



Product Change Notification (PCN)

Date: 30th JUNE 2024

PCN TRACKING NO: 20240630

Subject: Product Change Notification (PCN) for Alliance **8Gb DDR4 SDRAM 'Rev.0' DIE**

Description of Change:	Product will only be offered in 'Rev.A' die option
Reason for Change	Wafer die shrink from Rev.0 to Rev.A , 20nm process technology with Higher Speed Bins. Rev.A die is superior part with better supply chain and longevity
Traceability Guidelines	Traceable through marketing part number. Refer Table 1
Datasheet for Alternative	Rev.'A' die part alternatives already in Mass Production and available on website at <ul style="list-style-type: none"> • https://www.alliancememory.com/datasheets/as4c512m16d4a/ • https://www.alliancememory.com/datasheets/as4c1g8d4a/
Alternatives	Refer Table 1 for all affected part numbers and their Alternative active part numbers.

Table 1 - 8Gb DDR4 Affected & Alternative Part Numbers

Density	Organization	Affected Alliance Part Number	Alliance Alternative Part Numbers
8Gb	512M x 16	AS4C512M16D4-75BCN	AS4C512M16D4A-62BCN
8Gb	512M x 16	AS4C512M16D4-75BCNTR	AS4C512M16D4A-62BCNTR
8Gb	512M x 16	AS4C512M16D4-75BIN	AS4C512M16D4A-62BIN
8Gb	512M x 16	AS4C512M16D4-75BINTR	AS4C512M16D4A-62BINTR
8Gb	1G x 8	AS4C1G8D4-75BCN	AS4C1G8D4A-62BCN
8Gb	1G x 8	AS4C1G8D4-75BCNTR	AS4C1G8D4A-62BCNTR
8Gb	1G x 8	AS4C1G8D4-75BIN	AS4C1G8D4A-62BIN
8Gb	1G x 8	AS4C1G8D4-75BINTR	AS4C1G8D4A-62BINTR



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Last Time Buy Date:	31 st DECEMBER 2024
Last Time Ship Date:	30 th JUNE 2025
Sample Availability Date for Alternate rev 'A' die parts	Rev.A - Parts are already in Mass Production
PCN Effective Date	30 th JUNE 2024

***Any orders after 31st DECEMBER 2024 are Non- Cancelable/ Non- Returnable and cannot be changed. Products cannot be returned in stock rotation after this date.**



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Dear Valued Customer:

This letter provides End-of-Life (EOL) notice of products for Alliance Memory 8Gb 'Rev.0' DIE DDR4 SDRAMs both for 512Mx16 (96ball FBGA) & 1Gx8 (78ball FBGA) configurations due to new die rev with better speed Bins. Alternatives to these products will continue to be offered in the 'Rev.A' die that are already in mass production.

The delivery deadline (LTS) is **June 30th, 2025**, with last time buy (LTB) deadline on **December 31st 2024**.

Please note that the standard shipment dates will apply in general and extended delivery dates must be pre-arranged and accepted in writing by Alliance Memory Management.

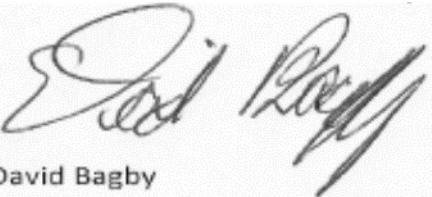
Regarding the replacement, Alliance Memory can continue to provide 'Rev.A' 20nm technology product line-up (refer to *Table 1* above).

Samples for Alternative 'Rev.A' parts are already in Mass production and available for customers to start verification procedures to migrate from 'Rev.0' to 'Rev.A'

We provide product comparisons within the pages that follow this PCN#20240630.

Please contact your local Alliance Memory representative if you have any questions regarding this information

Yours faithfully



David Bagby
President
Alliance Memory Inc.



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President
Alliance Memory Inc.

AS4C512M16D4-75BxN vs AS4C512M16D4A-62BxN Comparison

Part Number & result Parameter	AS4C512M16D4-75BCN AS4C512M16D4-75BIN	AS4C512M16D4A-62BCN AS4C512M16D4A-62BIN	Comparison Result
Product Description	DDR4 SDRAM	DDR4 SDRAM	Same
Die Rev	Rev.0	Rev.A	Different IP
Capacity	8Gb (512M x 16)	8Gb (512M x 16)	Same
Memory Organization	64Meg, x16bits, x8 banks	64Meg, x16bits, x8 banks	Same
Operating Power Supply	$V_{DD} \& V_{DDQ} = 1.2V$ (+/- 60mV)	$V_{DD} \& V_{DDQ} = 1.2V$ (+/- 60mV)	Same
	$V_{pp} = 2.5V (-125mV,+250mV)$	$V_{pp} = 2.5V (-125mV,+250mV)$	Same
Operating Temperature	Commercial: $0^{\circ}C \leq T_c \leq +95^{\circ}C$ Industrial: $-40^{\circ}C \leq T_c \leq +95^{\circ}C$	Commercial: $0^{\circ}C \leq T_c \leq +95^{\circ}C$ Industrial: $-40^{\circ}C \leq T_c \leq +95^{\circ}C$	Same
Max Clock Frequency	1333 MHz	1600 MHz	Rev.A faster and better
Max Data Rate	2666 Mbps	3200 Mbps	
CAS Latency	19	22 for 1600 MHz 19 for 1333 MHz	Rev.A better
tAA, tRCD & tRP (ns)	14.25	13.75 for 1600MHz 14.25 for 1333MHz	Rev.A better
Average Refresh cycles	7.8 μs at $-40^{\circ}C \leq T_c \leq +85^{\circ}C$ 3.9 μs at $+85^{\circ}C < T_c \leq +95^{\circ}C$	7.8 μs at $-40^{\circ}C \leq T_c \leq +85^{\circ}C$ 3.9 μs at $+85^{\circ}C < T_c \leq +95^{\circ}C$	Same
I/O Capacitance	CIO = 1.4pF Max	CIO = 1pf	Rev.A better
Pin to Pin Compatible	Compatible		Same
AC/DC Characteristics	Comparable		Meet JEDEC
IDD Specification			
IDD Spec conditions	-40C to 95C	-40C to 95C	
I_{DD0} (mA) , I_{pp0} (mA)	110 , 8	104 , 7	Rev.A better
I_{DD1} (mA)	135	131	Rev.A better
I_{DD2N} (mA)	70	67	Rev.A better
I_{DD2NT} (mA)	135	85	Rev.A better
I_{DD2P} (mA)	40	29	Rev.A better
I_{DD2Q} (mA)	50	39	Rev.A better
I_{DD3N} (mA)	104	115	Rev.0 better
I_{DD3P} (mA)	70	71	comparable
I_{DD4R/A/B} (mA)	340, 355, 300	295, 306, 293	Rev.A better
I_{DD4W/A/B} (mA)	420, 430, 430	316, 326, 317	Rev.A better
I_{DD6N} (mA)	32	26	Rev.A better
I_{DD6R} (mA)	28	18	Rev.A better
I_{DD6E} (mA)	42	38	Rev.A better
I_{DD7} (mA)	320	279	Rev.A better
Package 96b FBGA	7.5mm x 13mm x 1.2mm BallArray (mm): 12x 6.4 x 0.8	7.5mm x 13mm x 1.2mm BallArray (mm): 12x 6.4 x 0.8	Same
Package Material	Pb and Halogen Free	Pb and Halogen Free	Same

AS4C1G8D4-75BxN vs AS4C1G8D4A-62BxN Comparison

Part Number & result Parameter	<u>AS4C1G8D4-75BCN</u> <u>AS4C1G8D4-75BIN</u>	<u>AS4C1G8D4A-62BCN</u> <u>AS4C1G8D4A-62BIN</u>	Comparison Result
Product Description	DDR4 SDRAM	DDR4 SDRAM	Same
Die Rev & Tech Node	Rev.0	Rev.A	Different IP
Capacity	8Gb (1G x 8)	8Gb (1G x 8)	Same
Memory Organization	64Meg, x8bits, x16 banks	64Meg, x8bits, x16 banks	Same
Operating Power Supply	$V_{DD} \& V_{DDQ} = 1.2V (+/- 60mV)$	$V_{DD} \& V_{DDQ} = 1.2V (+/- 60mV)$	Same
	$V_{pp} = 2.5V (-125mV,+250mV)$	$V_{pp} = 2.5V (-125mV,+250mV)$	Same
Operating Temperature	Commercial : $0^{\circ}C \leq T_c \leq +95^{\circ}C$ Industrial: $-40^{\circ}C \leq T_c \leq +95^{\circ}C$	Commercial : $0^{\circ}C \leq T_c \leq +95^{\circ}C$ Industrial: $-40^{\circ}C \leq T_c \leq +95^{\circ}C$	Same
Max Clock Frequency	1333 MHz	1600 MHz	Rev.A faster and better
Max Data Rate	2666 Mbps	3200 Mbps	
CAS Latency	19	22 for 1600 MHz 19 for 1333 MHz	Rev.A better
tAA, tRCD & tRP (ns)	14.25	13.75 for 1600MHz 14.25 for 1333MHz	Rev.A better
Average Refresh cycles	7.8 μs at $-40^{\circ}C \leq T_c \leq +85^{\circ}C$ 3.9 μs at $+85^{\circ}C < T_c \leq +95^{\circ}C$	7.8 μs at $-40^{\circ}C \leq T_c \leq +85^{\circ}C$ 3.9 μs at $+85^{\circ}C < T_c \leq +95^{\circ}C$	Same
I/O Capacitance	CIO = 1.4pF Max	CIO = 1.15pF	Same
Pin to Pin Compatible	Compatible		Same
AC/DC Characteristics	Comparable		Meet JEDEC
IDD Specification			
IDD Spec conditions	-40C to 95C	-40C to 95C	
I_{DD0} (mA) , I_{pp0} (mA)	105 , 5	84 , 3.8	Rev.A better
I_{DD1} (mA)	115	102	Rev.A better
I_{DD2N} (mA)	68	55	Rev.A better
I_{DD2NT} (mA)	120	74	Rev.A better
I_{DD2P} (mA)	40	29	Rev.A better
I_{DD2Q} (mA)	50	35	Rev.A better
I_{DD3N} (mA)	104	103	Rev.A better
I_{DD3P} (mA)	68	64	Rev.A better
I_{DD4R/A/B} (mA)	245, 260, 230	189, 200, 189	Rev.A better
I_{DD4W/A/B} (mA)	310, 320, 310	217, 209, 224	Rev.A better
I_{DD6N} (mA)	32	26	Rev.A better
I_{DD6R} (mA)	28	18	Rev.A better
I_{DD6E} (mA)	42	38	Rev.A better
I_{DD7} (mA)	240	212	Rev.A better
Package 96b FBGA	(7.5mm x 12mm x 1.2mm) BallArray (mm): 9.6 x 6.4 x 0.8	(7.5mm x 12mm x 1.2mm) BallArray (mm): 9.6 x 6.4 x 0.8	Same
Package Material	Pb and Halogen Free	Pb and Halogen Free	Same