



Point-One

Pole of innovative technology on nanoelectronics and embedded systems

MEMSLand

Cost Effective MEMS to Develop a Sustainable High Tech Business

BC5: non-volatile memory

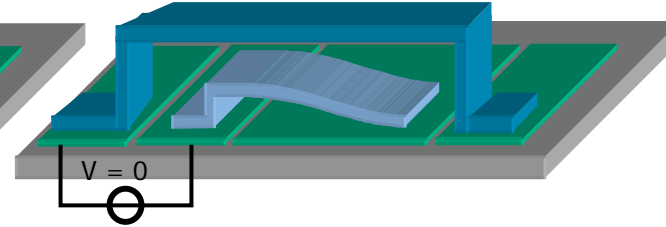
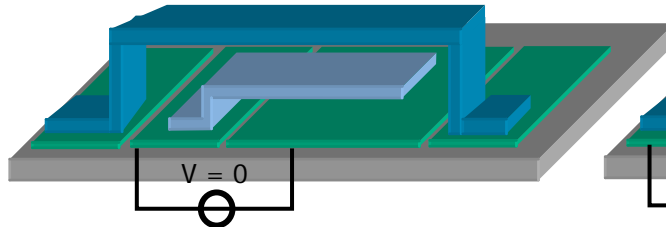
Cor Schepens

NanoMech™: embedded non-volatile memory

Programming

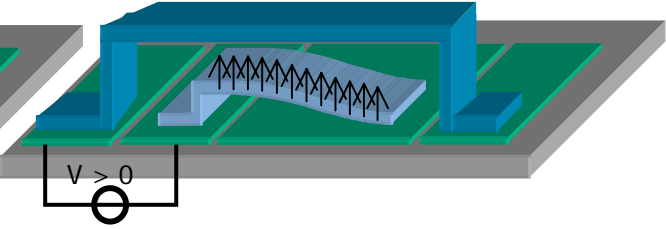
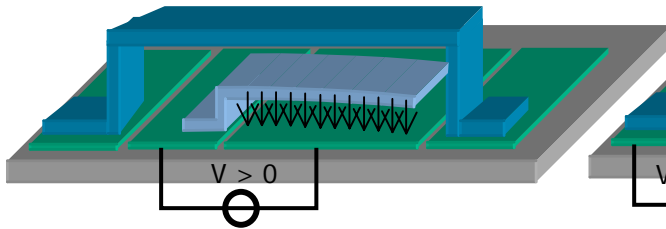
Deprogramming

1. Initial cantilever switch open



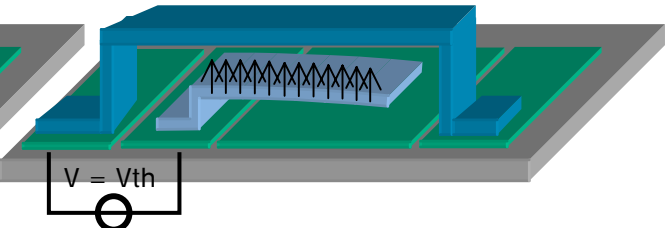
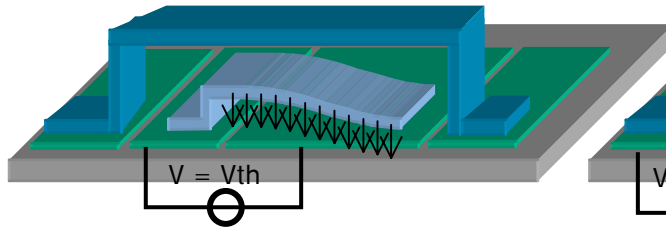
1. Switch is programmed

2. Increasing voltage results in force on cantilever



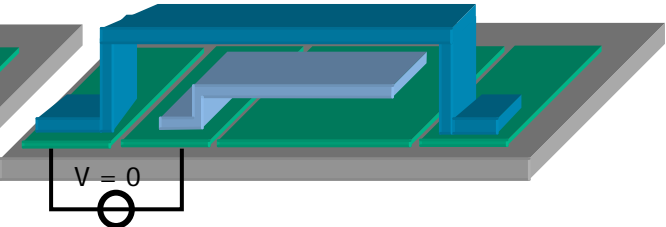
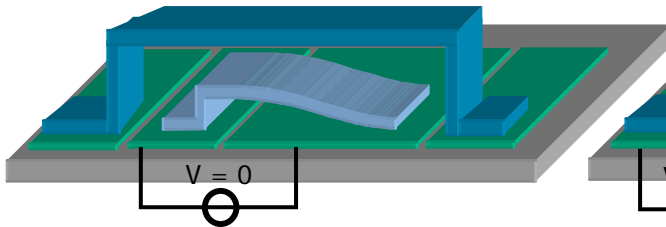
2. Increasing voltage results in force on cantilever

3. Above threshold voltage causes cantilever switch to close



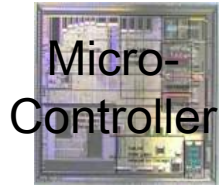
3. Above threshold voltage causes cantilever switch pulls off electrode

4. Removing external force. Switch remains closed, due to **STICTION**



4. Removing external force. Switch remains open

NanoMech eNVM application



- NanoMech == NEMS
- NVM for embedded applications
 - Microcontrollers
 - Smartcards, passports, RFID
 - Automotive (high temp)
 - Mixed signal devices
- Features
 - Fast and ultra low-power
 - High temperature and rad-hard
 - Better than any existing and new eNVM

