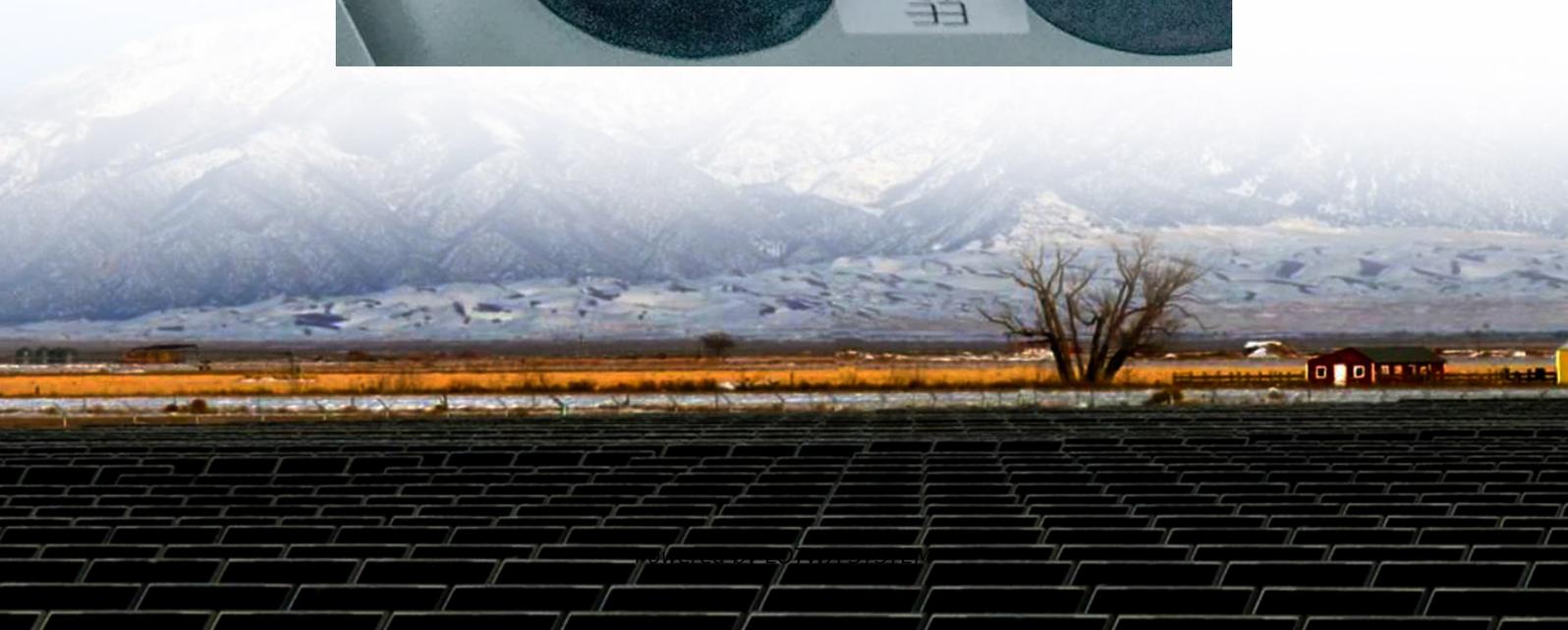


# Super high temperature resistant capacitor





## Overview

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High temperature 85°C; Rated voltage 2.7V 1000 hours; Surge voltage 2.85V; Capacity range 1.0F~100F; Operating temperature range -40 ~ +85°C; Capacity attenuation  $\leq 30\%$ , internal resistance change  $\leq 4$  times. Are dielectric capacitors thermally stable?

Dielectric capacitors known for high-power density and fast charging/discharging suffer from thermal stability and failure at high temperatures. Here, a metadielectric strategy is used to fabricate thermally stable high temperature film capacitors.

What is a high energy density capacitor?

Electric vehicles and hybrid-electrics require power electronics with high energy density for converters, motor controls, and charging circuits that are also associated with high temperatures, exceed 200°C. Knowles Precision Devices Capacitors optimized for operation above 150°C and up to 200°C serve these environments.

Can high temperature capacitors operate reliably at 125°C?

However, the emerging market for high temperature electronics demands capacitors operating reliably at temperatures beyond 125°C. KYOCERA AVX's new high temperature chip capacitor product line, with verified capability of longterm operation up to 250°C is a response to both military and commercial business needs.

What is the maximum temperature a capacitor can operate at?

Present military specifications, as well as a majority of commercial applications, require a maximum operating temperature of 125°C. However, the emerging market for high temperature electronics demands capacitors operating reliably at temperatures beyond 125°C.



## Super high temperature resistant capacitor

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### High temperature ceramic capacitors

Excellent temperature resistance, high volume/capacitance ratio, electrical properties and reliability make Exxelia's ceramic capacitors ideal for a ...

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### High temperature solid-state supercapacitor designed with ...

Sep 1, 2019 · To date, the design of high temperature electrochemical double layer capacitors (EDLCs) remains a challenge more specifically related to the electrolyte. The electrochemical ...

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### List of materials that can withstand high temperatures

Discover a list of materials that can withstand high temperatures, including metals, ceramics, and polymers. Explore heat-resistant options like tungsten, silicon carbide, PEEK, and more, ideal ...

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### High Temperature , Ceramic , Capacitors

5 days ago · High Temperature, Ceramic, Capacitors manufactured by Vishay, a global leader for semiconductors and passive electronic ...

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### High-temperature-tolerant flexible supercapacitors: Gel ...

Jan 1, 2025 · The development of flexible supercapacitors (FSCs) capable of operating at high temperatures is crucial for expanding the application areas and operating conditions of ...

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### A comprehensive review on supercapacitors: Their promise ...

May 15, 2024 · The real-world applications for these materials vary; graphene-based capacitors excel in portable electronics and flexible devices, while metal oxide-based capacitors are ...

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### Supercapacitors 101: Maintenance and ...

Feb 18, 2025 · Supercapacitor aging on this level is well understood: electrolyte breakdown, electrode degradation, and voltage/temperature ...

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### Supercapacitor Lifetime Explained

Jul 30, 2025 · The most common of these variables include Voltage and Temperature. When introduced to overvoltage, supercapacitors can be damaged and certainly shortened in life. In ...

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### Silicon Capacitors with extremely high stability and ...

Mar 28, 2019 · withstand temperature up to 250°C, with extremely high insulation resistance and very good stability . These capacitors, already extensively used for years in miniaturized ...

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### High Temperature Capacitors - Mouser

High Temperature Capacitors are available at Mouser Electronics. Mouser offers inventory, pricing, & datasheets for High Temperature Capacitors.

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Thin, largescale processed, high-temperature resistant capacitor ...

Jul 15, 2024 · The high-temperature breakdown strength and charge/discharge properties of the blended film are significantly improved compared with that of pure BOPP film. In recent ...

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High Temperature Capacitors

Jun 17, 2024 · High Temperature Capacitors Wright Capacitors, Inc's Class I NPO, N2200 and Class II dielectrics are all suitable for 200°C and beyond. WCI provides custom capacitors for ...

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A critical review of recent advancements in high-temperature

Feb 25, 2024 · As the demand for high-temperature energy storage solutions increases in various industries, the HTSc presents a viable option with promising performance characteristics [7, 8]. ...

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High Temperature Capacitors , Knowles Precision Devices

High Temperature Multilayer Ceramic Capacitors Our high temperature MLCC series exhibit stable performance across an extended operating temperature range of -55°C to +250°C. Both ...

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High Temperature Supercapacitor, High Temp Ultra Super Capacitors

High temperature 85%; Rated voltage 2.7V 1000 hours; Surge voltage 2.85V; Capacity range 1.0F~100F; Operating temperature range -40 ~ +85%; Capacity attenuation

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Influence of Temperature on Supercapacitor ...

Jan 1, 2015 · Generally, the influence of temperature on capacitance is less noticeable than on internal resistance. The capacitance change is a weak ...

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High temperature ceramic capacitors

Excellent temperature resistance, high volume/capacitance ratio, electrical properties and reliability make Exxelia's ceramic capacitors ideal for a wide range of fields of application ...

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High Temperature Capacitors , Knowles ...

High Temperature Multilayer Ceramic Capacitors Our high temperature MLCC series exhibit stable performance across an extended operating ...

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High Temperature

KYOCERA AVX's new high temperature chip capacitor product line, with verified capability of longterm operation up to 250°C is a response to both military and commercial business needs. ...

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5 Pieces 5.5V Super Farad Capacitor 5.0F

Jul 28, 2024 · 5 Pieces 5.5V Super Farad Capacitor 5.0F - High Energy, high Power, high and Low Temperature Resistant Power Storage Device for Smart Meters, Digital Cameras, PDAs, ...

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High Temperature , Ceramic , Capacitors , Vishay

5 days ago · High Temperature, Ceramic, Capacitors manufactured by Vishay, a global leader for semiconductors and passive electronic components.

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Impact-resistant supercapacitor by hydrogel-infused lattice

Aug 1, 2024 · Here, authors report a strategy for developing supercapacitors that are impact-resistant, load-bearing, and self-healing. Enabled by self-healable polyvinyl alcohol hydrogel ...

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Metadielectrics for high-temperature energy storage capacitors

Aug 3, 2024 · Dielectric capacitors known for high-power density and fast charging/discharging suffer from thermal stability and failure at high temperatures. Here, a metadielectric strategy is ...

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