# Product Change Notification

**Product Change Notification Number: WC124807** **Notification Date:** February 11, 2013

**Title:** Die Revision Change for ATxmega128A3U

**Product Identification:**

| | |
|---|---|
| ATxmega128A3U-AU | ATxmega128A3U-AUR |
| ATxmega128A3U-MH | ATxmega128A3U-MHR |

| **Reason for Change:** | | | |
|---|---|---|---|
| ☒ Material / Composition | ☒ Design / Firmware | ☐ Manufacturing Location |
| ☐ Processing / Manufacturing | ☐ Logistics | ☒ Quality / Reliability |

**Change Description:**

This notification is to advice our customers that Atmel will introduce new revisions of the AVR microcontroller products listed above. The new revisions are package and pin compatible to the existing revisions. They are introduced in order to remove errata and enhance the product. Actual devices changes are minimal, but for your reference they are listed here.

Samples are only available in bulk and can be ordered through Atmel Sample Centre by logging on to https://samples.atmel.com/scripts/samplecenter.dll?atmel?cmd=menu
Specific ordering codes for new die revision samples only are shown in the table below, and are available for sample orders only until the proposed first shipment date. For all production orders, only standard existing ordering codes will be accepted.

| Part number | Ordering code for samples |
|---|---|
| ATxmega128A3U-AU | ATxmega128A3U-AUK |
| ATxmega128A3U-MH | ATxmega128A3U-MHK |

Note that the **K** in sample ordering codes will not be marked on the package.

## Changes

The new revision change the following:

- Reduced current consumption in Active and Idle modes
- Bonding wire material has changed from gold to copper
- The I/O pins comply with the JEDEC LVTTL and LVCMOS specification and the high- and low level input and output voltage limits reflect or exceed this specification.

See Appendix 1 for more details on changes in electrical parameters.

**Identification Method to Distinguish Change:**

For packages where space allows for die ID to be part of marking, new revision material is identified as 35966I.

| | | | |
|---|---|---|---|
| **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

**Proposed First Ship Date*:** May 8, 2013

**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:** Please contact your Atmel Sales Representative or Distributor for additional information (when replying via e-mail please include PCN number in subject line).



**CUSTOMER ACKNOWLEDGEMENT OF RECEIPT:** Atmel requests you acknowledge receipt of this PCN. Please complete and email to pcnadm@atmel.com and the Atmel Contact listed above. In your acknowledgement, you can grant approval or request additional information. **Atmel 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: | |

## Appendix 1: Change Description Details

**Reduced current consumption in Active and Idle modes**

The table below lists the typical and maximum current consumption in the existing and new revision.

| Parameter | Condition | | Existing revision | | | New revision | | | Units |
|---|---|---|---|---|---|---|---|---|---|
| | | | Min | Typ | Max | Min | Typ | Max | |
| Active power consumption | 32kHz, Ext. Clk | $V_{CC}$ = 1.8V | | 120 | | | 60 | | µA |
| | | $V_{CC}$ = 3.0V | | 270 | | | 140 | | |
| | 1MHz, Ext. Clk | $V_{CC}$ = 1.8V | | 350 | | | 280 | | |
| | | $V_{CC}$ = 3.0V | | 697 | | | 570 | | |
| | 2MHz, Ext. Clk | $V_{CC}$ = 1.8V | | 658 | 700 | | 500 | 600 | |
| | | $V_{CC}$ = 3.0V | | 1.1 | 1.4 | | 1.0 | 1.4 | mA |
| | 32MHz, Ext. Clk | | | 10.6 | 15 | | 10.3 | 15 | |
| Idle power consumption | 32kHz, Ext. Clk | $V_{CC}$ = 1.8V | | 4.3 | | | 3.5 | | µA |
| | | $V_{CC}$ = 3.0V | | 4.8 | | | 4.5 | | |
| | 1MHz, Ext. Clk | $V_{CC}$ = 1.8V | | 78 | | | 75 | | |
| | | $V_{CC}$ = 3.0V | | 150 | | | 140 | | |
| | 2MHz, Ext. Clk | $V_{CC}$ = 1.8V | | 150 | 350 | | 150 | 250 | |
| | | $V_{CC}$ = 3.0V | | 290 | 600 | | 280 | 450 | |
| | 32MHz, Ext. Clk | | | 4.7 | 7.0 | | 4.4 | 7.0 | mA |
| Power-down power consumption | T = 25°C | | | 0.1 | 1.0 | | 0.1 | 1.0 | µA |
| | T = 85°C | | | 1.8 | 5.0 | | 1.6 | 5.0 | |
| | WDT and sampled BOD enabled, T = 25°C | | | 1.3 | 3.0 | | 1.2 | 3.0 | |
| | WDT and sampled BOD enabled, T = 85°C | | | 3.1 | 7.0 | | 2.8 | 7.0 | |
| Power-save power consumption | RTC from ULP clock, WDT and sampled BOD enabled, T = 25°C | $V_{CC}$ = 1.8V | | 1.2 | | | 1.2 | | |
| | | $V_{CC}$ = 3.0V | | 1.3 | | | 1.3 | | |
| | RTC from 1.024kHz low power 32.768kHz TOSC, T = 25°C | $V_{CC}$ = 1.8V | | 0.6 | 2.0 | | 0.5 | 2.0 | |
| | | $V_{CC}$ = 3.0V | | 0.7 | 2.0 | | 0.7 | 2.0 | |
| | RTC from low power 32.768kHz TOSC, T = 25°C | $V_{CC}$ = 1.8V | | 0.8 | 2.0 | | 0.9 | 3.0 | |
| | | $V_{CC}$ = 3.0V | | 1.0 | 3.0 | | 1.2 | 3.5 | |
| Reset power consumption | Current through RESET pin substracted | $V_{CC}$ = 3.0V | | 250 | | | 150 | | |