

Overview

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.

Super Silicon Capacitor

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ELSPES Silicon Capacitor 3D Deep Trench & High-K Dielectric ELSPES's high-performance silicon capacitors have been developed using semiconductor processes and a deep trench ...

Supercapacitors are a special type of electrochemical energy storage device noted for their ability to deliver sudden bursts of energy. Batteries typically provide the bulk energy ...

Pseudocapacitors exhibit higher capacitance compared to EDLCs (Electric Double-Layer

Capacitors) because they combine the redox processes, which increase capacitance, ...

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 ...

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 ...

ELSPES Silicon Capacitor 3D Deep Trench & High-K Dielectric ELSPES's high-performance silicon capacitors have been developed using ...

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

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

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

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

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

Electrochemical supercapacitors stand out with their superior capacitance density, surpassing traditional electrolytic capacitors by at least two orders of magnitude.

By using innovative high-k dielectrics and special structuring processes, a wide range of capacitance values can be covered. This technology ...

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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