

Contribution ID: 26

Type: Oral

## ATMEL mixed signal space offer: SOI 150nm radiation hardened process

*Monday, 30 June 2014 15:40 (20 minutes)*

ATMEL is moving towards “fablite” or “fabless foundry”. ATMEL develops its own low power process for Automotive and Space applications in order to control the lifetime and the second sourcing. ATMEL is qualifying its 150nm SOI process. This process offers a radiation hardened digital library, analog cells, NVM, 5V IOs and high voltage transistors. First available will be the 45V high voltage transistor, with a process that is capable of up to 120V. The 150nm CMOS process offers capability of deep N-well and Deep Trench.

### CMOS process

- \* Core 1.8V and 3.3V devices re-used from ATC18RHA with proven hardening solution
- \* Back-end process flow with Metal1 pitch at 0.40um, providing higher interconnect densities than that of the competition
- \* 5V CMOS (optional)
- \* High Speed and low leakage option

### Library

- \* Digital radiation hardened library
- \* DAC/ADC
- \* Regulator
- \* Voltage reference
- \* PLL, DLL
- \* Bandgap
- \* RC and XTAL oscillator

### Memory

- \* SRAM/DPRAM generator qualified in the same MIL range as ATC18RHA
- \* Non Volatile Memory (1 poly EEPROM cell) coming from Automotive technologies 58.9/58.95K
- \* Poly fuses for memory configuration or trimming

### Power Devices and ESD

- \* Full range of 3.3V LDMOS with low R<sub>dson</sub>
- \* High level SEL performance due to the Deep trench isolation and SOI substrate
- \* HV ESD proven structures from Automotive
- \* Thick power metalization (8mOhm/sq)

### Devices for mixed-signal applications

- \* MIM capacitor
- \* Bipolar NPN/PNP transistors
- \* Zener Diodes
- \* Inductors
- \* High Capacitors
- \* High Poly resistors

Qualification results of main elements will be presented. The different design flows will be presented that can be used depending on the share of analog and digital on the die.

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**Session Classification:** Radiation Hardened Technology for Mixed-Signal IC

**Track Classification:** AMICSA 2014