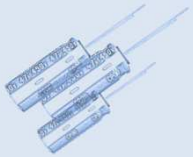
Tech Topics

Home and Safety Device Market



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Nichicon Advantages

Long Life

Long Life

Miniature Sized

Smaller

Low Impedance

Low Impedance




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Long Life

Up to 8,000 hour life at 105C for UPW series

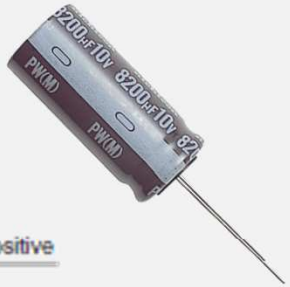
Smaller

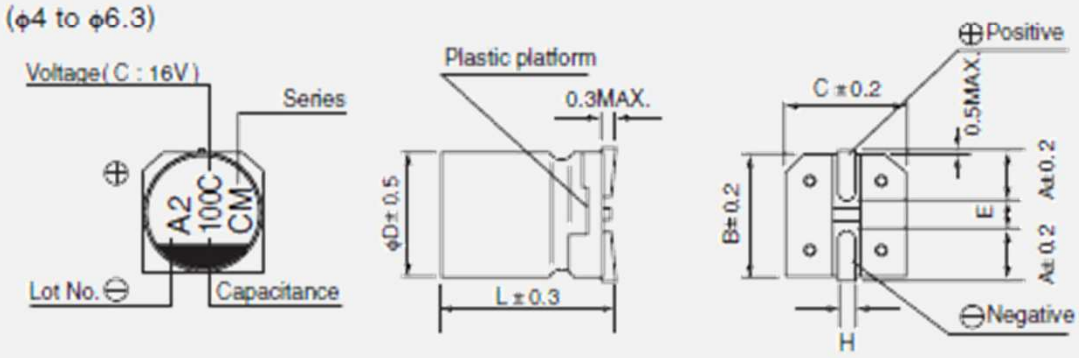
Miniature Sized

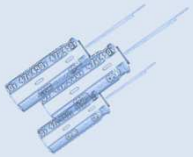
UCM Series- SMD as small as 4 x 5.8mm

UUR Series- SMD as small as 6.3 x 5.8mm

UPW Series- Radial as small as 4 x 7mm







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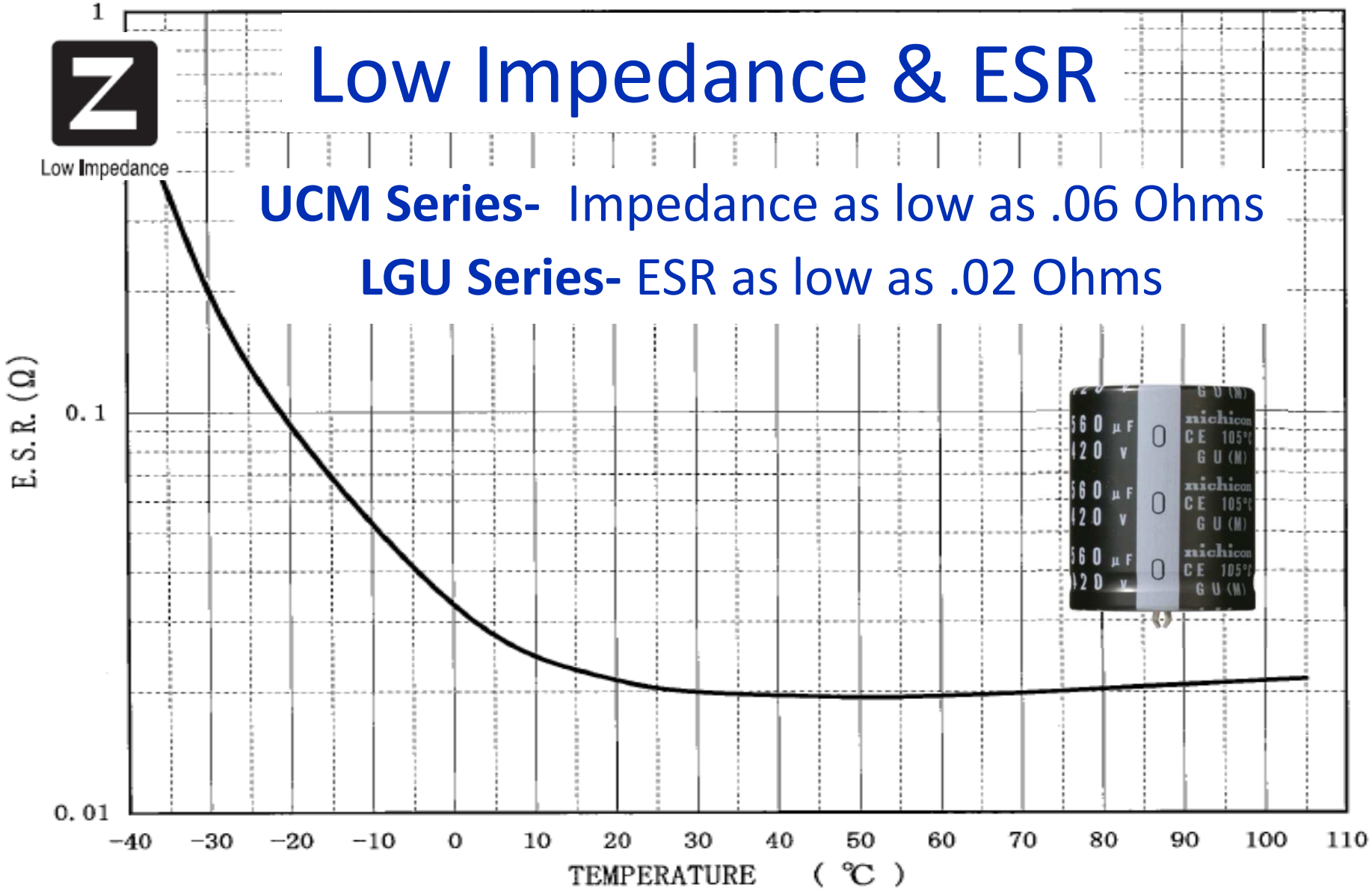
Low Impedance & ESR

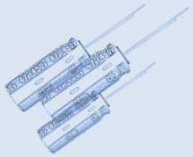
Low Impedance

UCM Series- Impedance as low as .06 Ohms

LGU Series- ESR as low as .02 Ohms





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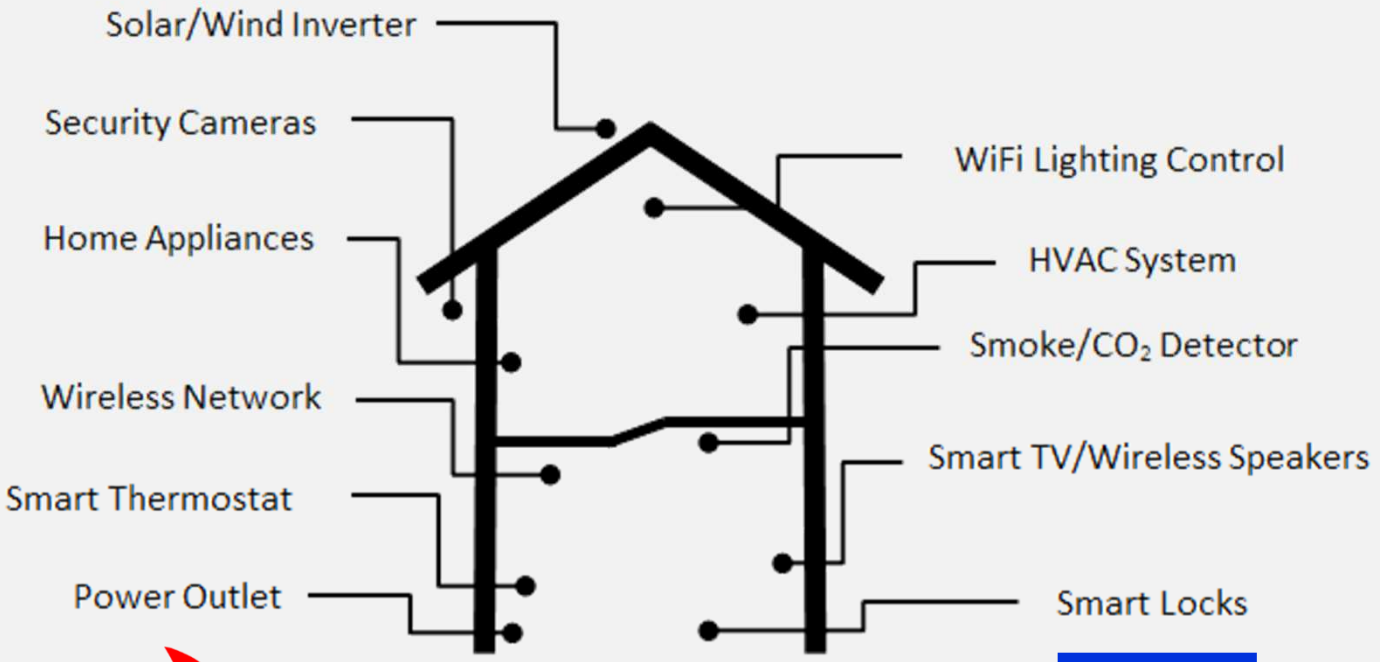
Applications and Focus Markets



Smart Home

Fire and Safety

Security

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In Review

Long Life

Miniature Sized

Low Impedance

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Additional Information

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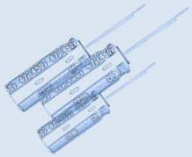

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Stay Tuned…

New Products

Product Upgrades

Vertical Markets


nichicon Tech Topics

October 2010

In This Issue

- Electric Double Layer Capacitors (EDLC)
- The Newest EVerCAP: UW
- Markets
- Applications

UW Series-Electric Double-Layer Capacitor (EDLC)

For many years, rechargeable batteries were the only solution for temporary memory backup of data or timing clocks in various electronic devices. They have also been used as an emergency or short-term secondary power source during the events when the primary power source was not sufficient. Recent advances in capacitor development have made the electric double-layer capacitors (EDLC) a viable alternative.

There are many advantages to the EDLC:

Advantage #1: Longer Life

Rechargeable batteries typically have 500 to 1000 life cycles. After being charged and discharged a few hundred times, the capacity of the batteries starts to decrease. Eventually, they will lose most of their storage capacity. An EDLC can be charged and discharged for more than a million times without any reduction in its storage capacity. If an EDLC can be used in conjunction with the battery, it can increase the battery's life.

Advantage #2: Faster Charging Times

Since a rechargeable battery stores energy by chemical reactions, it generally takes much longer to recharge, usually about an hour. Whereas the EDLC stores energy by the movement of ions, it usually takes from 0.1 to 30 seconds. Therefore, if equipment needs rapid energy, the EDLC is a much better choice.

Advantage #3: Lighter and Safer

Rechargeable batteries usually contain heavy and harmful metals like lead and cadmium. As the size increases, they could weigh more than twice that of an EDLC of the same volume. EDLCs don't contain harmful metals and are environmentally friendly.

Advantage #4: No Limitation for the Charging Current

A current limiting circuit is sometimes needed when a rechargeable battery is used to prevent any rush charging current from damaging the battery. The EDLC has no limitation for the charging circuit provided the charging voltage does not exceed the rated voltage of the EDLC. Please note that if high ripple current, high pulse current and/or high charge and discharge currents are applied to the capacitor, the internal temperature rise generated by self-heating of the capacitor may cause deterioration greater than one might expect.

Contact Us:

Nichicon (America) Corporation

http://www.nichicon-us.com

Ph 847-843-7500

Fax 847-843-2798


nichicon TECH TOPICS

November 2006 Volume 1, Number 1

In This Issue

- Electric Double Layer Capacitors (EDLC)
- The EVerCAP
- Markets
- Applications

Electric Double-Layer Capacitors

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Advantage # 5: Maintenance Free

EDLC is a "Fit and Forget" device. There's no maintenance required or special handling like a rechargeable battery.

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Fax 847-843-2798


nichicon Tech Topics

January 2010

In This Issue

- Polymer Capacitors
- Key Advantages
- Markets
- Applications

Nichicon's New FPCAP Polymer Capacitors

NEW!

Advances in the performance of electronic equipment over recent years have also resulted in demand for higher performance and greater reliability in capacitors. As the MPUs used in PCs become ever faster, the trend towards heavier power supply currents has lead to a requirement for capacitors with characteristics that include both large capacitance and low impedance at high frequencies. Also, the trend towards thinner, lighter, smaller size and slimmer profile in equipment such as LCD TVs and DVD recorders has made capacitors with small size and high performance (low resistance) characteristics essential as a means to eliminate the generation of high frequency noise. By adopting aluminum foil anodes and high-conductivity functional polymer electrolytes, Nichicon offers aluminum electrolytic polymer capacitors which offer small-size with low ESR and high reliability.

Available in a wide range to suite the diverse requirements of customers, the FPCAP capacitors can help improve the efficiency of various different types of power supplies and contribute to designing equipment with higher performance, smaller size and reduced noise.

There are key advantages to aluminum polymer capacitors:

Advantage #1: Low ESR

Polymer aluminum electrolytic capacitors offer very low ESR ratings versus standard aluminum electrolytic capacitors. ESR ratings down to 5 milli-Ohms.

Advantage #2: Excellent Frequency Characteristic

Using the high-conductivity of a functional polymer with an electrolyte, the ESR is greatly improved, obtaining the frequency characteristic nearly equal to a film capacitor.

Advantage #3: Usage with High Ripple Currents

Polymers have higher ripple current capability.

Advantage #4: Steady ESR and Capacitance

ESR and capacitance have steady characteristics over temperature change and a wide frequency range.

Advantage # 5: Cost Savings

One polymer capacitor has the same ripple current and ESR capabilities as 7 to 9 standard aluminum capacitors in parallel. This creates a great advantage in reducing cost and pc boards real estate!

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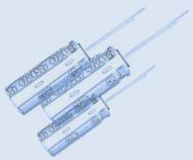

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