



AllianceMemoryInc.

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Product Change Notification (PCN)

Date: December 12th, 2016

PCN TRACKING NO:PCN-151216102

Subject: Product Change Notification (PCN) for Alliance SDRAM's (512M-32M x 16)

Description of Change:	Product will only be offered in a new Die Revision (B die)
Reason for Change	Product revision to provide continuous support to Alliance's customers
Traceability, Guidelines (lot, date code, markings, shipment date)	Traceable through marketing part #
Updated Datasheet Summary of Changes between New and Old part numbers	Part # has been changed and updated datasheets are posted on our website http://www.alliancememory.com/products/s_dram.as See table 1 Below

Table 1

Density	Organization	Alliance Part Number	Alliance New Part Number (B die)
512M	32M x 16	AS4C32M16SM-7TCN	AS4C32M16SB-7TCN
512M	32M x 16	AS4C32M16SM-7TCNTR	AS4C32M16SB-7TCNTR
512M	32M x 16	AS4C32M16SM-7TIN	AS4C32M16SB-7TIN
512M	32M x 16	AS4C32M16SM-7TINTR	AS4C32M16SB-7TINTR

All orders are Non-cancelable / Non-Returnable and cannot be changed.

Last Time Buy Date:	February 28 th 2017
Last Time Ship Date:	June 30 th 2017
Sample Available Date	Now
PCN Effective Date:	December 12 th 2016



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Dear ValuedCustomer:

This letter provides End-of-Life (EOL) notice of SDRAM products with a 512M density. These products will move to new 'B' die in Q1-2017.

As our press release indicated a few years ago, our partnership with Micron to extend the Micron 512M SDRAM has been a great win for Alliance and our customers. The above SM parts, which are 100% identical to the Micron parts below, will allow us to continue to extend and support customers into 2017 with the Micron part marking. We hope our customers can accept both parts as they are 100% the same die/assembly and test. All done by Micron.

We will not put a PCN out on the below Micron parts but will sell them as a 'first come first serve' basis to customers. When they are out we have no choice but to only offer our customers the new drop-in replacement SB die.

The delivery deadline is June 30th, 2017 with last time buy (LTB) deadline to February 28th, 2017. 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.

Part Number	New Part Number
MT48LC32M16A2P-75 IT:C	AS4C32M16SB-7TIN
MT48LC32M16A2P-75 IT:CTR	AS4C32M16SB-7TINTR
MT48LC32M16A2P-75:C	AS4C32M16SB-7TCN
MT48LC32M16A2P-75:CTR	AS4C32M16SB-7TCNTR
MT48LC32M16A2TG-75:C	AS4C32M16SB-7TCN
MT48LC32M16A2TG-75:CTR	AS4C32M16SB-7TCNTR
MT48LC32M16A2TG-75IT:C	AS4C32M16SB-7TIN
MT48LC32M16A2TG-75IT:CTR	AS4C32M16SB-7TINTR

Please see the below a comparison chart between the SM die /Micron part vs. our new SB die. Samples/Mass production are available now.

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

Yours sincerely,

David Bagby
President

Alliance Memory Inc.

512M SDRAM comparison between

AS4C32M16SB-7TIN-7TCN and AS4C32M16SM-7TIN-7TCN

Part Number&result Parameter	AS4C32M16SB-7TIN AS4C32M16SB-7TCN	AS4C32M16SM-7TIN-7TCN (MT48LC32M16A2P-75 IT:C) AS4C32M16SM-7TCN	Comparison Result
Wafer Process			
Power Supply	3.3 ± 0.3V	3.3 ± 0.3V	Same
Typical Power Dissipation of Normal Operation	CLK = 143MHZ: Operating current - One bank Active; IDD1=110mA Precharge Standby Current in non-power down in in non-power down mode IDD2N=40mA Precharge Standby Current in non-power down in in non-power down mode IDD2NS=36mA Precharge Standby Current in power down in in power down mode IDD2P=4mA Precharge Standby Current in power down in in power down mode IDD2PS=4 mA Active Standby Current non-power down in non-power down mode IDD3N=60mA Active Standby Current in non-power down mode IDD3NS=60mA Operating Current (Burst mode) IDD4=120mA Refresh Current IDD5=150mA Self Refresh Current IDD6=4mA	CLK = 133MHZ: Operating current - One bank Active; IDD1=110mA Precharge Standby Current in power down in in power down mode IDD2=3.5 mA Standby Current in Active mode IDD3=45mA Operating Current (Burst mode) IDD4=115mA Refresh Current IDD5=225mA Self Refresh Current IDD7=6mA	Difference
Operating	Industrial: -40°C to +85°C	Industrial: -40°C to +85°C	Same

Temperature	Commercial: 0°C to +70°C	Commercial: 0°C to +70°C	
Max Operating Speed	143MHz	133MHz	Difference
Interface (Input/Output) Capacitance	Input Capacitance(CI): 3.5 – 5.5 pF Input/Output Capacitance (CI/O): 4- 6pF	Input Capacitance(CI): 2.5 – 3.8 pF Input/Output Capacitance (CI/O): 4- 6 pF Input Capacitance(CLK): 2.5- 3.5 pF	Difference
Interface Definition	Omit.(See datasheet)	Omit.(See datasheet)	Same. They are pin to pin.
Interface Material	Pb and Halogen Free	Pb and Halogen Free	Same
Timing Parameters	tRC>=63ns tRFC>=63ns tRCD>=21ns tRP>=21ns tRRD>=14ns tMRD>=14 ns tRAS=42~120k ns tWR>=14ns tCK>=7ns tOH>=2.5ns tLZ>=0ns tPDE>= tIS+tCK, tREF<=7.8us tXSR>= tRC+tIS ns	tRC>=66ns tRFC>=66ns tRCD>=21ns tRP>=20ns tRRD>=15ns tMRD>=15 ns tRAS=44~120k ns tWR>=15ns tCK>=7.5ns tOH>=2.7ns tLZ>=1ns tPDE>= tCK, tREF<=64ms tXSR>=75ns	Difference
Timing Diagram & Command	Omit.(See datasheet)	Omit.(See datasheet)	Same
ESD Level	Not mentioned	Not mentioned	
Capacity	512Mb	512Mb	Same
Package	54-pin 400 mil plastic TSOP II package	54-pin 400 mil plastic TSOP II package	Same
Truth Table	Omit.(See datasheet)	Omit.(See datasheet)	same