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# Super Silicon Capacitor

Is there a maximum capacitance of a silicon capacitor?

Although silicon capacitors have impressive characteristics including high stability at high temperature, very low leakage current, high insulation resistance, and high capacitance density, there is a limit to the maximum capacitance that can be achieved.

What is a silicon capacitor?

This video explains what a silicon capacitor is. It shows its main benefits in terms of performances and miniaturization. Silicon capacitors have very low insertion loss even at very high frequencies and are very small in size, which helps to reduce the power consumption and mounting area of ultra broadband optical communication devices.

How can silicon capacitors be used for system-in-Package (SiP) integration?

By using innovative high-k dielectrics and special structuring processes, a wide range of capacitance values can be covered. This technology platform for silicon capacitors is suitable for system-in-package (SiP) integration as well as for embedding in high-quality PCBs and interposer integration.

What are ELSPES ultra-high-density silicon capacitors?

ELSPES ultra-high-density silicon capacitors have been developed with high-k dielectrics and low-resistivity electrodes using semiconductor processes, employing a deep trench 3D structure to achieve a smaller size and higher capacitance.

Murata high-density silicon capacitors are developed with a semiconductor MOS process and are using the third dimension to substantially increase the capacitor surface and ...

SuperCapacitors or Double Layer Capacitors have rapidly become recognized, not only as an excellent compromise between "electronic" or ...

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SuperCapacitors or Double Layer Capacitors have rapidly become recognized, not only as an excellent compromise between "electronic" or "dielectric" capacitors such as ceramic, ...

Silicon carbide (SiC) nanomaterials have emerged as promising candidates for supercapacitor electrodes due to their unique ...

Our silicon capacitors technology features up to 10 times higher reliability than alternative capacitors technologies, mainly obtained thanks to the oxide generated during the ...

Silicon carbide (SiC) nanomaterials have emerged as promising candidates for supercapacitor electrodes due to their unique properties, which encompass a broad ...

Electrochemical supercapacitors stand out with their superior capacitance density, surpassing traditional electrolytic capacitors by at ...

Explore the features of silicon-based capacitors: high capacitance value, stability, and reliability for demanding applications.

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ELOHIM, a South Korean high-tech silicon capacitor semiconductor R& D company, has partnered with a global company to develop an ultra-small size, high-density silicon ...

Pseudocapacitors exhibit higher capacitance compared to EDLCs (Electric Double-Layer Capacitors) because they combine the redox processes, which increase capacitance, ...

ELSPES ultra-high-density silicon capacitors have been developed with high-k dielectrics and low-resistivity electrodes using semiconductor processes, employing a deep trench 3D structure to ...

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