

June 2017

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Quick Facts

- Extended Endurance
- High Reliability
- High Temperature
- High Ripple Capability
- Small Footprint

Nichicon Capacitors for Smart Meters

Millions of utility meters have been installed worldwide with only a fraction of them being of the smart meter variety. These traditional meters will need to be replaced with smart meters over the upcoming years.

Not only are smart meters used by electric companies but gas and water meters will be upgrading as well. Millions of capacitors will be needed for these smart meters.

Next-generation smart meters will allow utility companies and consumers to track usage. Consumers can use the information to optimize their usage and reduce their utility bills. Utility companies can use the data to more accurately monitor energy usage, limit inrush currents during power losses and assist consumers to shift their usage to non-peak load times.

Smart meters use a variety of capacitors that have long life, with a voltage range of 10 to 500V, and low ESR in a compact size.

Advantage #1: Compact Size and Low ESR

The RPS/RPA series' small size and excellent ripple current, ESR values at high frequencies make them ideal for applications where small size and capacitance stability are required.

Advantage #2: High Ripple Current

The ULD series combines high ripple current in a small package with a wide temperature range. Ideally suited for energy storage, flyback circuit applications and applications where small sizes are required.

Advantage #3: Temperature Stability

The RPS/RPA is stable over its entire temperature range. The impedance ratios at the maximum and minimum temperature limits are only 1.25 max. Standard electrolytics can have ratios as high as 3 over the same temperature range. Their stability with temperature makes them a preferred choice for outdoor applications.

Advantage #4: Long Life

With a 105°C temperature rating, the RPS/RPA, UCL, UCY and ULD series can have life expectancies approaching 15 years. This makes them the recommended choice for long-life applications.

Advantage #5: Energy Storage

Unlike batteries, the JUW series of EDLC capacitors can be charged and discharged thousands of times without failing. This makes the JUW series an excellent alternative for a battery in last gasp and hold up applications.

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Transportation Device Part Offerings

| Series | Type | Temp | Voltage | Capacitance |
|---------|------|---------------|-----------|---------------|
| JUW | THT | -25 to +70°C | 2.7V | 1 to 82F |
| RPS/RPA | SMD | -55 to +105°C | 2.5 – 63V | 8.2 to 1500µF |
| UCL | SMD | -55 to +105°C | 6.3 - 50V | 10 to 2200µF |
| ULD | SMD | -40 to +105°C | 10 - 450 | 1 to 330uF |
| UCY | SMD | -40 to +105°C | 160 - 500 | 6.8 to 680uF |

Applications

- ◇ Flyback circuits
- ◇ Synchronous buck regulators
- ◇ Energy holdup circuits
- ◇ DC/DC converters
- ◇ Switching power supplies
- ◇ Battery alternative and support

Focus Markets

- ◇ Electric smart meters
- ◇ Gas smart meters
- ◇ Water smart meters
- ◇ Photovoltaic
- ◇ Wind power
- ◇ Intelligent control systems
- ◇ Switching power supplies

