Alliance Memory Inc.
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Product Discontinue Notification (PDN)

Date: AUGUST 23rd, 2023 **PDN TRACKING NO: PDN#20230823**

Subject: Product Discontinue Notification (PDN) for Alliance Memory **128Mb (4Mx32) and 256Mb (8Mx32)** Low Power / Mobile SDRAM rev.A 90ball FBGA Package.

Affected Part Numbers	1. AS4C4M32MSA-6BIN 2. AS4C4M32MSA-6BINTR 3. AS4C8M32MSA-6BIN 4. AS4C8M32MSA-6BINTR
Description of Change:	All affected part numbers are discontinued.
Reason for Change	Very long lead times caused by very low demands
Traceability, Guidelines (lot, date code, markings, shipment date)	Traceable through marketing part number
Alternative Part	AS4C8M32MSB-6BIN AS4C8M32MSB-6BINTR
Summary of Alternative	Proposed Alternative are rev.B Die designed/qualified per JEDEC, Pin to Pin compatible with better supply chain lead times and capacity. **Description of Alternative part:** 256Mb (8Mx32) Low Power/Mobile SDRAM rev.B 90ball FBGA package, Industrial Grade. Datasheet link

Last Time Buy Date:	August 31st, 2023
Last Time Ship Date:	August 31st, 2024
Sample Availability Date for alternative part number	Now
PCN Effective Date	August 23rd, 2023

Please contact your local sales representative if you have any questions regarding this PDN.

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Dear Valued Customer:

This letter provides Product Discontinue notification for 128Mb (4Mx32) and 256Mb (8Mx32) Low Power / Mobile SDRAM rev.A product part numbers "**AS4C4M32MSA-6BIN/TR, AS4C8M32MSA-6BIN/TR"** due to long lead time supply issues caused by very low demands and poor production utilization. Due to circumstances beyond our control, we regret notifying Product discontinuation with a short notice period.

Alternative to the affected products will continue to be offered without any supply disruption that are already in mass production. Comparisons between affected and alternative products are provided in this **PDN#20230823**

The delivery deadline or last time ship date is **August 31st, 2024** with effective immediate last time buy (LTB) deadline **on August 31st, 2023**. Please take note that all backlogs shall suffer long lead times or cancellation if we are unable to supply by delivery deadline.

Samples for alternative part numbers are available for customers to start verification procedures

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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AS4C4M32MSA-6BIN vs AS4C8M32MSB-6BIN Comparison

Part Number & result / Parameter	AS4C4M32MSA-6BIN (128Mb, rev.A)	AS4C8M32MSB-6BIN (256Mb, rev B)	Comparison Result
Product Description	Low Power SDRAM	Low Power SDRAM	Same
Capacity	128Mb (4M x 32)	256Mb (8M x 32)	Double Density
Memory Organization	1M, x32 bits, x4 banks	2M, x32 bits, x4 banks	Double Memory
Operating Power Supply	VDD/Q = 1.7V ~1.95V	VDD/Q = 1.7V ~1.95V	Same
Operating Temperature	Industrial (-40°C to 85°C)	Industrial (-40°C to 85°C)	Same
Max. Clock Frequency	166MHz	166MHz	Same
Clock Cycle time "tCK" (ns)	6	6	Same
CAS Latency	1, 2 & 3	2 & 3	Comparable
Burst Length	1,2,4,8 & full page	1,2,4,8 & full page	Same
tRCD & tRP (ns)	18	18	Same
Row Address	A0-A11	A0-A11	Same
Column Address	A0-A7	A0-A8	Additional Column Address
Average Refresh Period	4096 cycles/64ms	8192 cycles/64ms	Different
I/O Capacitance	CIO: 4pf to 6pf	CIO: 4pf to 6pf	Same
Pin to Pin Compatible	Pin to Pin Compatible		Same
AC/DC Characteristics	Same	Same	Meet JEDEC
IDD Specification			
IDD Spec conditions	-40C ≤ Ta ≤ 85C VDD/Q = 1.7V~1.95V	-40C ≤ Ta ≤ 85C VDD/Q = 1.7V~1.95V	
I_{DD1} (mA)	60	38	256Mb better
I_{DD2P} (mA)	0.20	0.4	Comparable
I_{DD2N} (mA)	15	10	256Mb better
I_{DD3P} (mA)	2	3	Comparable
I_{DD3N} (mA)	20	20	Same
I_{DD4} (mA)	80	75	256Mb better
I_{DD5} (mA)	100	50	256Mb better
I_{DD6} (uA)	250	400	256Mb higher
I_{DD7} (uA)	10	10	Same
Package	90b FBGA (8x13mm)	90b FBGA (8x13mm)	Same
Package Material	Pb & Halogen Free	Pb & Halogen Free	Same

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AS4C8M32MSA-6BIN vs AS4C8M32MSB-6BIN Comparison

Part Number & result / Parameter	AS4C8M32MSA-6BIN (rev.A)	AS4C8M32MSB-6BIN (rev.B)	Comparison Result
Product Description	Low Power SDRAM	Low Power SDRAM	Same
Capacity	256Mb (8M x 32)	256Mb (8M x 32)	Same
Memory Organization	2M, x32 bits, x4 banks	2M, x32 bits, x4 banks	Same
Operating Power Supply	VDD/Q = 1.7V ~1.95V	VDD/Q = 1.7V ~1.95V	Same
Operating Temperature	Industrial (-40°C to 85°C)	Industrial (-40°C to 85°C)	Same
Max. Clock Frequency	166MHz	166MHz	Same
Clock Cycle time "tCK" (ns)	6	6	Same
CAS Latency	1, 2 & 3	2 & 3	Comparable
Burst Length	1,2,4,8 & full page	1,2,4,8 & full page	Same
tRCD & tRP (ns)	18	18	Same
Row Address	A0-A11	A0-A11	Same
Column Address	A0-A8	A0-A8	Same
Average Refresh Period	4096 cycles/64ms	8192 cycles/64ms	Comparable
I/O Capacitance	CIO: 4pf to 6pf	CIO: 4pf to 6pf	Same
Pin to Pin Compatible	Pin to Pin Compatible		Same
AC/DC Characteristics	Same	Same	Meet JEDEC
IDD Specification			
IDD Spec conditions	-40C ≤ Ta ≤ 85C VDD/Q = 1.7V~1.95V	-40C ≤ Ta ≤ 85C VDD/Q = 1.7V~1.95V	
I_{DD1} (mA)	80	38	Rev.B better
I_{DD2P} (mA)	0.25	0.4	Comparable
I_{DD2N} (mA)	15	10	Comparable
I_{DD3P} (mA)	5	3	Comparable
I_{DD3N} (mA)	20	20	Comparable
I_{DD4} (mA)	80	75	Comparable
I_{DD5} (mA)	115	50	Rev.B better
I_{DD6} (uA)	450	400	Comparable
I_{DD7} (uA)	10	10	Comparable
Package	90b FBGA (8x13mm)	90b FBGA (8x13mm)	Same
Package Material	Pb & Halogen Free	Pb & Halogen Free	Same