



Product Change Notification

Product Change Notification Number: CC084602

Date: November 18, 2008

Title: LTO LV Capacitor Breakdown Fix

Product Identification:

AT88RF319-MS1, AT88RF319-MSA1

Reason for Change:

☒ Design

☐ Manufacturing Location

☐ Processing

☒ Quality/Reliability

☐ Logistics

☐ Material

Change Description:

On each of these RF chips, low voltage capacitors are used for on-chip power supply decoupling. The current process has a sharp corner on the oxide isolation trench. At the edges of the poly-active capacitors, where the poly steps over the trench edge, the capacitor can break down, resulting in the excessive standby (ISB) current. This material is currently being screened at wafer probe, through an ISB supply current test. By resizing two masks, BN+ and LVOX, we are now depositing a thicker oxide and etching less at the edge of the capacitor, eliminating this oxide breakdown risk.

The change in total capacitance with this process change is negligible, so circuit operation/chip performance is unchanged. Multiple short-loop experimental split lots were processed to verify the change, and the yield loss has been eliminated. As a final safeguard against unintended consequences, HTOL testing was performed. This change does not affect the non-volatile memory portion of the chip.

Identification Method to Distinguish Change:

None, part numbers remain the same.

Qualification Data:

☒ available

☐ will be available in WW

☐ not applicable

Samples:

☐ available

☐ will be available in WW

☒ not applicable

Quantifiable Impact on Quality & Reliability:

None, 2016 hours of HTOL stress testing on 100 units of the AT88RF319 product, with zero failures.

Proposed First Ship Date*: February 17, 2009

**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.

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