

Tech Topics: Polymer Capacitors



Back to Basics

Nichicon Advantages

- Largest selection in the industry
- Superior Performance
- Saves board space and overall cost



Nichicon Advantages

Largest selection in the industry



Fukui in Japan



Suzhou, China (FPCAP)



Suqian in China

Two Brands One Company

- 17 series of Through Hole
- 17 series of SMT

Nichicon Advantages

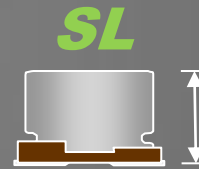
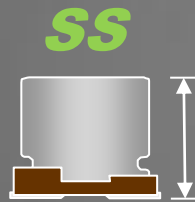
Superior Performance

- Higher Ripple Current **Up to 6 times higher than Aluminum Caps.**
- Low ESR **75% lower ESR than an Aluminum in the same case size**
- Long Life **10 x with 20c drop**
- High temperature resistance **More stable than Aluminum Caps.**

Nichicon Advantage

Saves board space and overall cost

Example for 25V



25V/10 to 47 μ F
ESR: 30~60m Ω

Height: 6mmMax

25V/15 μ F
ESR: 55m Ω

Height: 4.5mmMax

Applications/Focus Markets



- Game Consoles
- Motherboards
- Laptops
- Car Navigation



Nichicon: High Quality



- Largest selection in the industry
- Superior Performance
- Saves board space and overall cost

For More Information



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nichicon **TECH TOPICS**

November 2006 Volume 1, Number 1

In This Issue

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

Advant: Packaging being done in the South then the more the capacity can meet

Advant: Since a general battery is taken for energy

Advant: Packaging lead and twice the media

Advant: A corner battery is the best provided the EDLC must be

Advant: EDLC is a success

Contact Us:

Nichicon (America) Corporation
<http://www.nichicon-us.com>
 Tel: 847-843-7700
 Fax: 847-843-7706

nichicon **Tech Topics**

September 2010

In This Issue

- New Frontload Low Profile Tantalum Series
- Key Advantages
- Markets
- Applications
- Catalog Specifications

The F98 re

The F98 re provides an increase in capacitance and by using an all-ceramic capacitor it has a high self-heating resistance and a high reliability.

Advantage #1: It has the high rate of charge and discharge.

Advantage #2: It has the high rate of charge and discharge.

Advantage #3: It has the high rate of charge and discharge.

Advantage #4: It has the high rate of charge and discharge.

Advantage #5: It has the high rate of charge and discharge.

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nichicon **Tech Topics**

January 2010

In This Issue

- Polymer Capacitors
- Key Advantages
- Markets
- Applications

Nichicon's New FPCAP Polymer Capacitors

Advantages of the polymer capacitor are that it has a high self-heating resistance and a high reliability.

Advantage #1: It has the high rate of charge and discharge.

Advantage #2: It has the high rate of charge and discharge.

Advantage #3: It has the high rate of charge and discharge.

Advantage #4: It has the high rate of charge and discharge.

Advantage #5: It has the high rate of charge and discharge.

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nichicon **Tech Topics**

October 2010

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- Electric Double Layer Capacitors (EDLC)
- The Newest EverCAP-UV
- Markets
- Applications

UV 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 (EDLCs) 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 1 to 30 seconds, therefore, it 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.

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• New Products
 • Product Upgrades
 • Vertical Markets