



PCN / EOL Notification

Product Change Notification Number: SC121405A (REVISED 05/10/12) Notification Date*: April 11, 2012
See the Change in Blue Text Below

Title: 2-Mbit DataFlash® (AT45DB021D) Process Geometry Shrink and Device Enhancement

Product Identification:

All wafer and package options of the Industrial Temperature grade (-40°C to +85°C) AT45DB021D

Reason for Change:	<input checked="" type="checkbox"/> Material / Composition	<input checked="" type="checkbox"/> Design / Firmware	<input type="checkbox"/> Manufacturing Location
	<input checked="" type="checkbox"/> Processing / Manufacturing	<input checked="" type="checkbox"/> Logistics	<input type="checkbox"/> Quality / Reliability

Change Description:

Atmel has performed a process geometry shrink of the 2-Mbit AT45DB021D DataFlash from 130nm to 110nm. The catalog part number AT45DB021D will be replaced by AT45DB021E (see Table 1). The new AT45DB021E devices are pin-to-pin and functionally backward compatible with the current AT45DB021D devices with the following exceptions and enhancements.

Discontinuance of “legacy commands”

As indicated in previous “D” series datasheet documentation, the “legacy command” opcodes were not recommended for new designs and have been subsequently removed on the new “E” series devices. The following table details the list of “legacy commands” that are no longer supported:

Legacy Command	AT45DB021D Opcode	AT45DB021E Opcode
Buffer 1 Read	54h	n/a
Buffer 2 Read	56h	n/a
Main Memory Page Read	52h	n/a
Continuous Array Read	68h	n/a
Status Register Read	57h	n/a

Extended-VCC Operation

With a growing number of application segments moving to lower supply voltages, Atmel is now introducing next generation devices that meet the needs of these lower voltage ranges that are also used by various MCUs, SoCs, and ASICs. In addition, the operating life of many battery powered applications can be dramatically extended if the application can utilize the full life of each battery cell. To address these requirements, Atmel has designed the AT45DB021E devices to operate over a 1.65V to 3.6V range versus the previous 2.7V to 3.6V range.

Migration to a 5-byte Manufacturer and Device ID

The length of the complete Manufacturer and Device ID string has been extended from 4 bytes to 5 bytes to provide space for additional device information. The ID methodology still complies with the JEDEC standard and now utilizes the Extended Device Information (EDI) field. The Manufacturer and Device ID string changes as follows:

AT45DB021D: 1Fh + **23h** + 00h + 00h
AT45DB021E: 1Fh + **23h** + 00h + 01h + 00h

“Power of 2” binary page size option

The “power of 2” binary page size option can still be ordered as a factory-configured option. However, the catalog part number suffixes of SL954 and SL955 for the factory-configured option will no longer be used, and the SL954/955 designation will not be marked on the packages. Please refer to Table 1 for the new catalog part number for the factory-programmed “power of 2” binary page size option.

Copper (Cu) bond wire usage

In order to increase manufacturing flexibility and to ensure a long-term continuity of supply, Atmel will manufacture SOIC and DFN packages using both gold (Au) and copper bond (Cu) wires. Atmel reserves the right to ship devices with either gold or copper bond wires.

Identification Method to Distinguish Change:

New catalog part numbers use an “E” suffix for the device revision (AT45DB021D changes to AT45DB021E).

Table 1.

EOL Part Number	Replacement Part Number	Carrier Type
AT45DB021D-MH-T	AT45DB021E-MHN-T	T for T/R
AT45DB021D-MH-Y	AT45DB021E-MHN-Y	Y for Tray
AT45DB021D-MH-T-SL954	no replacement	
AT45DB021D-SH-B	AT45DB021E-SHN-B (AT45DB021E-SSH-N-B is recommended) ¹	B for Bulk
AT45DB021D-SH-T	AT45DB021E-SHN-T (AT45DB021E-SSH-N-T is recommended) ¹	T for T/R
AT45DB021D-SH-T-SL955	AT45DB021E-SHN2B-T (AT45DB021E-SSH-N2B-T is recommended) ¹	T for T/R
AT45DB021D-SSH-B	AT45DB021E-SSH-N-B	B for Bulk
AT45DB021D-SSH-T	AT45DB021E-SSH-N-T	T for T/R
AT45DB021D-SSH-T-SL955	AT45DB021E-SSH-N2B-T	T for T/R
	AT45DB021E-W4U1N ²	Whole Wafer

Notes:

- Narrow Body SOIC Package (SSH-N) is Recommended, Wide Body SOIC will be supported for legacy designs.**
For NEW designs the JEDEC SOIC (Narrow Body) is recommended as the industry is moving to the smaller footprint as customer's reduce overall board space requirements.
- New offering for AT45DB021E products**

Qualification Data:	<input type="checkbox"/> Available	<input checked="" type="checkbox"/> Will be available (mm/dd/yr): 06/29/12	<input type="checkbox"/> Not Applicable
Samples:	<input type="checkbox"/> Available	<input checked="" type="checkbox"/> Will be available (mm/dd/yr): 05/18/12	<input type="checkbox"/> Not Applicable

Quantifiable Impact on Quality & Reliability:

None

Forecasted Availability Date: July 15, 2012

Last Time Buy Date: October 15, 2012

Last Ship Date: April 15, 2013

**All orders placed after the notification date are non-cancellable and non-returnable (NCNR).*

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