

Microbattery

Microbattery is a micro-energy storage device which presents the principle characteristic to be ultra-thin. Thin film batteries offer the possibility of an embedded power supply integrated into a device or deposited directly onto chips or microsystem packages to provide local power to components.



Key attributes & features

- Thin films batteries (TFB), components of the battery deposited in thin films, with a whole thickness < 200 μm
- Ultra-rechargeable, rapid recharge, high discharge rate, low self-discharge, suited for trickle charging from ambient energy
- Last 10-20 years (use or storage) and provides high number of charges/discharges up to 20,000 cycles.



Applications

- Wireless/portable microelectronics applications
- Back-up energy solutions, for RTC (Real Time Clock) or SRAM (Static Random Access Memory).
- Active RFID (Radio Frequency Identification) tags
- Provide continual power to microsystems, embedded wireless sensors
- Implantable medical devices, pacemaker, neurostimulator...



Customer benefits

- Zero maintenance cost, avoid the change of primary batteries and last the lifetime of the system.
- Rechargeable battery solution which can be combined with ambient energy harvesting to supply continuous power to wireless sensor nodes and other microelectronics.

Example of Schneider Electric HOMES sensor:

Micro power module with integrated solar energy harvesting to power energy-autonomous wireless multi-sensors.

- Micro-energy storage robustness, safe/eco-friendly and volume manufacturable.