Product Change Notification

Product Change Notification Number: WC124802 **Notification Date:** March 13, 2013

Title: Die Revison Change for ATxmega64A4U

Product Identification:

ATxmega64A4U-AU	ATxmega64A4U-AUR
ATxmega64A4U-MH	ATxmega64A4U-MHR
ATxmega64A4U-CU	ATxmega64A4U-CUR

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 enhance the product. Actual devices changes are minimal, but for your reference they are listed here together with enhancements that are a pure superset of existing functions.

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**
ATxmega64A4U-AU	ATxmega64A4U-AUK
ATxmega64A4U-MH	ATxmega64A4U-MHK
ATxmega64A4U-CU	ATxmega64A4U-CUK

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
- ADC calibration centering improved
- Chip erase time during programming reduced
- 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.

Identification Method to Distinguish Change: For packages where space allows for die ID to be part of marking, new revision material is identified as 35972D.			
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*: June 13, 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).			
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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

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

Parameter	Condition		Existing revisions			New revision			Units
			Min	Typ	Max	Min	Typ	Max	
Active power consumption	32kHz, Ext. Clk	Vcc = 1.8V		55			52		µA
		Vcc = 3.0V		135			132		
	1MHz, Ext. Clk	Vcc = 1.8V		255			223		
		Vcc = 3.0V		535			476		
	2MHz, Ext. Clk	Vcc = 1.8V		460	600		400	600	
		Vcc = 3.0V		1.0	1.4		0.8	1.4	mA
	32MHz, Ext. Clk			9.5	12		8.2	12	
Idle power consumption	32kHz, Ext. Clk	Vcc = 1.8V		2.9			2.4		µA
		Vcc = 3.0V		3.9			3.5		
	1MHz, Ext. Clk	Vcc = 1.8V		62			57		
		Vcc = 3.0V		118			110		
	2MHz, Ext. Clk	Vcc = 1.8V		125	225		115	225	
		Vcc = 3.0V		240	350		216	350	
	32MHz, Ext. Clk			3.8	5.5		3.5	5.5	mA
Power-down power consumption	T = 25°C			0.1	1.0		0.1	1.0	µA
	T = 85°C			1.5	4.5		1.2	4.5	
	WDT and sampled BOD enabled, T = 25°C			1.4	3.0		1.4	3.0	
	WDT and sampled BOD enabled, T = 85°C			2.8	6.0		2.4	6.0	
Power-save power consumption	RTC from ULP clock, WDT and sampled BOD enabled, T = 25°C	Vcc = 1.8V		1.2			1.2		
		Vcc = 3.0V		1.5			1.5		
	RTC from 1.024kHz low power 32.768kHz TOSC, T = 25°C	Vcc = 1.8V		0.6	2.0		0.6	2.0	
		Vcc = 3.0V		0.7	2.0		0.7	2.0	
	RTC from low power 32.768kHz TOSC, T = 25°C	Vcc = 1.8V		0.8	3.0		0.8	3.0	
		Vcc = 3.0V		1.0	3.0		1.0	3.0	
Reset power consumption	Current through RESET pin substracted	Vcc = 3.0V		300			140		

Chip erase time during programming

For the existing revisions the chip erase time is about 105ms, while in the new revision this is lowered to 55ms.