PCN / EOL Notification

Product Change Notification Number: CC070502A (REVISED)   **Date*:** February 7, 2007
See Bold Blue Text Below

Title: Optimized the Layout of the AT93C46 / AT93C46A Devices and **Obsolescence of the AT93C46R (Rotated SOIC)**

Product Identification:
All Wafers, Packages and Voltages of the AT93C46 / AT93C46A / **AT93C46R**, Industrial Temperatures   (-40C to +85C). See Attachment A

Reason for Change: ☒ Design   ☐ Processing   ☐ Logistics
                               ☐ Manufacturing Location   ☐ Quality/Reliability   ☐ Material

Change Description:
Atmel has optimized the layout of the AT93C46 / AT93C46A devices. The new devices will utilize the same .35u technology. The catalogue part numbers, AT93C46 and AT93C46A, will be replaced by AT93C46D and AT93C46E respectively. The new devices are pin-to-pin and backward compatible with the current AT93C46 / AT93C46A devices and will be available in 1.8 volt (1.8V up to 5.5V) and Green Packaging, only.

Due to low customer demand, the Rotated SOIC (AT93C46R) has reached End of Life. Atmel will no longer offer the Rotated SOIC version in the new optimized layout.

In addition, to accommodate the growing movement to Lead-Free products, the new optimized layout devices will ONLY be offered in Lead-Free (Green) / Halogen-Free packaging. 8-SOIC, 8-TSSOP, and 8-ULTRA THIN MINI-MAP (AT93C46D only) packages with the NiPdAu lead finish will be designated by "H" in the catalogue part number. The 8-lead dBGA2 (AT93C46D only) and 8-PDIP with the Matte Tin finish will be designated by "U" in the catalogue part number.

New physical part marking scheme:

```
AT93C46D 8-SOIC
 TOP MARK                    Seal Year      Y = SEAL YEAR     WW = SEAL WEEK
                            |  Seal Week   6: 2006   0: 2010    02 = Week 2
                            |   |    |     7: 2007   1: 2011    04 = Week 4
   |---|---|---|---|---|---|---|---|    8: 2008   2: 2012    :: : :::: :
     A   T   M   L   H   Y   W   W     9: 2009   3: 2013    :: : :::: ::
   |---|---|---|---|---|---|---|---|
     4   6   D       1                                        50 = Week 50
   |---|---|---|---|---|---|---|---|                          52 = Week 52
     *    Lot Number                   Lot Number to Use ALL Characters in Marking
   |---|---|---|---|---|---|---|---|
     |                                 BOTTOM MARK
   Pin 1 Indicator (Dot)                        No Bottom Mark
```

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AT93C46E 8-SOIC

```
 TOP MARK                          Seal Year    Y = SEAL YEAR      WW = SEAL WEEK
                                    |  Seal Week  6: 2006   0: 2010   02 = Week 2
                                    |   |   |     7: 2007   1: 2011   04 = Week 4
    |---|---|---|---|---|---|---|---|    8: 2008   2: 2012   :: : :::: :
      A   T   M   L   H   Y   W   W      9: 2009   3: 2013   :: : :::: ::
    |---|---|---|---|---|---|---|---|                        50 = Week 50
      4   6   E       1                                      52 = Week 52
    |---|---|---|---|---|---|---|---|
      *    Lot Number                 Lot Number to Use ALL Characters in Marking
    |---|---|---|---|---|---|---|---|
      |                               BOTTOM MARK
    Pin 1 Indicator (Dot)                     No Bottom Mark
```

AT93C46D 8-TSSOP

TOP MARK

```
        Pin 1 Indicator (Dot)         Y = SEAL YEAR      WW = SEAL WEEK
        |                             6: 2006   0: 2010   02 = Week 2
         |---|---|---|---|            7: 2007   1: 2011   04 = Week 4
        *   H   Y   W   W             8: 2008   2: 2012   :: : :::: :
       |---|---|---|---|---|          9: 2009   3: 2013   :: : :::: ::
        4   6   D       1                                 50 = Week 50
       |---|---|---|---|---|                              52 = Week 52
```

BOTTOM MARK

```
     |---|---|---|---|---|---|---|
       P   H
     |---|---|---|---|---|---|---|
       A   A   A   A   A   A   A
     |---|---|---|---|---|---|---|
       <- Pin 1 Indicator
```

AT93C46E 8-TSSOP

TOP MARK

```
        Pin 1 Indicator (Dot)         Y = SEAL YEAR      WW = SEAL WEEK
        |                             6: 2006   0: 2010   02 = Week 2
         |---|---|---|---|            7: 2007   1: 2011   04 = Week 4
        *   H   Y   W   W             8: 2008   2: 2012   :: : :::: :
       |---|---|---|---|---|          9: 2009   3: 2013   :: : :::: ::
        4   6   E       1                                 50 = Week 50
       |---|---|---|---|---|                              52 = Week 52
```

BOTTOM MARK

```
     |---|---|---|---|---|---|---|
       P   H
     |---|---|---|---|---|---|---|
       A   A   A   A   A   A   A
     |---|---|---|---|---|---|---|
```

```
     <- Pin 1 Indicator
```

AT93C46D 8-PDIP

```
 TOP MARK                    Seal Year        Y = SEAL YEAR        WW = SEAL WEEK
                             | Seal Week       6: 2006   0: 2010      02 = Week 2
                             |  |   |           7: 2007   1: 2011      04 = Week 4
     |---|---|---|---|---|---|---|---|          8: 2008   2: 2012      :: : :::: :
      A   T   M   L   U   Y   W   W             9: 2009   3: 2013      :: : :::: ::

     |---|---|---|---|---|---|---|---|                                 50 = Week 50
      4   6   D       1                                                52 = Week 52

     |---|---|---|---|---|---|---|---|
      *    Lot Number                          Lot Number to Use ALL Characters in Marking
     |---|---|---|---|---|---|---|---|
      |                                         BOTTOM MARK
     Pin 1 Indicator (Dot)                                No Bottom Mark
```

AT93C46E 8-PDIP

```
 TOP MARK                    Seal Year        Y = SEAL YEAR        WW = SEAL WEEK
                             | Seal Week       6: 2006   0: 2010      02 = Week 2
                             |  |   |           7: 2007   1: 2011      04 = Week 4
     |---|---|---|---|---|---|---|---|          8: 2008   2: 2012      :: : :::: :
      A   T   M   L   U   Y   W   W             9: 2009   3: 2013      :: : :::: ::

     |---|---|---|---|---|---|---|---|                                 50 = Week 50
      4   6   E       1                                                52 = Week 52

     |---|---|---|---|---|---|---|---|
      *    Lot Number                          Lot Number to Use ALL Characters in Marking
     |---|---|---|---|---|---|---|---|
      |                                         BOTTOM MARK
     Pin 1 Indicator (Dot)                                No Bottom Mark
```

AT93C46D 8-Ultra Thin Mini MAP

```
 TOP MARK

                                              Y = YEAR OF ASSEMBLY

          |---|---|---|
           4   6   D                          XX = ATMEL LOT NUMBER TO COORESPOND WITH
          |---|---|---|                        NSEB TRACE CODE LOG BOOK.
           H   1                              (e.g. XX = AA, AB, AC,...AX, AY, AZ)

          |---|---|---|
           Y   X   X
          |---|---|---|                        Y = SEAL YEAR
           *                                    6: 2006   0: 2010
           |                                    7: 2007   1: 2011
     Pin 1 Indicator (Dot)                      8: 2008   2: 2012
                                                9: 2009   3: 2013
```

AT93C46D dBGA2

```
TOP MARK

LINE 1------->     46DU
LINE 2------->     YMTC
                   |<--  Pin 1 This Corner


 Y = ONE DIGIT YEAR CODE
4: 2004   7: 2007
5: 2005   8: 2008
6: 2006   9: 2009


M = SEAL MONTH (USE ALPHA DESIGNATOR A-L)
  A = JANUARY
  B = FEBRUARY
  " "  """"""""
  J = OCTOBER
  K = NOVEMBER
  L = DECEMBER


    TC = TRACE CODE (ATMEL LOT
    NUMBERS TO CORRESPOND
    WITH ATK TRACE CODE LOG BOOK)
```

Identification Method to Distinguish Change:

The NEW catalogue part numbers will be created by adding a "D" to the AT93C46 and "E" to the AT93C46A. The AT93C46 will now be the AT93C46D. The AT93C46A will now be the AT93C46E.

Qualification Data:	☐ available	☒ will be available in Q2-2007	☐ not applicable
Samples:	☒ available	☐ will be available in	☐ not applicable

Quantifiable Impact on Quality & Reliability:

The new devices are a form, fit and function equivalent of the current devices, which meet all databook specifications.

Proposed First Ship Date*:	May 7, 2007
Last Time Buy Date:	August 7, 2007
Last Ship Date:	February 7, 2008

** All orders placed after the notification date are **non-cancellable** and **non-returnable** (**NCNR**).*
** The Proposed First Ship Date is the forecasted date that a customer may expect to receive changed product. This is determined by the estimated date of inventory depletion on the PCN issue date. This may be affected by fluctuations in supply and demand. Consequently, although customers should be prepared to receive changed product on this date, Atmel will continue to ship pre-changed product until a time in which inventory has been depleted. This may result in pre-changed product being shipped to customers after this forecasted date.

Atmel Contact: pcnadm@atmel.com

Atmel will deem this change accepted unless specific conditions of acceptance are provided in writing within 30 days from the date of this notice. All correspondence must be sent to the Quality Contact e-mail address listed above.

Attachment A

Current Part Number	Replacement Part Number
AT93C46-10PU-1.8	AT93C46D-PU (Bulk Only)
AT93C46-10PU-2.7	AT93C46D-PU (Bulk Only)
AT93C46-10SU-1.8 BULK	AT93C46DN-SH-B
AT93C46-10SU-1.8 SL383 (T&R)	AT93C46DN-SH-T (4k per reel)
AT93C46-10SU-2.7 BULK	AT93C46DN-SH-B
AT93C46-10SU-2.7 SL383 (T&R)	AT93C46DN-SH-T (4k per reel)
AT93C46-10TU-1.8 BULK	AT93C46D-TH-B
AT93C46-10TU-1.8 SL383 (T&R)	AT93C46D-TH-T (5k per reel)
AT93C46-10TU-2.7 BULK	AT93C46D-TH-B
AT93C46-10TU-2.7 SL383 (T&R)	AT93C46D-TH-T (5k per reel)
AT93C46W-10SU-1.8 BULK	AT93C46DN-SH-B (Recommend JEDEC SOIC for replacement)
AT93C46W-10SU-1.8 SL383 (T&R)	AT93C46DN-SH-T (Recommend JEDEC SOIC for replacement)
AT93C46W-10SU-2.7 BULK	AT93C46DN-SH-B (Recommend JEDEC SOIC for replacement)
AT93C46W-10SU-2.7 SL383 (T&R)	AT93C46DN-SH-T (Recommend JEDEC SOIC for replacement)
AT93C46-W1.8-11	AT93C46D-W-11
AT93C46-W1.8-13	AT93C46D-W-11
AT93C46-W1.8-20	AT93C46D-W-11
AT93C46-W1.8-9	AT93C46D-W-11
AT93C46-W2.7-11	AT93C46D-W-11
AT93C46-W2.7-27	AT93C46D-W-11
AT93C46Y1-10YU-1.8 SL383 (T&R)	AT93C46DY6-YH-T (5k per reel)
AT93C46Y1-10YU-2.7 SL383 (T&R)	AT93C46DY6-YH-T (5k per reel)
AT93C46Y5-10YU-1.8 SL383 (T&R)	AT93C46DY6-YH-T (5k per reel)
AT93C46Y5-10YU-2.7 SL383 (T&R)	AT93C46DY6-YH-T (5k per reel)
AT93C46Y6-10YH-1.8 SL383 (T&R)	AT93C46DY6-YH-T (5k per reel)
AT93C46U3-10UU-1.8 SL383 (T&R)	AT93C46DU3-UU-T (5k per reel)
AT93C46U3-10UU-2.7 SL383 (T&R)	AT93C46DU3-UU-T (5k per reel)
AT93C46A-10PU-1.8	AT93C46E-PU (Bulk Only)
AT93C46A-10PU-2.7	AT93C46E-PU (Bulk Only)
AT93C46A-10SU-1.8 BULK	AT93C46EN-SH-B
AT93C46A-10SU-1.8 SL383 (T&R)	AT93C46EN-SH-T (4k per reel)
AT93C46A-10SU-2.7 BULK	AT93C46EN-SH-B
AT93C46A-10SU-2.7 SL383 (T&R)	AT93C46EN-SH-T (4k per reel)
AT93C46A-10TU-1.8 BULK	AT93C46E-TH-B
AT93C46A-10TU-1.8 SL383 (T&R)	AT93C46E-TH-T (5k per reel)
AT93C46A-10TU-2.7 BULK	AT93C46E-TH-B
AT93C46A-10TU-2.7 SL383 (T&R)	AT93C46E-TH-T (5k per reel)
AT93C46R-10SU-2.7 BULK	**EOL. No Replacement Part for Rotated SOIC**
AT93C46R-10SU-2.7 SL 383 (T&R)	**EOL. No Replacement Part for Rotated SOIC**