1664A-2.5BG	EDE1116	EM68C16CWQE	H5PS1G63KFR
1G	AS4C128M8D2-25BxN	K4T1G084QF	MT47H128M8SH-25E	IS43DR12880B	W971GG8JB	NT5TU128M8HE		EDE1108	EM68C08CWAE	H5PS1G83KFR
2G	AS4C128M16D2-25BxN		MT47H128M16RT-25E	IS43DR16128B	W972GG6JB					
2G	AS4C256M8D2-25BxN		MT47H256M8EB-25E	IS43DR82560B	W972GG8JB					

DDR3 1.5V SDRAM

DENSITY	ORG	VCC	PACKAGE	CLOCK FREQUENCY (MHz)	DATA RATE	TEMPERATURE OPTIONS	ALLIANCE
1G	64M x 16	1.5V	96-ball FBGA	800 MHz	DDR3-1600bps/pin	Commercial, Industrial, Automotive	AS4C64M16D3-12BxN
1G	128M x 8	1.5V	78-ball FBGA	800 MHz	DDR3-1600bps/pin	Commercial, Industrial, Automotive	AS4C128M8D3-12BxN
2G	128M x 16	1.5V	96-ball FBGA	800 MHz	DDR3-1600bps/pin	Commercial, Industrial, Automotive	AS4C128M16D3-12BxN
2G	256M x 8	1.5V	78-ball FBGA	667/800 MHz	DDR3-1333bps/pin & DDR3-1600bps/pin	Commercial, Industrial, Automotive	AS4C256M8D3-12BxN
4G	256M x 16	1.5V	96-ball FBGA	800 MHz	DDR3-1600bps/pin	Commercial, Industrial, Automotive	AS4C256M16D3-12BxN
4G	512M x 8	1.5V	78-ball FBGA	800 MHz	DDR3-1600bps/pin	Commercial, Industrial, Automotive	AS4C512M8D3-12BxN
8G	256M x 32	1.5V	136-ball FBGA	800MHz	DDR3-1600bps/pin	Commercial, Industrial	AS4C256M32D3-12BxN

DDR3L 1.35V SDRAM

DENSITY	ORG	VCC	PACKAGE	CLOCK FREQUENCY (MHz)	DATA RATE	TEMPERATURE OPTIONS	ALLIANCE
1G	64M x 16	1.35V	96-ball FBGA	800 MHz	DDR3-1600bps/pin	Commercial, Industrial	AS4C64M16D3L-12BxN
1G	128M x 8	1.35V	78-ball FBGA	800 MHz	DDR3-1600bps/pin	Commercial, Industrial	AS4C128M8D3L-12BxN
2G	128M x 16	1.35V	96-ball FBGA	800 MHz	DDR3-1600bps/pin	Commercial, Industrial	AS4C128M16D3L-12BxN
2G	256M x 8	1.35V	78-ball FBGA	800 MHz	DDR3-1600bps/pin	Commercial, Industrial	AS4C256M8D3L-12BxN
4G	256M x 16	1.35V	96-ball FBGA	800 MHz	DDR3-1600bps/pin	Commercial, Industrial	AS4C256M16D3L-12BxN
4G	512M x 8	1.35V	78-ball FBGA	800 MHz	DDR3-1600bps/pin	Commercial, Industrial	AS4C512M8D3L-12BxN
8G	256M x 32	1.35V	136-ball FBGA	800 MHz	DDR3-1600bps/pin	Commercial, Industrial	AS4C256M32D3L-12BxN
8G	512M x 16	1.35V	96-ball FBGA	800 MHz	DDR3-1600bps/pin	Commercial (Extended), Industrial	AS4C512M16D3L-12BxN

DDR3 SDRAM Cross Reference

DENSITY	ALLIANCE	MICRON	SAMSUNG	ISSI	HYNIX	WINBOND	ELITE (ESMT)	ELPIDA	NANYA	ETRON
1G	AS4C64M16D3-12BxN	MT41J64M16JT-125	K4B1G1646G-BCK	IS43TR16640A-xBL	H5TQ1G63EFR-x	W631GG6KB-x	M15F1G1664A-ADB	EDJ1116DJB	NT5CB64M16FP-DH	EM6GC16EWD-xxH
1G	AS4C64M16D3L-12BxN	MT41K64M16JT-125	K4B1G1646G-BYK	IS43TR16640AL-xBL	H5TC1G63EFR-x	W631GU6KB-x		EDJ1116EJB	NT5CC64M16FP-DI	EM6HC16EWD-xxH
1G	AS4C128M8D3-12BxN	MT41J128M8JP-125	K4B1G0864G-BCK	IS43TR81280A-xBL	H5TQ1G83EFR-x	W631GG8KB-x		EDJ1108DJB	NT5CB128M8FN-DH	EM6GC08EWD-xxH
1G	AS4C128M8D3L-12BxN	MT41K128M8JT-125	K4B1G0864G-BYK	IS43TR81280AL-xBL	H5TC1G83EFR-x	W631GU8KB-x		EDJ1108EJB	NT5CC128M8FN-DI	EM6GC08EXUD-xx
2G	AS4C128M16D3-12BxN	MT41J128M16HA-125	K4B2G1646Q-BCK	IS43TR16128A-xBL	H5TQ2G63EFR-x	W632GG6KB-x	M15F2G16128A-BDB	EDJ2116DEB	NT5CB128M16IP-EK	EM6GD16EWD-xxH
2G	AS4C128M16D3L-12BxN	MT41K128M16JT-125	K4B2G1646Q-BYK	IS43TR16128AL-xBL	H5TC2G63FFR-x	W632GU6KB-x		EDJ2116EEB	NT5CC128M16IP-EK	EM6HD16EWD-xxH
2G	AS4C256M8D3-12BxN	MT41J256M8DA-125	K4B2G0846Q-BCK	IS43TR82560A-xBL	H5TQ2G83FFR-x	W632GG8KB-x		EDJ2108DEB	NT5CB256M8IN-FL	EM6GD08EWD-xx
2G	AS4C256M8D3L-12BxN	MT41K256M8DA-125	K4B2G0846Q-BYK	IS43TR82560AL-xBL	H5TC2G83FFR-x	W632GU8KB-x		EDJ2108EEB	NT5CC256M8IN-FL	EM6HD08EWD-xx
4G	AS4C256M16D3-12BxN	MT41J256M16HA-125	K4B4G1646B-BCK	IS43TR16256A-xBL	H5TQ4G63AFR-x			EDJ4216BFB	NT5CB256M16CP-FL	EM6GE16EWD-xxH
4G	AS4C256M16D3L-12BxN	MT41K256M16HA-125	K4B4G1646B-BYK	IS43TR16256AL-xBL	H5TC4G63AFR-x			EDJ4216EFB	NT5CC256M16CP-DI	EM6HE16EWD-xx
4G	AS4C512M8D3-12BxN	MT41J512M8RH-125	K4B4G0846D-BCK	IS43TR85120A-xBL	H5TQ4G83AFR-x			EDJ4208BFB	NT5CB512M8CN-FL	EM6GE08EWD-xx
4G	AS4C512M8D3L-12BxN	MT41K512M8RH-125	K4B4G0846D-BYK	IS43TR85120AL-xBL	H5TC4G83AFR-x			EDJ4208EFB	NT5CC512M8CN-DI	EM6HE08EWD-xx
8G	AS4C256M32D3-12BxN									
8G	AS4C256M32D3L-12BxN									
8G	AS4C512M16D3L-12BxN	MT41K512M16HA-125	K4B8G1646B-MIK	IS43TR16512AL-xBL	H5TC8G63AMR					

MOBILE SDRAM DDR

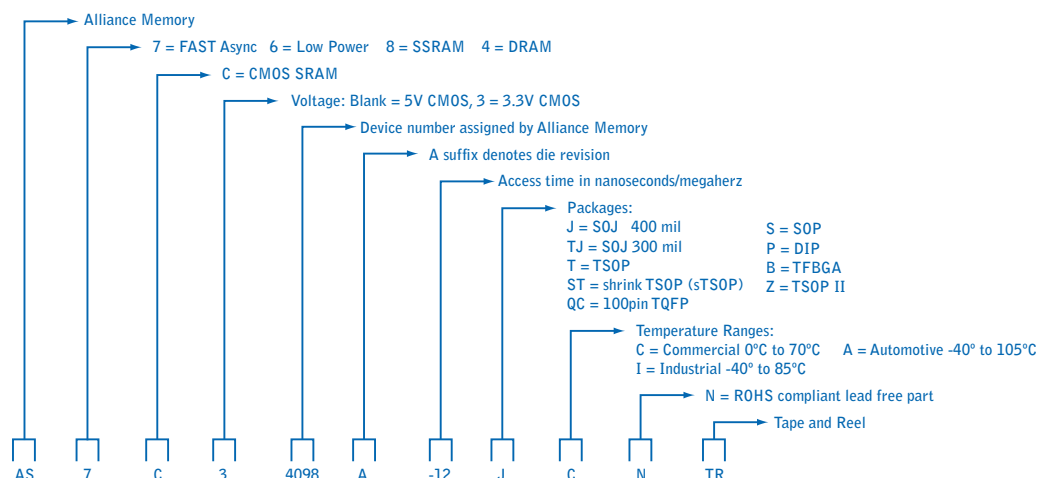


DENSITY	ORG	VCC	PACKAGE	CLOCK FREQUENCY (MHz)	DATA RATE	TEMPERATURE OPTIONS	ALLIANCE
256Mb	16M x 16	1.8V	60-ball FPBGA	166 MHz	333Mbps/pin	Commercial (Extended)/industrial	AS4C16M16MD1-6BxN
512Mb	32M x 16	1.8v	60-ball FPBGA	200 MHz	400Mbps/pin	Commercial (Extended)/industrial	AS4C32M16MD1-5BxN
512Mb	16M x 32	1.8v	90-ball FPBGA	200 MHz	400Mbps/pin	Commercial (Extended)/industrial	AS4C16M32MD1-5BxN
1G	64M x 16	1.8V	60-ball FPBGA	166 MHz	333Mbps/pin	Commercial (Extended)/industrial	AS4C64M16MD1-6BxN
1G	32M x 32	1.8V	90-ball FPBGA	200 MHz	400Mbps/pin	Commercial (Extended)/industrial	AS4C32M32MD1-5BxN
2G	64M x 32	1.8V	90-ball FPBGA	200 MHz	400Mbps/pin	Commercial (Extended)/industrial	AS4C64M32MD1-5BxN

MOBILE SDRAM DDR Cross Reference

DENSITY	ALLIANCE	MICRON	SAMSUNG	ISSI	HYNIX	NANYA	ELITE (ESMT)	PROMOS	WINBOND
256Mb	AS4C16M16MD1-6BxN	MT46H16M16LFBF-6	K4X56163PN	IS43LR16160F	H5MS2562JFR	NT6DM16M16AD-T1	M53D2561616A-6BG2F		W948D6FBHX
512Mb	AS4C32M16MD1-5BxN	MT46H32M16LFBF-5	K4X51163PI	IS43R16320B	H5MS5162EFR	NT6DM32M16AD-T1	M53D5121632A-5BG2T	V56C1512164MEJ5	W949D6DBHX
512Mb	AS4C16M32MD1-5BxN	MT46H16M32LFB5-5	K4X51323PI	IS43LR32160B	H5MS5132EFR	NT6DM16M32AC-T1	M53D5123216A-5BG2S	V56C1512324MEJ5	W949D2DBJX
1G	AS4C64M16MD1-6BxN	MT46H64M16LFBF-6		IS43LR16640A	H5MS1G62AFR	NT6DM64M16BD-T1		V561G01164MCJ6	W94AD6KBHX
1G	AS4C32M32MD1-5BxN	MT46H32M32LFB5-5		IS43LR32320B	H5MS1G22AFR	NT6DM32M32BC-T1		V56C1G01324MDJ5	W94AD2KBJX
2G	AS4C64M32MD1-5BxN	MT46H64M32LFKQ-5	K4X2G323PB	IS43LR32640A	H5MS2G22BFR			V56C1G02324MCP5	

ALLIANCE PART NUMBERING SYSTEM



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	1350	135/tray	1000	44	16
316098A	B	48ball BGA	4800	480/tray	2000	16	16

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	15s/tube	NA	NA	NA
6264/62256	ST	28pin STSOP (8x13.4)	2340	234/tray	1500	24	12
1008/2008/4008	P	32pin 600mil DIP	520	13s/tube	NA	NA	NA
1008/2008/4008	S	32pin 450mil SOP	2200	22/tube	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	T	48pin TSOP I	960	96/tray	1000		
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 Tray	Reel size
SDRAM				
AS4C1M16S	50pin TSOP II	1170	117/Tray	1000
AS4C4M16S/AS4C4M16SA	54pin TSOP II	1080	108/Tray	1000
AS4C4M16S/AS4C4M16SA	54ball BGA	3480	348/Tray	1000
AS4C2M32S/AS4C4M32S	86pin TSOP II	1080	108/Tray	1000
AS4C2M32S/AS4C4M32S	90ball BGA	1900	190/Tray	1000
AS4C8M16S/AS4C8M16SA	54pin TSOP II	1080	108/Tray	1000
AS4C8M16S/AS4C8M16SA	54ball TFBGA	3480	348/Tray	1000
AS4C16M16S/AS4C16M16SA	54pin TSOP II	1080	108/Tray	1000
AS4C16M16S/AS4C16M16SA	54ball FBGA	3480	348/Tray	1000
AS4C8M32S	90ball LFBGA	1900	190/Tray	1000
AS4C32M16SA	54pin TSOP II	960	96/Tray	1000
AS4C32M16SA	54ball FBGA	3480	348/Tray	1000
MT48LC32M16A2P-75*	54pin TSOP II	1000	108/Tray	1000
MT48LC64M8A2P-75*	54pin TSOP II	1000	108/Tray	1000

*Alliance Memory has collaborated with Micron for exclusive rights to continue to provide these Micron marked parts

DDR1

AS4C4M16D1/AS4C4M16D1A/AS4C2M32D1 AS4C8M16D1/AS4C8M16D1A/AS4C16M16D1 AS4C16M16D1A/AS4C32M16D1/AS4C32M16D1A AS4C64M8D1/AS4C64M16D1	66pin TSOP II	1080	108/Tray	1000
AS4C8M16D1/AS4C16M16D1 AS4C32M16D1/AS4C64M8D1	60ball BGA	2400	240/Tray	1000
AS4C2M32D1/AS4C4M32D1	144ball BGA			

Alliance Packaging Quantities



DRAM ORDER QTY

Part #	Package	Box Qty	Quantity Tray	Reel size
--------	---------	---------	---------------	-----------

DDR2

AS4C16M16D2/AS4C32M16D2 AS4C64M16D2/ AS4C32M16D2A	84ball FBGA	2090	209/Tray	1000
AS4C64M8D2	60ball FBGA	2090	209/Tray	1000
AS4C128M8D2	60ball FBGA	3000	300/Tray	1000
AS4C128M16D2	84ball FBGA	1620	162/Tray	1000
AS4C256M8D2	60ball FBGA	1360	136/Tray	1000

DDR3

AS4C128M8D3/AS4C128M8D3L	78ball FBGA	2420	242/Tray	1000
AS4C64M16D3/AS4C64M16D3L	96ball FBGA	1900	190/Tray	1000
AS4C128M16D3/AS4C128M16D3L	96ball FBGA	1900	190/Tray	1000
AS4C256M8D3/AS4C256M8D3L	78ball FBGA	2420	242/Tray	1000
AS4C256M16D3/AS4C256M16D3L/AS4C512M16D3L	96ball FBGA	1900	190/Tray	1000
AS4C512M8D3/AS4C512M8D3L/AS4C2GM4D3L/AS4C1GM8D3L	78ball FBGA	2200	220/Tray	1000
AS4C256M32D3/AS4C256M32D3L	136ball FBGA	2200	220/Tray	1000

MOBILE DDR1

AS4C16M16MD1	60ball FPBGA	3120	312/Tray	1000
AS4C32M16MD1	60ball FPBGA	1600	160/Tray	1000
AS4C16M32MD1	90ball FPBGA	2400	240/Tray	1000
AS4C64M16MD1	60ball FPBGA	3000	300/Tray	1000
AS4C32M32MD1	90-ball FPBGA	3480	348/Tray	1000
AS4C64M32MD1	90-ball FPBGA	3480	348/Tray	1000

MAIN OFFICES

US Headquarters

Alliance Memory, Inc.
511 Taylor Way, Suite #1
San Carlos, CA 94070
Phone: (650) 610-6800
Fax: (650) 620-9211

EMEA Headquarters

Alliance Memory, Inc.
20 Grensell Close
Eversley, Hampshire RG27 0QQ
United Kingdom
Phone: +44 (0)787 634 4055

Asia Headquarters

Alliance Memory, Inc.
9F., No.93, Aly. 3, Ln.182, Sec. 2, Wenhua Rd.
Banqiao Dist., New Taipei City
Taiwan 22047
Phone: +[886] 0922176476

China Headquarters

Room 1108, 4# Building
Excellence Century Center
Fuhua 3 Road, Futian District, 518000
Shenzhen, China
Phone: +[86] 18926006867

Hong Kong Sales Office

Unit 601, Block D,
Amoy Garden, Ngau Tau Kok
Kowloon, Hong Kong
Phone: +852-9271-6282 or +86-136-0267-1021

Japan Sales Office

3-7-10, Sakurajyousui, Setagaya-Ku
Tokyo, Japan 156-0045
Phone: +81-90-3963-0869

France Sales Office

Alliance Memory, Inc.
Email: info@icrep.fr
Phone: +33 (0)6 07 60 18 73

Nordic Sales Office

Jan Örnjäger – Regional Manager Nordic
Högvägen 22
SE-131 42 Nacka, Sweden
Phone: +46 8 716 88 78
Mobile: +46 70 130 36 21

Italy Sales Office

Via Edison 14/16
20090 Segrate (Milano) Italy
Phone: +39 02 2134 408
Fax: +39 02 2692 7410

NORTH AMERICA REP

CUSTOMER 1ST

MN, IA, KS, ND, SD, MO
2950 Metro Drive, Suite 101
Bloomington, MN 55425
Phone: (952) 851-7909
Fax: (952) 851-7907

TRISTAR GROUP

Texas, Oklahoma, Louisiana, Mexico
5220 Spring Valley Road #190
Dallas, Texas 75254
Phone: (972) 392-2848
Fax: (972) 329-3861

SOUTH AMERICA REP

MASTERTRONICS

All of Brazil
Rua Gen. João Telles, 542 cj 704
Porto Alegre – RS – Brasil – 90035 120
Phone: +55 51 3312-6757
Fax: +55 51 3312-6758

**For a complete list of our distributors
and REP Partners by country and
region, please refer to our web site,
www.alliancememory.com**

ONLINE TECH SUPPORT

www.alliancememory.com/products/techsupport.htm

ONLINE STORE-BUY DIRECT

www.alliancememory.com/products/buynow.htm

SALES

sales@alliancememory.com



facebook.com/pages/Alliance-Memory-Inc



[@alliancememory](https://twitter.com/alliancememory)



Данный компонент на территории Российской Федерации

Вы можете приобрести в компании MosChip.

Для оперативного оформления запроса Вам необходимо перейти по данной ссылке:

<http://moschip.ru/get-element>

Вы можете разместить у нас заказ для любого Вашего проекта, будь то серийное производство или разработка единичного прибора.

В нашем ассортименте представлены ведущие мировые производители активных и пассивных электронных компонентов.

Нашей специализацией является поставка электронной компонентной базы двойного назначения, продукции таких производителей как XILINX, Intel (ex.ALTERA), Vicor, Microchip, Texas Instruments, Analog Devices, Mini-Circuits, Amphenol, Glenair.

Сотрудничество с глобальными дистрибьюторами электронных компонентов, предоставляет возможность заказывать и получать с международных складов практически любой перечень компонентов в оптимальные для Вас сроки.

На всех этапах разработки и производства наши партнеры могут получить квалифицированную поддержку опытных инженеров.

Система менеджмента качества компании отвечает требованиям в соответствии с ГОСТ Р ИСО 9001, ГОСТ РВ 0015-002 и ЭС РД 009

Офис по работе с юридическими лицами:

105318, г.Москва, ул.Щербаковская д.3, офис 1107, 1118, ДЦ «Щербаковский»

Телефон: +7 495 668-12-70 (многоканальный)

Факс: +7 495 668-12-70 (доб.304)

E-mail: info@moschip.ru

Skype отдела продаж:

moschip.ru

moschip.ru_4

moschip.ru_6

moschip.ru_9