PCN / EOL Notification

Product Change Notification Number: PDF010 **Notification Date:** October 24, 2013

Title: 64-Mbit DataFlash® (AT45DB642D) Process Geometry Shrink, Design Change and Device Enhancement

Product Identification:

All wafer, package options, and ordering codes of the AT45DB642D, 64Mbit DataFlash Device

Reason for Change:

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

Change Description:

Adesto has performed a process geometry shrink and feature set enhancement of the 64-Mbit AT45DB642D DataFlash®. The catalog part number AT45DB642D will be replaced by AT45DB641E (see Table 2 for a list of standard ordering code changes and new part numbers).

Extended-VCC Operation

The AT45DB641E devices are designed to operate over a 1.7V to 3.6V wide VCC range versus the AT45DB642D series 2.7V to 3.6V range option.

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:

AT45DB642D: 1Fh + 28h + 00h + 00h

AT45DB641E: 1Fh + 28h + 00h + 01h + 00h

Flash Memory Page Size Change

The AT45DB642D has a Standard Page Size of 1056 Bytes or a Binary Page Mode Page Size of 1024 Bytes. The new AT45DB641E has a Standard Page Size of 264 Bytes and a Binary Page Mode Page Size of 256 Bytes. This will require a software change in the host system. See Table 1.

Dual SRAM Page Buffer Size Change

The AT45DB642D has a Dual SRAM Page Buffers each with a Standard Size of 1056 Bytes or a Binary Page Mode Page Size of 1024 Bytes. The new AT45DB641E has Dual SRAM Page Buffers with a Standard Page Size of 264 Bytes each and a Binary Page Mode Page Size of 256 Bytes each. This will require a software change in the host system. See Table 1

Table 1	Flash Memory Page Size		SRAM Buffer Size (Dual Buffers)	
	Standard Page Size	Binary Page Size	Standard Page Size	Binary Page Size
AT45DB642D	1056 Bytes	1024 Bytes	2 x1056 Bytes each	2 x 1024 Bytes each
AT45DB641E	264 Bytes	256 Bytes	2 x 264 Bytes each	2 x 256 Bytes each

Hardware Ready Busy Signal Support Discontinued

The hardware Ready / Busy Signal support (TSOP28 package only) is discontinued. RDY / BSY monitoring will still be available by reading Bit 7 of the Internal Status Register Byte 1. (Linked to the TSOP 28 Changes below)

Change Description continued:

"Power of 2" binary page size ordering code change

The AT45DB642D catalog part number suffixes of SL954 and SL955 for the factory-configured binary Page Mode option will no longer be used. The new Binary Page Mode option will be defined by the ordering code suffix '2B' incorporated into the base part number. As part of this change the Binary Page mode options will be limited to T&R orders only.

5V Tolerant Input Pins Discontinued

The AT45DB642D has 5V tolerant Input Pins. Due to the inclusion of Quad and Dual IO capability on the new 45DB641E device, all pins have I/O structures. With this functional change, dedicated input pins are NO LONGER 5V tolerant.

Status Register Changes

The AT45DB641E supports a two byte status register. The AT45DB642D has a single byte status register. The 45DB641E Status register Byte 1 remains functionally the same as the AT45DB642D Status Register Byte 1 with no changes to functionality or operation. The AT45DB641E Status Register Byte 2 is introduced to monitor and control additional 'new' device features and options.

Rapid8 Interface Option Discontinued

The Rapid8 (8bit sequential access interface) will no longer be supported. (Linked to the TSOP 28 changes below)

New Package Introductions

The new AT45DB641E will be introduced with three new package options. Wide Body 0.208Mil wide EIAJ Standard 8pin SOIC with Package Code 'SH' and the 5x6mm DFN Package with Package Code 'MH' and 6x8mm DFN Package with Package code 'MWH'

TSOP 28 Package Discontinued

The TSOP28 Package (Package Code 'TU') will be discontinued. No replacement package option will be offered. Migration to the 8Pin Package options is recommended.

CASON 'CN' Package Discontinued

The CASON 8pin Package (Package Code 'CNU') will be discontinued. The 6x8mm 8 pin DFN Package (Package Code 'MWH') is offered as a replacement. Package dimensions are similar, pad locations and signal positions are identical however it is strongly recommended that customers assess the impact of the change to the DFN Package on their designs. Particular attention is drawn to the presence of a metalized tab on the underside of the DFN package body and care must be taken this TAB does not short out PCB through hole via's or pcb tracks.

BGA Package Change

The 24-Ball BGA Package (Package Code 'CU') is being changed to a 9-Ball BGA Package (Package Code 'CCU'). The 9-Ball Package is mechanically smaller than the package it replaces, however it utilizes the same center 3 x 3 Ball array on the same ball pitch of 1mm as the 24-Ball package. No PCB change is required.

Identification Method:

New catalog root part numbers use an "E" suffix for device series. AT45DB642*D* changes to AT45DB641*E*.

Table 2

EOL Part Number	Replacement Part Number	Carrier Type
AT45DB642D-CNU	AT45DB641E-MWHN-Y AT45DB641E-MWHN-T	-Y for Tray -T for Tape & Reel
AT45DB642D-CNU-SL954 AT45DB642D-CNU-SL955	AT45DB641E-MWHN2B-T	-T for Tape & Reel Only
AT45DB642D-CU	AT45DB641E-CCUN-T	-B for Tube -T for Tape & Reel
AT45DB642D-TU	No Replacement, Package Type is EOL	N/A
AT45DB642D-DWF	AT45DB641E-DFW	Whole Wafer. No Backgrind

Notes:

1) The Carrier Type is not marked on the package.
2) Table 1 lists standard Datasheet part numbers only for reference.
3) This PCN covers ALL applicable AT45DB642D : SL codes; Customer Applied Numbers (CAN codes); and Custom Part Number options
4) The BGA package has changed from a 24-Ball BGA for the AT45DB642D-CU to a 9-Ball BGA for the AT45DB641E-CCUN
   - The 9-Ball BGA utilizes the same center 9 balls (3 x 3 ball matrix) of the 24-Ball BGA footprint. No PCB change is required.

Qualification Data:	☒ Available	☐ Will Be Available	☐ Not Applicable
Samples:	☐ Available	☒ Will Be Available: Wk. of 12/1/13	☐ Not Applicable

Quantifiable Impact on Quality & Reliability:

None

Forecasted Availability Date (AT45DB641E)**:** January 18, 2014
Last Time Buy Date (AT45DB642D)**:** April 18, 2014
Last Ship Date (AT45DB642D)**:** October 17, 2014

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

Adesto Contact: PCNsupport@adestotech.com

Information provided here in is in connection with Adesto product sand this information is provided “AS IS”. Adesto assumes no responsibility for any errors that may appear in this document. No license, express or implied, by estoppels or otherwise, to any intellectual property rights is granted by this document. Except as provided in Adesto’s Terms and Conditions of Sale for such products, Adesto assumes no liability whatsoever, and Adesto disclaims any express or implied warranty, including liability or warranties relating to fitness for a particular purpose, merchantability, or non-infringement of any patent, copyright or other intellectual property right. Adesto products are not intended for use in a product or system intended to support or sustain life which, if it fails, can be reasonably expected to result in significant personal injury. Adesto may make changes to specifications and product descriptions at any time, without notice.

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 a 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 Adesto in writing of Distributor’s then current inventory of the obsolete product.

CUSTOMER ACKNOWLEDGEMENT OF RECEIPT: Adesto requests you acknowledge receipt of this PCN / EOL. Please complete and email to the Adesto Contact listed above. In your acknowledgement, you can grant approval or request additional information. **Adesto will deem this change accepted unless specific conditions of acceptance are provided in writing within 30 days from the date of this notice.**

Company:	
Name:	
Title:	
Date:	
Email Address:	
Location:	
Comments:	