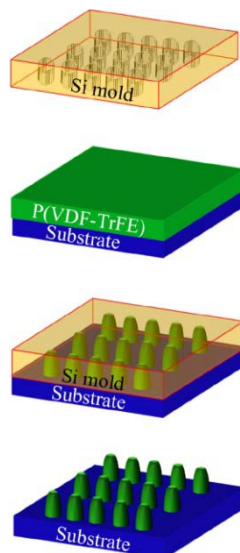




ULTRA-LOW-VOLTAGE NANO-PATTERNED POLYMER STORAGE MEDIUM FOR NON-VOLATILE MEMORY APPLICATIONS

Sopartec, the technology transfer company of the Université catholique de Louvain (UCL), presents a unique patented technology to pattern a ferroelectric polymer storage medium while simultaneously decreasing its writing voltage to a few Volts only.



Technology Keywords

- ultra-low voltage FeRAM
- ferroelectric polymer layer
- nano-imprint lithography

Technology Market : Plastic RAM

Low voltage random-access plastic memories are a key technology to full-plastic electronics, with the following main fields of application :

- **RFID plastic tags** : for goods tracking in medicine, food, and chemistry
- **smart textiles** ;

- **flexible electronics** : for applications requiring lightweight flexible components, such as e-paper, portable displays and foldable keyboards.

The processing technology developed by UCL meets the market demand for rapid and inexpensive fabrication of patterned storage layers used as basis for the fabrication of plastic **ferroelectric RAM's**.

The UCL invention

UCL processing methodology is protected by a pending patent, which discloses a rapid and inexpensive hot nano-embossing method able to simultaneously shape a ferroelectric polymer film into numerous nano-sized cells, while decreasing the writing voltage by controlling the orientation of the chains in each nano-cell. Arrays of storage cells can be produced with a **density larger than 33 Gbit/inch²** and a **writing voltage of 2-5 V only**. The entire process takes just a **couple of minutes**, is easily **scalable**, and basically only requires a hot melt press.

Technology Status

This work is the subject of a patent application : PCT patent application filed on 29/05/2009 and published under No. WO 2009/144310.

Other relevant publication

Z. Hu, M. Tian, B. Nysten, A. M. Jonas, Nature Materials 2009, 8, 62-67.

Sopartec would like to talk to companies interested in developing and commercializing this opportunity.

Contact

Frédéric Ooms, Ph.D.
Senior Patent & Licensing Manager

Tel +32-(0)10-390 021

Email f.ooms@sopartec.com

Web www.sopartec.com

www.uclouvain.be