



## PCN / EOL Notification

### REINSTATED LEGACY COMMANDS – EXTENDED LAST TIME BUY

Product Change Notification Number: PDF001

Notification Date\*: December 7, 2012

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

**Product Identification:**

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

**Reason for Change:**

☒ Material / Composition

☒ Design / Firmware

☐ Manufacturing Location

☒ Processing / Manufacturing

☒ Logistics

☐ Quality / Reliability

**Change Description: (THIS PCN UPDATES AND REPLACES ATMEL PCN #SC120606)**

A process geometry shrink of the 16-Mbit AT45DB161D DataFlash from 130nm to 110nm. **The last Time Buy Date has been extended to April 30, 2013.** 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.

**Reinstatement of “legacy commands”**

Atmel previously removed legacy commands on new “E” series devices. These legacy commands will be reinstated by Adesto Technologies. The following table details the list of “legacy commands” that will be reinstated:

Legacy Command	AT45DB161D Opcode	AT45DB161E Opcode
Buffer 1 Read	54h	54h
Buffer 2 Read	56h	56h
Main Memory Page Read	52h	52h
Continuous Array Read	68h	68h
Status Register Read	57h	57h

**Date Code of Parts - Reinstated Legacy Commands**

**All “E” Series parts marked with date code WW50 (2012) or after will include the reinstated commands. “E” Series parts marked with date code before WW50 (2012) do not include the legacy commands.**

**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

**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.

**Identification Method to Distinguish Change:**

New catalog part numbers use an “E” suffix for the device revision (AT45DB161D changes to AT45DB161E).

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 8S1 is recommended for all new designs. The Wide SOIC package 8S2 is currently supported but not recommended for new designs.**

**2. New offering for AT45DB161E products**

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

**Quantifiable Impact on Quality & Reliability:** None

**Forecasted Availability Date (AT45DB161E) :** Now

**Last Time Buy Date (AT45DB161D):** April 30, 2013

**Last Ship Date(AT45DB161D):** July 31, 2013

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

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