PCN / EOL Notification

Product Change Notification Number: SC120606 **Notification Date*:** February 29, 2012

Title: 16-Mbit DataFlash® (AT45DB161D) Process Geometry Shrink and Device Enhancement

Product Identification:

All wafer and package options of the Industrial Temperature grade (-40°C to +85°C) AT45DB161D

Reason for Change:

- ☒ Material / Composition
- ☒ Processing / Manufacturing
- ☒ Design / Firmware
- ☒ Logistics
- ☐ Manufacturing Location
- ☐ Quality / Reliability

Change Description:

Atmel has performed a process geometry shrink of the 16-Mbit AT45DB161D DataFlash from 130nm to 110nm. The catalog part number AT45DB161D will be replaced by AT45DB161E (see Table 1). The new AT45DB161E devices are pin-to-pin and functionally backward compatible with the current AT45DB161D 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	AT45DB161D Opcode	AT45DB161E 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

Discontinuance of TSOP and 24-ball BGA packages

The TSOP and 24-ball BGA package offerings are being discontinued due to low customer demand. The 24-ball BGA can be replaced with the 9-ball BGA (currently available on AT45DB161D devices) since the 9-ball BGA utilizes the same active ball matrix layout (the center 9-balls) as the 24-ball BGA package.

Minimum VCC reduction

The minimum VCC requirement has been reduced from 2.7V (2.7V to 3.6V) to **2.5V** (2.5V to 3.6V) for the standard devices. Customers no longer have to specify a 2.5V designation for that version. In addition, a new 2.3V minimum variation has been added.

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:

AT45DB161D: 1Fh + 26h + 00h + 00h

AT45DB161E: 1Fh + 26h + 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.

Conversion to Nickel-Palladium-Gold (NiPdAu) lead finish

New devices will be available in the more robust NiPdAu lead finish for SOIC and DFN package options. The NiPdAu lead finish complies with "green" packaging standards, and all package options remain RoHS compliant and Pb/Halide/Halogen-free. The "H" designation as part of the package designator suffix in the catalog part number identifies the NiPdAu lead finish for Industrial Temperature grade product. The 9-ball BGA package will continue to be offered as a "green" package with a SnAgCu solder ball. The "U" designation as part of the package designator suffix in the catalog part number identifies the SnAgCu solder ball for Industrial Temperature grade product.

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 (AT45DB161D changes to AT45DB161**E**).

Table 1.

EOL Part Number	Replacement Part Number	Carrier Type
AT45DB161D-MU	AT45DB161E-MHD-T AT45DB161E-MHD-Y	T for T/R Y for Tray
AT45DB161D-MU-SL954	no replacement, T/R only	
AT45DB161D-MU-SL955	AT45DB161E-MHD2B-T	T for T/R
AT45DB161D-MU-2.5	AT45DB161E-MHD-T	T for T/R
AT45DB161D-SU	AT45DB161E-SHD-T (AT45DB161E-SSHD-T is recommended) (1) AT45DB161E-SHD-B (AT45DB161E-SSHD-B is recommended) (1)	T for T/R B for Bulk
AT45DB161D-SU-SL954	no replacement, T/R only (AT45DB161E-SSHD2B-T is recommended) (1)	
AT45DB161D-SU-SL955	AT45DB161E-SHD2B-T (AT45DB161E-SSHD2B-T is recommended) (1)	T for T/R
AT45DB161D-SU-2.5	AT45DB161E-SHD-T (AT45DB161E-SSHD-T is recommended) (1) AT45DB161E-SHD-B (AT45DB161E-SSHD-B is recommended) (1)	T for T/R B for Bulk
AT45DB161D-TU	N/A - EOL (AT45DB161E-SSHD-T and AT45DB161E-MHD-T are recommended)	
AT45DB161D-TU-2.5	N/A - EOL (AT45DB161E-SSHD-T and AT45DB161E-MHD-T are recommended)	
AT45DB161D-CU	N/A - EOL (AT45DB161E-CCUD-T is recommended)	
45DB161D-CCU	AT45DB161E-CCUD-T	T for T/R
New Item	AT45DB161E-SSHD-B (2)	B for Bulk
New Item	AT45DB161E-SSHD-T (2)	T for T/R
New Item	AT45DB161E-SSHD2B-T (2)	T for T/R
AT45DB161D-DWF	AT45DB161E-W4U11D	Whole Wafer

Notes:

1. **Narrow SOIC Package is Recommended, Wide Body SOIC will be obsoleted in future**
2. **New offering for AT45DB161E products**

Qualification Data:	☒ Available	☐ Will be available (mm/dd/yr):	☐ Not Applicable
Samples:	☒ Available	☐ Will be available (mm/dd/yr):	☐ Not Applicable

Quantifiable Impact on Quality & Reliability: None

Forecasted Availability Date: Now

Last Time Buy Date: August 20, 2012

Last Ship Date: February 20, 2013

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

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Attention Distributors: Product(s) identified in this notification will become obsolete and as such this EOL notification will act as the official written notification. All obsolete products will be listed in the next published quarterly distributor price book, following an PCN/EOL change, and listed on the obsolescence form which accompanies said price book. Within thirty (30) days from the published date of the price book, Distributor shall notify Atmel in writing of Distributor's then current inventory of the obsolete product

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