

# Memory Backup for rugged mobile devices

Application Note



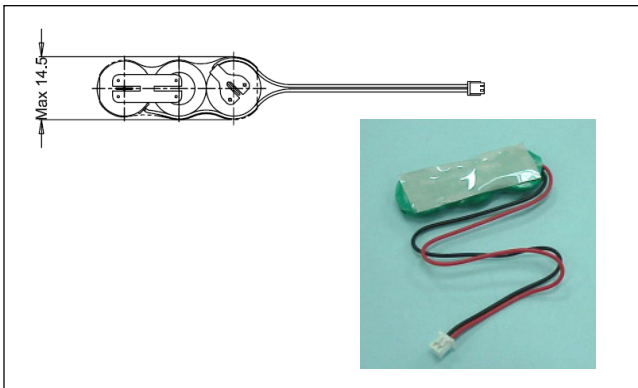
**Memory Backup Battery for Rugged Mobile Designs.** New generation of robust and trusted portable wireless computing applications require **independent and continuously available data memory** independent from the main battery of the system. This memory requires a battery to backup data during any unforeseeable **power supply interruption** to store the **RAM data on hard disc**.

### Battery challenge.

The main challenges for the battery are **ability to handle high discharge current, consistency in performance, 5-7 years of lifetime in the application, reliability, easy charging, and low service effort**. New generation of Ni-MH batteries for Memory backup offer **low internal resistance** for high peak current loads and high **overcharge stability** for simple charging solutions. The low self discharge and high deep discharge stability of the cell fulfils the demand for extended shelf life specially for solid high tech consumer products.

### Technical solution

The V 18 HRT cell with a thickness of only 2.3 mm and a capacity of 18mAh out of the powerful 85 family of Ni-MH button cells from VARTA Microbattery, is specially designed for extended back-up times and fail-safe memory backup solutions.



Characteristics	3 / V 18 HRT
Voltage level	3.6V (other voltages possible)
Max discharge current	100mA
Capacity	18mAh
Discharge Temperature range	-20°C to +80°C
Overcharge capability	0.6mA continuous
Weight per cell	0.9g
Cell Size	Ø 11.5mm x height 2.3 mm

### Memory Backup Battery

VARTA Microbattery's Ni-MH V 18 HRT batteries (powerful family) offer rechargeable battery solutions with reliable power for supplying new generation of RTC chip solutions for robust and trusted mobile applications.

<http://www.varta-microbattery.com/en/products/batteries-cells-configurations/technology/rechargeable/nimh-button-cells/all/technology-description.html#page/108>

- wide temperature range from -20 to +80°C
- long lifetime – up to 6 years and above
- high reliability
- high current capability up to 100mA continuous
- design flexibility on voltage level from 1.2V to 7.2V
- design flexibility on battery shape side-by-side or stacked, SMD mounting or wire connector
- simple charging system continuous charging possible
- UL recognized cell
- environmentally friendly Ni-MH technology