

Portable Power Sources for the wireless world

Flat Supercapacitor Technology



Opportunities seldom arise uninvited. They are created by firms exploiting technologies that transform the world. Telcordia's Flat Supercapacitor Technology opens new vistas for powering applications which are beyond the reach of conventional energy storage devices. With unparalleled power density, light weight, compact size and ease of manufacturing, solutions to a multitude of emerging power needs are limited only by your imagination.

Innovative Supercapacitor Technology

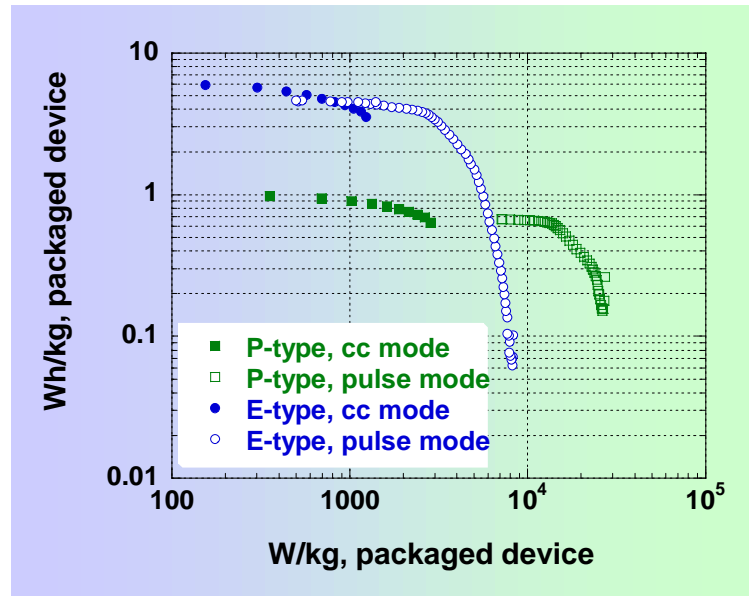
Flat stackable Supercapacitors that can fit anywhere

Telcordia's patented new Flat Supercapacitor Technology gives you total freedom to create the supercapacitor that perfectly fits your application:

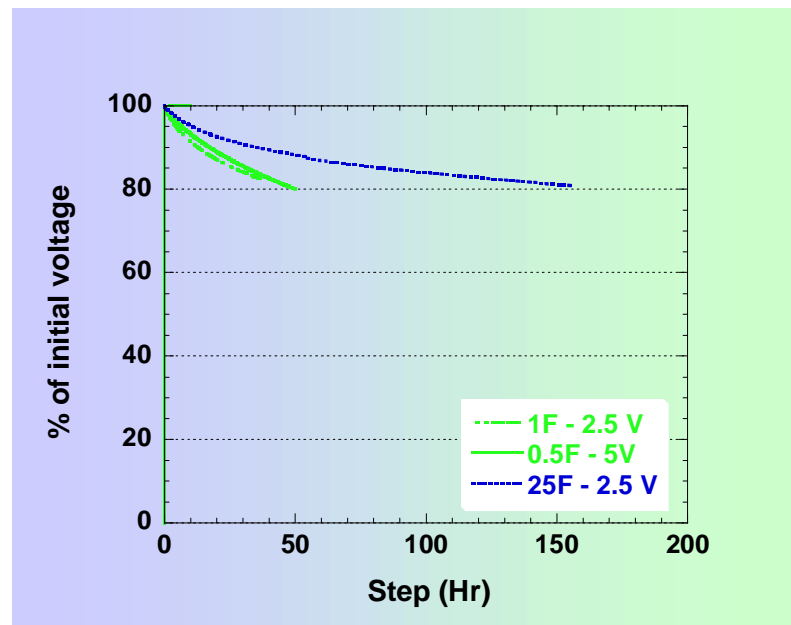
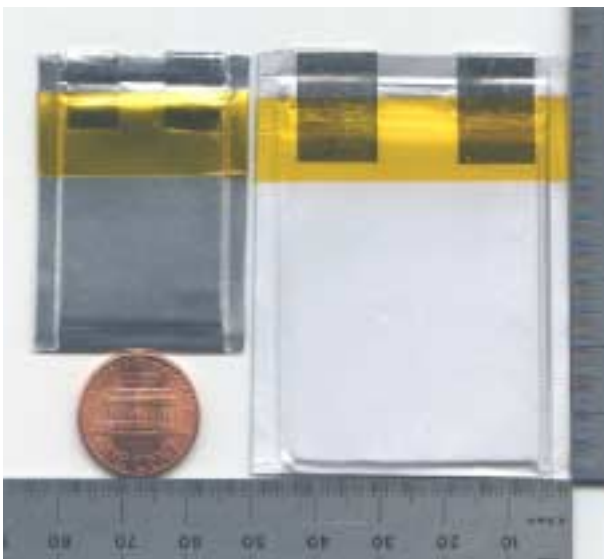
•**Freedom of shape:** there is no rigid cylindrical can that dictates the device size. Instead, you use a plastic foil laminate material that can be cut to any size !

•**Freedom of performance:** you can adapt the electrode thickness to your needs, ranging from **1Wh/kg-50ms** time constant to **6Wh/kg-1s** time constant.

•**Freedom of voltage:** it is much easier to build high voltage cells with flat 5V stackable units than 2.5V cylindrical units: you save space and need less cells !



	E-type	P-type
Dimensions :	50*63*1.5 mm	25*45*1.2 mm
Weight :	5 g	1.9 g
Nominal voltage :	2.5V	5V
ESR @ 1000 Hz :	45 mΩ	120 mΩ
Capacitance @ 1 A	25 F	0.5 F
Specific power ($V^2/4*ESR$)	6.9 kW/kg	27 kW/kg
Specific energy ($1/2*CV^2$)	5.7 Wh/kg	1 Wh/kg
Leakage current after 10h @ nominal voltage	50 μA	10 μA



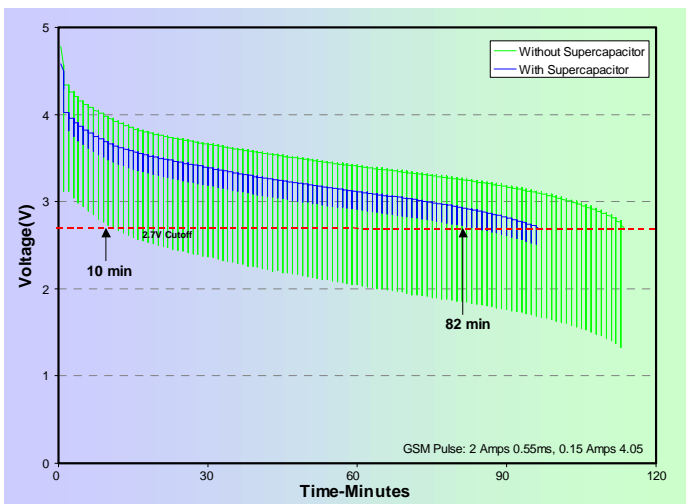
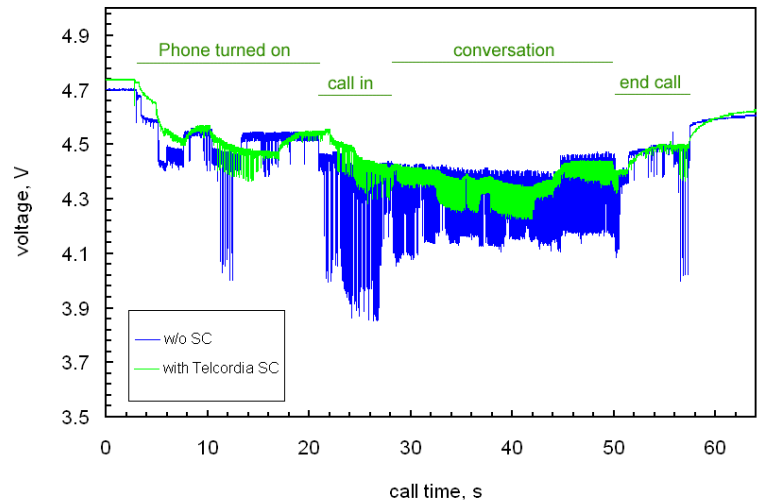
Flat 5V Supercapacitors for portable electronics

The Enabling Technology for Cellular phones!

Just one example of how you could take advantage our new and flexible way of making supercapacitors:

The Power Source should adapt the product, not the opposite !

There are on the market alkaline battery emergency packs for cellular phones that run on 3 AAA batteries. However, their life-time is very short because wireless data transmission requires very brief (0.5 ms) pulses of high current (0.8-1.5A), a job that alkaline batteries are not very good at.



In this case, a tiny 5V supercapacitor made to fit next to the AAA batteries is the ideal complement that allows the energy of the battery to be fully utilized, increasing 5 to 8 times the talk time !

Tests performed on a Nokia 5190 cellular phone showed the increase in performance, and the 3AAA batteries were now able to deliver the power of 12 AAA batteries, with a supercapacitor using the space and weight of less than one AAA battery !



Telcordia's patented Flat Supercapacitor Technology is perfectly suited for boosting the power of portable electronic and wireless devices. It will allow the designer to optimize battery utilization, by buffering the power demand, without sacrifices in weight and volume !

Flat 5V Supercapacitors for portable electronics

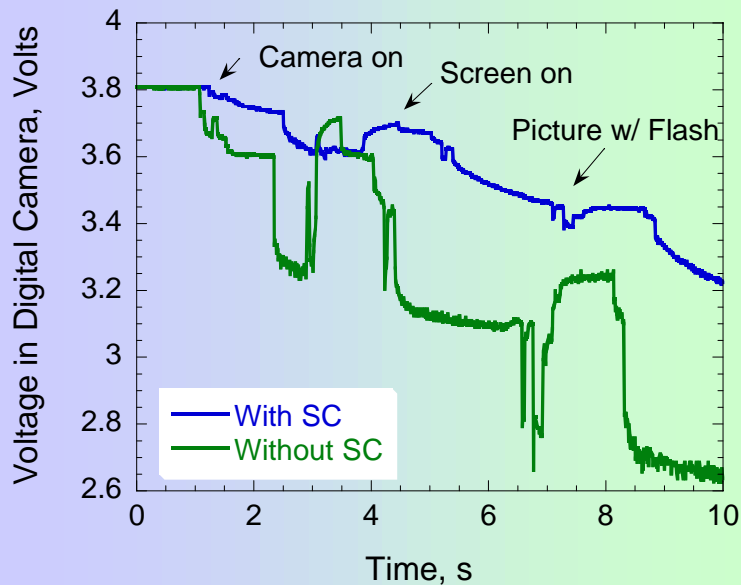
Digital Camera enabler for alkaline batteries!

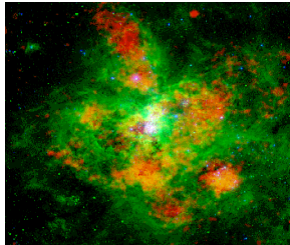
How to take more pictures with your digital camera !



Most digital cameras run on 4 AA alkaline batteries which do not last long, because the power demanded to light the LCD screen is high (4W-5V). Thus, it becomes impossible to take pictures, and the batteries have to be thrown away while they still contain a decent amount of energy, and could be used for less power-demanding application.

The solution is to use a small 5V supercapacitor that stores enough power and energy the time to take more pictures ! The battery will continuously recharge the supercapacitor until it is really empty, and considerably increase the number of picture that a set of AA batteries can take ! It will also enable the use of inexpensive AA batteries, not initially designed for digital camera usage !





A distinctive region visible in a Milky Way satellite galaxy called the Large Magellanic Cloud (LMC), 30 Doradus is a hotbed of star formation, supernova explosions, and ionized plasma. Shining in light across the electromagnetic spectrum, 30 Doradus glows because of all the energetic processes that go on there...

Courtesy of NASA



Performance from Experience

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Also, discover us on the Internet at
<http://www.telcordia.com>