Mechanism of ReRAM (Resistive Random Access Memory)

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Operation mechanism of ReRAM

- Soft breakdown
- SET (Forming)
- Off state (High Resistance State)
- On state (Low Resistance State)
- Initial state
- ~ 30 nm
- > 50 nm
- Anodic oxidization
- Virtual cathode
Operation mechanism of ReRAM

In the nano-meter ReRAM device, the filament model does NOT conflict with the interface model. The electrochemical reaction at the interface brings about the non-volatile resistance switching.
Unified model of ReRAM operation (beyond 2X nm generation)

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